

Abstract of the educational training program of the discipline "Clinical laboratory diagnostics"

The main professional educational program of higher education - specialty program in the specialty 31.05.01 General Medicine, approved in May 24, 2023

Form of education: Full-time

The period of development: 6 years

Department: Biological chemistry

1. The purpose of the discipline: mastering the principles and skills of applying the methods of clinical laboratory diagnostics in the treatment and diagnostic process, developing clinical thinking using laboratory algorithms for various forms of pathology and the formation of general cultural and professional competencies in the application of the acquired knowledge in the student.

2. Place of discipline in the structure of the main professional educational program of higher education:

Discipline Clinical laboratory diagnostics refers to the disciplines of the mandatory part of block 1 of the Federal state educational standard of higher education in the specialty 31.05.01 General Medicine.

3. Requirements to results of development of discipline:

The teaching of this discipline is based on the following types of professional activity:

-medical:

- organizational and managerial:

- research.

The process of studying the discipline is aimed at the formation and development of competencies: UC-1;GPC-1; GPC-4; GPC-5;GPC-10, PC-2.

As a result of studying the discipline, the student must:

Know:

- Rules of primary health care as a type of health care in the health care system;
- Methods for laboratory examination in the prevention of diseases, clinical examination of patients with chronic diseases, medical rehabilitation, monitoring the course of pregnancy;
- Fundamentals of the organization and provision of emergency and urgent care, including the organization and provision of laboratory and diagnostic assistance;
- Fundamentals of social hygiene and public health of the population of the country, the tasks of the country's health care in the field of public health protection and the prospects for the development of health care.
- Rules of action upon detection of a patient with signs of especially dangerous infections;

- Organization and volume of first aid in military field conditions, in case of mass casualties of the population and catastrophes;
 - Rules of first aid for life-threatening and emergency conditions;
 - Fundamentals of radiation safety;
 - Fundamentals of disease prevention and health education;
 - Rules of action upon detection of a patient with signs of especially dangerous infections;
 - Diagnostic informativeness of laboratory symptoms and syndromes - concepts of specificity, test sensitivity, predictive value;
 - List of laboratory methods, taking into account the organizational structure of healthcare institutions;
 - Legislative, normative and legal, instructional and methodological documents defining the activities of laboratories of medical organizations and quality management of clinical laboratory research;
 - Clinical informativeness of laboratory studies from the standpoint of evidence-based medicine in the most common diseases of the cardiovascular, respiratory, digestive, genitourinary, musculoskeletal, nervous, immune, endocrine systems and blood;
 - Basic modern preanalytical and analytical technologies of clinical laboratory research;
 - Principles of operation and rules of operation of the main types of measuring instruments, analyzers and other equipment used in clinical laboratory research;
 - Factors influencing the results of laboratory research at the preanalytical, analytical and postanalytical stages;
 - Technology for organizing and conducting internal and external quality control of clinical laboratory research;
 - Safety regulations and work in the clinical diagnostic laboratory, with reagents, devices.

Be able to:

- 1) • Perform clinical laboratory studies and use methods - express - diagnostics aimed at identifying the risk of developing diseases;
 - Take measures to prevent the spread of infectious and parasitic diseases, observe sanitary norms and rules when working with biological material;
 - Conduct sanitary and educational work on the prevention of infectious and non-infectious diseases;
 - Organize a workplace for morphological (cytological), biochemical, immunological, express methods and other studies;
 - Organize the work of nursing staff;
 - Organize the work of laboratory personnel;
 - Prepare a preparation for microscopic examination, biomaterial samples for biochemical, immunological and other laboratory studies;
 - Prepare solutions of reagents, dyes for laboratory research;
 - Work on the most common laboratory measuring instruments, analyzers and equipment in accordance with the rules of their operation; be able to use methods of express diagnostics in a laboratory;
 - Carry out quality control of the analytical stage of the research performed;
 - Organize the performance of laboratory research in accordance with the requirements for labor protection, sanitary and epidemiological requirements;

- Perform the most common laboratory tests and use the methods of modern express diagnostics;
- Prepare accounting and reporting documentation for clinical laboratory tests, provided for by the current regulatory documents;
- Perform clinical laboratory tests and express - methods aimed at identifying the risk of developing diseases;
- Interpret the results of the most common laboratory diagnostic methods.

Own:

- 1) • Technology for performing the most common types of general clinical, biochemical, coagulological, hematological, parasitological, immunological and cytological studies using laboratory equipment and information systems;
 - Technology of laboratory express - research;
 - Technology for organizing and performing quality control of laboratory research;
 - Methods for drawing up a plan for laboratory examination of patients and interpreting the results of laboratory tests at the stages of prevention, diagnosis and treatment of the most common diseases of the cardiovascular, respiratory, digestive, genitourinary, musculoskeletal, nervous, immune, endocrine systems, blood, as well as in emergency conditions;
 - Technology of interaction with the staff of clinical departments on laboratory examination of patients;
 - Skills in performing basic laboratory manipulations (microscopy, dosing, centrifugation, weighing, filtration of solutions, preparation of solutions of substances, etc.);
 - Skills of preparation, fixation and staining of preparations for microscopic examination, preparation of samples for biochemical, immunological and other studies;
 - Skills in calibration of laboratory measuring instruments;
 - Skills in working with the most common laboratory measuring instruments, analyzers and equipment in accordance with the rules of their operation;
 - Skills of performing laboratory research by non-device express - methods;
 - Skills of maintaining the laboratory accounting and reporting documentation (registration of a journal for recording research results, filling out forms for test results, etc.);
 - Interpretation of laboratory test results;
 - Algorithm for a detailed clinical diagnosis;
 - Algorithm for making a preliminary diagnosis with subsequent referral to the appropriate specialist doctor.
4. The total labor intensity of the discipline: is_3_ credit units (108 hours).
5. Semester: 10
6. The main sections of the discipline:
 - Organization of laboratory services. Quality control of laboratory tests.
 - Hematological examinations. Express methods in hematology.
 - General clinical research methods. Laboratory diagnostics of parasitic diseases.
 - Clinical biochemistry. Methods of modern express diagnostics.

- Coagulology. Methods of modern express diagnostics.
- Immunological studies. ELISA research in the CDL. Methods of modern express diagnostics.
- Molecular genetic research. Cytological studies. Bacteriological research.

Head of the department

A.E. Gurina

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