

Odesa National Medical University
Department of Family Medicine and Polyclinic Therapy

Syllabus
Selected issues of cardiology and electrocardiography

Amount	120 hours
Semester, year of study	IV semester, 2 year of study
Days, time, place	According to the schedule
Teacher(s)	Valentyna Velychko Galyna Kornovan Volodymyr Synenko Larysa Kolotvina
Contact phone number	0973054035
E-mail	familymedod@odmu.edu.ua
Workplace	study rooms № 1, 2 of Department of Family Medicine and Polyclinic Therapy, Pishonivska st., 1, Odesa
Consultations	Thursday 14.30-16.00

COMMUNICATION

Communication is possible during face-to-face consultations, or remotely (online) using Teams (by previous agreement). Communication can also be carried out using E-mail. At the same time, it is necessary to indicate your last name, first name, course, and the name of the course. The solution of "work issues" is possible at the specified phone number.

COURSE ANNOTATION

Description of the academic discipline

The subject of study of the selective educational discipline "Selected issues of cardiology and electrocardiography" is to acquaint PhD candidates with new achievements and practical skills in the specialty. In the diagnostic process, the knowledge and ability to evaluate the data of electrocardiographic examination of patients with diseases of the cardiovascular system and extracardiac pathology are of essential importance.

Course prerequisites: the discipline is based on and integrated with the students' study of normal and pathological clinical anatomy, histology, cytology and embryology, clinical chemistry, general and clinical pathological physiology, microbiology, virology and immunology, pharmacology, general pharmacy and clinical pharmacology

Postrequisites of the course: the discipline involves the study of relationships with the following disciplines: therapy, family medicine, obstetrics and gynecology,

neurology, surgery, endocrinology, and the formation of skills to apply knowledge in the process of further education and in professional activity.

The purpose of the selective educational discipline is to train specialists capable of competently solving complex problems in the field of professional and scientific and innovative activities while planning and conducting their own scientific research and training doctors of philosophy for the high-quality performance of functional duties, related to the use of electrocardiological research in the diagnosis of lesions of the cardiovascular system and extracardiac pathology, carrying out differential diagnosis, rational selection of drugs that should reduce the frequency or prevent the occurrence of complications of the course of diseases and unwanted effects during their pharmacotherapy.

The main tasks of the selective educational discipline are:

- 1) Providing knowledges to PhD candidates about the pathogenesis of diseases of the cardiovascular system;
- 2) Providing knowledges regarding the use of functional research methods in the diagnostic process to PhD candidates;
- 3) Improvement of knowledges of PhD candidates regarding the rehabilitation of patients with internal pathology under the outpatient and inpatient conditions;
- 4) The formation of practical skills of PhD candidates in diagnosing of the main diseases of internal organs with the use of ECG.

The expected results

As a result of studying an academic discipline, a graduate student (applicant) should know:

- basic principles of organization and provision of therapeutic care under outpatient and hospital conditions;
 - peculiarities of diagnosis and treatment of diseases of internal organs under modern conditions;
 - principles of medical rehabilitation under polyclinic conditions;
 - features of working capacity
- must be able to:*
- determine the indications for conducting electrocardiography during the outpatient reception of patients of different age categories;
 - carry out early diagnosis of initial forms of various therapeutic diseases using all available research methods;
 - perform ECG analysis in the case of damage to the cardiovascular system and extracardiac pathology;
 - to be able to use the ECG to diagnose conditions that require urgent treatment;
 - carry out the objectification of the treatment process with the help of an ECG;
 - to resolve the issue of examination of temporary and long-term incapacity;

COURSE DESCRIPTION

Forms and methods of education

The course will be presented in lecture form (8 hours), seminar classes (26 hours) and

practical classes (26 hours), organization of independent work of graduate students (60 hours).

Training methods: verbal, explanatory and demonstrative, problem-based teaching method, research.

Types of educational activities of graduate students according to the curriculum are: lectures, seminars and practical classes, independent work (SRS) with active consultation of the teacher.

The teaching of the selective educational discipline " Selected issues of cardiology and electrocardiography" on practical classes is provided by methodological guidelines for each practical class, visual teaching aids for each class (presentations, video lectures, situational tasks), the department's information resource, structured algorithms of skill control.

Content of the discipline

Lectures:

1. Cardiac arrhythmias
2. Acute coronary syndrome
3. Heart failure
4. Myocardial diseases.

Practical classes:

1. Methodology of ECG registration. Normal ECG. ECG with hypertrophies of the heart.
2. Functional ECG tests. Acute drug test. Test with dosed physical activity.
3. ECG diagnosis of arrhythmias caused by a violation of sinus node automatism.
4. ECG with supraventricular arrhythmias. Extrasystoles. Atrial fibrillation and flutter. ECG signs of premature ventricular excitation syndromes.
5. ECG diagnosis of ventricular arrhythmias: extrasystoles, tachycardia, ventricular fibrillation
6. Violation of repolarization processes on the ECG. Types. Etiology. Signs. Syndrome of early ventricular repolarization. Differential diagnosis.
7. ECG diagnosis of intraventricular conduction disorders.
8. ECG with sinoatrial and atrioventricular blocks.
9. Changes on the ECG in chronic ischemic heart disease: angina pectoris, acute coronary syndrome, myocardial infarction of various localization.
10. ECG diagnosis of pulmonary embolism. Acute and chronic pulmonary heart. Etiology.
11. ECG diagnosis of pericarditis.
12. ECG changes of some extracardiac diseases and electrolyte disturbances in the organism.
13. Methodology and analysis of results of daily ECG monitoring.

Seminar classes:

1. Anatomical and physiological bases of electrocardiography. Properties of cardiac muscle. The structure of the conduction system of the heart.

2. Methods of examination of patients with cardiovascular pathology. Diagnostic value of electrocardiography, daily ECG monitoring.
3. Arrhythmias due to a violation of the function of automatism. Criteria for correct sinus rhythm. Sinus node weakness syndrome. Etiology, clinic picture.
4. Passive and active ectopic complexes and rhythms. Extrasystolic arrhythmia. Etiology, classification, clinic picture. Parasystole.
5. Atrial fibrillation and flutter. Clinic picture. Types. Treatment.
6. Ventricular heart rhythm disorders. Etiology, clinic picture, treatment.
7. Blockades of the branches of His bundle. Violation of intraatrial conduction
8. Atrioventricular blockade. Sinoatrial blockade
9. Differential diagnosis of cardialgia. Vegetative vascular dystonia.
10. Diagnosis of myocardial infarction
11. Myocarditis, diagnosis
12. Pulmonary embolism . Clinic picture, diagnosis, treatment.
13. ECG changes in diseases of the digestive system.

List of recommended literature

Basic literature:

1. Selected issues of cardiology for family doctors: Study guide / Edited by Zaremba. - K., 2010. - 342 p.
2. Janashia P.Kh. Emergency cardiology: a guide for doctors / Edited by P.Kh. Dzhnanashiya, I.M. Shevchenko, S.V. Olyshevko - M.: "Binom", 2010. - 288p.
3. Cardiovascular diseases. Recommendations for diagnosis, prevention and treatment / Edited by V.M. Kovalenko, M.G. Lugai. - K. - "MORION", 2011. - 408 p.
4. L. Tomov, Il. Tomov. Cardiac arrhythmias. Clinical picture and treatment. Medicine and Physical Education, Sofia, 1976, - 432 p.

Additional literature

1. Management of a patient with acute coronary syndrome without ST segment elevation: emphasis on antithrombotic therapy / Lutai Ya. M., Parkhomenko A. N., Irkin O. I., Kushnir S. P. // Urgent Medicine. - 2018. - No. 3 (90). - pp. 110-116
2. Kapustnik Yu. O. Pharmacotherapy of inconsistencies in cardiology: Study guide / Yu. O. Kapustnik, O. V. Vlasova. - Poltava: Beldiy S.P., 2013. - 333 p.
3. Child cardiology and rheumatology: a practical guide / edited by prof. L.M. Belyaeva. M.: MIA.2011. -584s.
4. National assistant in rheumatology /V. M. Kovalenko, N. M. Shuba, V. K. Kazimirko [same in.]; for red. V. M. Kovalenka, N. M. Shubi. - K. : MORION, 2013. - 671 p.
5. Bobrov V.O., Potashev S.V. Post-infarction angina pectoris (mechanisms of development, features of the course of the disease and treatment, prognosis). – K.: Med. book, 2009. -100p.

Information resources

1. Ukrainian medical internet resource <http://www.likar.info>
Cardiovascular diseases section
(<http://www.likar.info/profi/?acton=main&id=50>)
3. The site of the outpatient cardiology center
(<http://www.sfult.org.ua/webcardio>)
4. The website of the center of thrombolytic therapy
(<http://www.thrombolysis.org.ua/>)
5. The website of the association of internists (<http://www.ksg.kiev.ua/~lij/>)
6. Electronic version of the "Ukrainian cardiology journal"
(http://www.rql.kiev.ua/cardio_j/index.htm)
7. Site of the Institute of Cardiology named after M. D. Strazhesko, AMS of Ukraine (<http://www.straghesko.kiev.ua/>)
8. Ukrainian cardiac portal (<http://www.ukrcardio.org>)
9. Orders of the Ministry of Health of Ukraine
<http://www.moz.gov.ua/ua/portal/>

EVALUATION

Methods of current control

Assessment forms:

- tests of the initial and final control of the level of knowledge on the topic of practical training;
- oral answer to questions based on the material of the current topic;
- solving typical and atypical clinical situational tasks;
- control of practical skills;
- final assessment.

Scheme of accrual and distribution of points received by graduate students

Current control. Evaluation of the success of the study of topics of the discipline is carried out according to the traditional 4-point scale. At the end of the study of the discipline, the current success rate is calculated as the average current score, i.e. the arithmetic average of all the grades obtained by the graduate student according to the traditional scale.

Final control. The study of the academic discipline ends with a test. Credit will be given to post-graduate students (recipients) who have not missed lectures and practical classes or completed missed classroom classes and have an average grade of at least 3.00.

To evaluate the discipline on a 5-point scale, it is the arithmetic mean of two components:

1. Average current score of all current grades (number rounded to 2 decimal places, (eg 4.38))
2. Traditional assessment for differential test.

The average score for the discipline is converted into a traditional grade and converted into points on a multi-point scale. Further calculations are carried out by the information and computing center of the university.

Independent work in the study of a selective academic discipline is provided by methodical developments for independent work, visual teaching aids (video lectures, presentations), information resource of the department, topics of independent work, structured algorithms of skill control.

Topics of independent work

1. Anatomical and physiological bases of electrocardiography. Properties of cardiac muscle. The structure of the conduction system of the heart
2. Methods of examination of patients with cardiovascular pathology. Diagnostic value of electrocardiography, daily ECG monitoring.
3. Arrhythmias due to a violation of the function of automatism. Criteria for correct sinus rhythm. Sinus node weakness syndrome. Etiology, clinic picture.
4. Passive and active ectopic complexes and rhythms. Extrasystolic arrhythmia. Etiology, classification, clinic picture. Parasystole.
5. Atrial fibrillation and flutter. Clinic picture. Types. Treatment.
6. Ventricular heart rhythm disorders. Etiology, clinic picture, treatment.
7. Conduction disorders: intraatrial blockade and blockades of the branches of the bundle of His, atrioventricular and sinoatrial blockades
8. The role of ECG in the differential diagnosis of cardialgia.
9. Interventional methods of treatment for acute coronary syndrome
10. Surgical methods in the modern treatment of heart rhythm disorders
11. Clinical treatment guidelines in cardiology
12. Preparation for differential test.

COURSE POLICY

The policy on deadlines and rescheduling, the policy on academic integrity, the policy on attendance and tardiness, mobile devices, behavior in the classroom takes place in accordance with the "Regulations on the organization of the educational process by students of higher education at ONMedU", 2019.

Deadline and rearrangement policy:

All missed classes must be completed. Lectures are practiced by writing essays on the topic of the lesson. Practical classes are practiced according to the schedule of consultations. Modules are rearranged if there are significant reasons (for example, sick leave).

Academic Integrity Policy:

Mandatory observance of academic integrity, namely:

- independent performance of all types of work, tasks, forms of control provided for by the work program of this educational discipline;
- references to sources of information in case of use of ideas, developments, statements, information;
- compliance with the legislation on copyright and related rights;

- providing of reliable information about the results of one's own educational (scientific, creative) activities, the use of research methods and sources of information.

Attendance and lateness policy:

Attending lectures and practical classes is mandatory, lateness is not welcome. A valid reason for absence from classes is illness, which is confirmed by a certificate from a doctor (sick leave).

Mobile devices:

It is not allowed to use a mobile phone, tablet or other mobile devices during the lesson (except for the cases provided by the curriculum and methodical recommendations of the teacher).

Behavior in the audience:

The course involves working in a team. The environmental communication is friendly, creative, open to constructive criticism.