

MINISTRY OF HEALTH OF UKRAINE
Kharkiv National Medical University

Department of Internal Medicine №2, Clinical Immunology and Allergology named after
academician L.T. Malaya

Academic year 2021-2022

SYLLABUS OF THE EDUCATIONAL COMPONENT

"Drug allergy in clinical practice"

(name of the educational component)

Optional educational component

Form of education full-time
(full-time; part-time; distance)

Field of knowledge 22 Health care
(code and name of the field of knowledge)

Specialty 222 Medicine
(code and name of the specialty)

Specialization (if available) medicine

Educational-professional program (educational-scientific program) EPP

Second (master's) level of higher education

Course 6

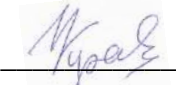
The syllabus of the educational component was approved
at the meeting of the Department of Internal Medicine
№2, Clinical Immunology and Allergology named after
academician L.T. Malaya

Approved by the methodical
commission of KhNMU on the
problems of professional training of
therapeutic profile

Protocol dated
August 27, 2021 № 28

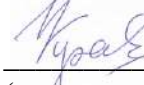
Protocol dated
August 31, 2021 № 1

Head of the Department



(signature) Professor Kravchun P.G.
(surname and initials)

Chairman



(signature) Professor Kravchun P.G.
(surname and initials)

Syllabus developers

Babadzhan Volodymyr Danylovych, Professor of the Department of Internal Medicine №2, Clinical Immunology and Allergology named after Academician LT Malaya, Kharkiv National Medical University, Doctor of Medical Sciences, Professor.

INFORMATION ABOUT TEACHERS TEACHING THE EDUCATIONAL COMPONENT

Surname, name, patronymic, position, academic title, scientific degree

Kravchun Pavlo Hryhorovych, Head of the Department of Internal Medicine № 2, Clinical Immunology and Allergology named after Academician LT Malaya, Kharkiv National Medical University, Doctor of Medical Sciences

Professional interests, link to the teacher 's profile (on the university website, department, in the Moodle system, etc. Theoretical and practical aspects of allergic diseases, molecular allergology.

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Consultations are held daily from 15⁰⁰ - 17⁰⁰, on Saturdays according to the schedule of the department and at the request of students and on the basis of the Department of Internal Medicine №2, Clinical Immunology and Allergology named after Academician LT Mala; are held by agreement with the lecturer in the Moodle or Zoom system

Location: Department of Internal Medicine №2, Clinical Immunology and Allergology named after Academician LT Malaya

Babajan Vladimir Danilovich, Professor of the Department of Internal Medicine №2, Clinical Immunology and Allergology named after Academician LT Small Kharkiv National Medical University, Doctor of Medical Sciences

Professional and interests, links to the teacher's profile (on the website of the university, department, in the Moodle system and more. Patomechanisms of allergy associated with IgE, molecular allergology, the main features of antigens and immune recognition of antigens, mechanisms of development, diagnosis and treatment of anaphylactic shock, urticaria, acute angioneurotic edema, allergic bronchial asthma, drug and food allergies; development of new methods of allergy diagnosis (ImmunoCAP, ISAC, ALEX) and therapy.

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Consultations are held daily from 15⁰⁰ - 17⁰⁰, on Saturdays according to the schedule of the department and at the request of students at the Department of Internal Medicine №2, clinical immunology and allergology. Academician LT Small; online consultations are held in agreement with the teacher in the system Moodle or Zoom.

Location: Department of Internal Medicine №2, Clinical Immunology and Allergology named after Academician LT Malaya

Krapivko Svitlana Oleksandrivna, Associate Professor of the Department of Internal Medicine №2, Clinical Immunology and Allergology named after Academician LT Malaya Kharkiv National Medical University, Candidate of Medical Sciences.

Professional interests, links to the teacher's profile (on the university website, department, in the Moodle system, etc. Allergen-specific diagnosis and allergen-specific immunotherapy of IgE-dependent allergy. Introduction of new methods of diagnosis and treatment of patients with anaphylactic shock, allergic bronchial allergy allergic rhinitis, urticaria, acute angioneurotic edema, drug and food allergies

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Consultations are held daily from 15⁰⁰ - 17⁰⁰, on Saturdays according to the schedule education and demanding applicants based on Department of internal Medicine №2, clinical Immunology and Allergology named after LT Malaya, online consultations conducted by agreement with the teacher in system Moodle or Zoom.

Locations: Department of internal Medicine №2, clinical Immunology and Allergology academician LT Malaya Time for classes: Monday, Tuesday, Wednesday, Thursday, Friday (8⁰⁰-12¹⁵/12²⁵-16⁴⁵ according to the schedule).

INTRODUCTION

The syllabus of the discipline "Drug Allergy in Clinical Practice" is compiled in accordance with the educational-professional program (here in after - OPP) "222 Medicine" and the Standard of Higher Education of Ukraine (here in after - the Standard), the second (master's) level, areas of knowledge 22 "Health" I", specialty "medicine".

Description (abstract) The discipline "Drug allergy in clinical practice" includes an idea of the mechanisms of occurrence, clinical manifestations, possibilities of clinical and laboratory diagnosis of drug therapy, emergency care in its occurrence. Such information will help doctors of various specialties to protect themselves and patients from the complications of medical treatment and the use of various materials in their daily practice.

The study of the discipline will allow the doctor to apply methods of diagnosis and treatment of drug allergies, to determine the safety of various drugs and materials. Thus, the study of the discipline is needed by physicians, family physicians, surgeons, obstetricians, gynecologists and others. in their daily practice.

The elective course "Drug Allergy in Clinical Practice" is designed to teach students 6 years of the second (master's) level of higher education.

Moodle page <http://distance.knmu.edu.ua/course/view.php?id=1690>

The subject of study of the discipline "Drug allergy in clinical practice" is the preservation of public health by studying the methods of diagnosis and treatment of allergic complications of drug therapy (drug allergy) in patients.

Interdisciplinary links:

Prerequisites: pathological morphology, physiology and pathophysiology, microbiology, virology and immunology.

Postrequisites: contributes to the study of students of clinical disciplines "Surgery" - in particular the diagnosis and treatment of anaphylactic shock, prevention, diagnosis and treatment of drug allergies to general and local anesthetics, antibiotics, hormonal drugs, drugs for topical use, "Pediatrics in pediatric infections" in particular diagnosis and treatment of anaphylactic shock, prevention, diagnosis and treatment of drug allergy to antibiotics, "Oncology" - in particular prevention, diagnosis and treatment of drug allergy to narcotic and non-narcotic analgesics, "Ophthalmology" - in particular prevention, diagnosis and treatment of drug allergy used in ophthalmology, "Obstetrics and Gynecology" - in particular the prevention, diagnosis and treatment of drug allergies to anesthetics, general and local anesthetics, antibiotics, hormonal drugs, drugs for topical use, "Dermatology, venereology" - in particular the diagnosis and treatment of anaphylactic shock, prevention, diagnosis and treatment of drug allergy to antibiotics, hormonal drugs, drugs for topical use, "Otorhinolaryngology" - in particular the prevention, diagnosis and treatment of drug allergy to anesthetics, general and local anesthetics antibiotics, topical drugs, "Emergency and emergency care" - including diagnosis and treatment of anaphylactic shock, prevention, diagnosis and treatment of drug allergy to anesthetics, general and local anesthetics, antibiotics, hormonal drugs.

1. PURPOSE AND TASKS OF THE COURSE

1.1. The purpose of the elective course "Drug allergy in clinical practice" is the deepening of knowledge of modern methods of clinical and laboratory diagnosis and treatment of drug allergies required in the professional activity of a pediatrician, family doctor, surgeon, obstetrician, gynecologist, which are established on the basis of educational and professional program.

1.2. The main objectives of the elective course "Drug allergy in clinical practice" is the improvement of competencies in accordance with the general and professional competencies of the educational-professional training program at the second (master's) level of higher education in the field of knowledge 22 Health care 228 Pediatrics in the event of an emergency with a drug allergy; 2) the ability to prescribe and evaluate methods of laboratory diagnosis and skin tests to prevent drug allergies; 3) the ability to diagnose and prescribe treatment for drug allergies; 4) the ability to conduct

and evaluate the results of patch tests with dental materials, to choose the safest means; 5) understanding of the subject area and professional activity, the ability to adapt and act in a new situation, making an informed decision, the ability to work in a team, to act socially responsibly and consciously.

1.3. Competences and learning outcomes, the formation of which is facilitated by the discipline "Drug allergy in clinical practice":

In accordance with the requirements of the standard, the discipline provides the acquisition of the applicant's *competencies*:

- *integrated*: Ability to solve complex specialized problems and practical problems during professional activities in pediatrics, clinical immunology and allergology and in the educational process, which involves the use of theoretical principles, clinical manifestations and immunological methods of laboratory diagnostics to detect sensitization to different species drug compounds in patients; to establish the diagnosis and degree of immunological allergological disorders, to control the prescribed antiallergic therapy.

- *general*: 1. Ability to conduct research at the appropriate level. 2. Ability to apply knowledge in practical situations. 3. Knowledge and understanding of the subject area and understanding of professional activity. 4. Ability to adapt and act in a new situation. 5. Ability to make an informed decision; work in a team; interpersonal skills. 6. Ability to communicate in the state language both orally and in writing; ability to communicate in a foreign language. 7. Skills in the use of information and communication technologies. 8. Definiteness and persistence in relation to the set tasks and responsibilities. 9. The ability to act socially responsibly and consciously. 10. The desire to preserve the environment.

- *special (professional, subject)*: 1. Interpret the concept of "drug allergy". 2. To draw conclusions about the presence of sensitization to drugs according to laboratory tests. 3. Conduct surveys and physical examinations of patients with drug allergies. 4. To substantiate the use of skin prick tests to diagnose sensitization to medicinal compounds, to determine the indications and contraindications for their implementation. 5. To determine the etiological factors of drug allergy. 6. Explain the basics of allergological research methods (laboratory tests, skin tests, provocative tests, etc.). 7. To make the plan of inspection of patients with a drug allergy, to substantiate application of the basic diagnostic methods applied in allergology, to define indications and contraindications for their carrying out, possible complications. 8. Identify different variants of the course and complications of allergic diseases caused by drug allergies. 9. To make the differential diagnosis, to substantiate and formulate the diagnosis at the basic allergic syndromes on the basis of the analysis of data of laboratory and instrumental inspection. Carry out differential diagnosis between allergic and pseudoallergic mechanisms. 10. Prescribe antiallergic therapy, evaluate its effectiveness. Determine the prognosis, carry out primary and secondary prevention in the presence of drug allergies. Ability to market medical services.

1.3.2. The study of the discipline ensures the acquisition by students of the following **program learning outcomes (PLO)**:

PLO 1 - acquisition of general and special fundamental and professionally-oriented knowledge, skills, abilities, competencies necessary to perform typical professional tasks related to its activities in the medical field in the relevant position.

PLO 2 - knowledge of psychophysiological features of man, human health, health support, disease prevention, human treatment, public health.

PLO 3 - the ability to apply the acquired knowledge, skills and understanding to solve typical problems of the doctor, the scope of which is provided by lists of syndromes and symptoms, diseases, emergencies, laboratory and instrumental studies, medical manipulations.

PLO 4 - collection of patient information.

PLO 5 - evaluation of survey results, physical examination, laboratory and instrumental research data.

PLO 6 - establishing a preliminary clinical diagnosis of the disease.

PLO 7 - determination of the nature, principles of treatment of diseases.

PLO 8 - determination of the necessary diet, mode of work and rest in the treatment of diseases.

PLO 9 - determination of tactics of contingent contingent of persons subject to dispensary supervision.

PLO 10 - diagnosing emergencies, determining the tactics of emergency medical care.

PLO 11 - carrying out sanitary and hygienic and preventive measures.

PLO 15 - performance of medical manipulations.

PLO N 16 - assessment of the impact of the environment on the health of the population.

PLO 17 - maintaining medical records, processing of state, social and medical information.

PLO 18 - the ability to assess the state of human health and provide its support taking into account the impact of the environment and other health factors.

PLO 20 - the ability to apply the acquired knowledge about the existing health care system to optimize their own professional activities and participate in solving practical problems of the industry.

PLO 21 - the formation of a specialist with appropriate personal qualities, who adheres to the code of ethics of the doctor.

1.3.3. The study of the discipline ensures the acquisition of education by students the following **social skills (Soft skills)**: skills of critical thinking, problem solving, public speaking, business communication, teamwork, digital communication, organization of activities, which are also influenced by the level of leadership, knowledge of work ethics, discipline, sense of responsibility, compassion man.

2. VOLUME OF INFORMATION

Name of indicators	Area of knowledge, specialty, degree of education, OPP	Feature discipline
		full-time education
Credits - 4	Area of knowledge 22 "Health Care" (code name)	Regulatory
Total hours - 120	Specialty: 222 "Medicine" (code and title)	Year of preparation:
		6th
		Semester
Hours for full-time study: classroom - 20 independent work student - 100	Educational degree: Master of OPP 222 Medicine	Practical classes
		20 hours.
		Independent work
		100 hours
		Type of control: credit

2.1 Description of the discipline

2.1.2 Practical classes

№ o/n	Title of the topic	Number of hours	Methods of teaching	Forms of control
1.	Types of allergic reactions according to Jel and Coombs, classification of allergic reactions Cook. Anaphylaxis.	2	Narrative- explanation, demonstration,	<u>Current</u> <u>control:</u> abstract.

2.	Types of drug allergies. Allergic contact dermatitis.	2	presentation, video, modeling of processes and situations, case method, use of immunograms, results of multicomponent methods of allergy diagnosis.	<i>Final control:</i> credit.
3.	Types of drug allergies. Methods of scarification tests and prick tests with drugs. Methods of treatment for drug allergies. Methods of patch tests with drugs.	2		
4.	Methods of treatment for drug allergies. Methods of patch tests with drugs.	2		
5.	Laboratory diagnosis of drug allergy, the place of standardized and non-standardized tests in the doctor's practice: ELISA, basophil stimulation test, ELISA-CAST.	2		
6.	Standardized laboratory methods for the diagnosis of drug allergy ELISA, immunocAP, CAST, FAST.	2		
7.	Drug allergy to antibiotics, local and systemic anesthetics.	2		
8.	Drug allergy to analgesics, intravenous X-ray contrast agents, antihypertensive and other drugs.	1		
9.	Drug allergy to drugs for local anesthesia and anesthesia.	1		
10.	Drug allergy to drugs that have the properties of haptens. Patch test. Types of standardized allergens for patch tests.	2		
11.	Emergencies (anaphylactic shock, angioedema (Quincke's edema) and acute urticaria) in clinical practice.	2		
12.	Credit			
Total hours of practical classes		20		

2.2.3. Individual work

№ o/n	Title of the topic	Number of hours	Methods of teaching	Form of control
1	General issues of diagnosis, treatment and prevention of drug allergies.	10	virtual consultation	<i>Current control:</i> oral examination (individual and frontal); written survey; test control; individual tasks; presentation; abstract; report <i>Final control:</i> credit
2	Skin tests. Prick tests and scarification tests in the diagnosis and prevention of drug allergies.	10		
3	Patch tests in the diagnosis and prevention of drug allergies.	10		
4	Laboratory diagnosis of drug allergy.	10		
5	Diagnosis, treatment and prevention of allergies to antibiotics, local and systemic anesthetics.	10		
6	Diagnosis, treatment and prevention of allergies to analgesics, intravenous X-ray contrast agents, antihypertensive and other drugs.	10		

7	Diagnosis, treatment and prevention of allergies to drugs for local anesthesia and anesthesia.	10		
8	Hypersensitivity to drugs that have the properties of haptens.	10		
9	Anaphylaxis. Anaphylactic shock in clinical practice.	10		
10	Preparation for the credit.	10		
Total hours of independent work of the applicant		100		

3. EVALUATION CRITERIA

3.1. Evaluation of educational success of students is carried out on the basis of the current "Instructions for evaluating the educational activities of students of KhNMU"

Evaluation	Criteria
"Excellent"	The applicant shows special creative abilities, is able to acquire knowledge independently ability to make decisions in unusual situations, argues convincingly answers independently discovering their talents and inclinations
"very good"	getter speaks volume of material studied, applying it in practice, free to solve exercises and problems in common situations, self-corrects mistakes, the number of which is insignificant
"Good"	The applicant is able to compare, summarize, systematize information under the guidance of a teacher; as a whole to apply it independently in practice; control their own activities; to correct mistakes, among which there are significant ones, to choose arguments to confirm the opinions
"Satisfactory"	The applicant reproduces a significant part of the theoretical material, shows knowledge and understanding of the main provisions; with the help of a teacher can analyze teaching material bugs include a significant amount of material
"enough"	Applicant has educational material at a level higher than the original, much of it reflects on the reproductive level
"unsatisfactory" with the possibility of re-assembly semester control	getter has material at the individual pieces that make up a small part of the training material
"unsatisfactory" with a mandatory re-study test credit	getter material has a basic level of recognition and reproduction of certain facts, items, objects of
particular criteria for assessing practical skills in the disciplines	
"Excellent"	The applicant meets a high (creative) level of competence: the student shows special creative abilities, without errors demonstrates the implementation of practical skills and has systematic theoretical knowledge (knows the method of practical skills, indications and contraindications, possible complications, and n.) and has the ability to make decisions in unusual situations.

"Good"	The applicant demonstrates the implementation of practical skills, admitting some inaccuracies, which he corrects quickly, has theoretical knowledge (knows the method of practical skills, indications and contraindications, possible complications, etc.)
"Satisfactory"	The applicant demonstrates the implementation of practical skills, allowing some errors that can be corrected by correcting them by the teacher, has satisfactory theoretical knowledge (knows the basic principles of methods of practical skills, indications and contraindications, possible complications, etc.).
"Unsatisfactory"	The applicant can not independently demonstrate practical skills (performs them, making gross errors), does not have a sufficient level of theoretical knowledge (does not know the methods of practical skills, indications and contraindications, possible complications, etc.).

3.2. Control questions and questions to the credit:

Topic № 1. Types of allergic reactions according to Jel and Coombs, classification of allergic reactions Cook. Anaphylaxis.

Indicate and describe the structure and function of the central and peripheral organs of the immune system.

Antigens: their characteristics, structure, functions. Haptens. What cells are antigen-presenting and their functions.

Populations (T- and B-lymphocytes) and subpopulations (T-helpers of types 1 and 2, T-regulatory, T-cytotoxic cells) of lymphocytes, their antigenic structure and functions. The main clusters of T- and B-cell differentiation.

What is an antigen, antibody, complement. Classes of immunoglobulins. Dynamics of immunoglobulin levels in allergies.

Antigenic structure and functions of T-helpers type 1 and 2. How they activate the T- and B-cell immune responses. The value of the functional balance between T-helpers (Th1 \ Th2).

Cytokines are mediators of the immune system. Interleukins, classification, functions and participation in immune processes.

About the peculiarities of the functioning of the immune system in children of different ages, which causes an increase in the occurrence of allergic diseases.

Determination of allergies. The role of genetic factors and the environment in the immunopathogenesis of allergies. Modern ideas about allergies and atopy.

Allergy. Classification of allergens. Causes and mechanisms of allergic conditions.

Stages of formation of allergic reaction.

Classification of allergic reactions according to Jel and Coombs. Types of diseases that have in their pathogenesis I, II, III, IV types of reactions.

Anaphylaxis: definition, causes, immunopathogenesis, clinic, allergy diagnosis, laboratory diagnosis, tryptase determination and prevention.

Topic № 2. Types of drug allergies. Allergic contact dermatitis.

Differential diagnosis of diseases caused by allergic processes and pseudoallergic reactions. Principles of antiallergic therapy and immunotropic treatments in allergology.

Development of pseudoallergic reactions in disorders of complement activation and arachidonic acid metabolism. Histamine intolerance syndrome. Principles of treatment.

Clinical forms of drug allergy. Immunopathogenesis, clinic, allergodiagnosics, treatment, allergoprophylaxis.

Drug allergy. Acute urticaria. Immunopathogenesis, clinic, allergodiagnosics, treatment, allergoprophylaxis.

Drug allergy. Acute angioedema. Immunopathogenesis, clinic, allergodiagnosics, treatment, allergoprophylaxis.

Drug allergy. Allergic contact dermatitis: definition, causes, immunopathogenesis, clinic, allergodiagnosics (patch tests), laboratory diagnosis, tryptase determination and prevention.

Topic № 3. Types of drug allergies. Methods of scarification tests and prick tests with drugs. Methods of treatment for drug allergies. Methods of patch tests with drugs.

Drug toxicoderma. Immunopathogenesis, clinic, allergodiagnosics, treatment, allergoprophylaxis.

Drug allergy. Serum sickness. Immunopathogenesis, clinic, allergodiagnosics, treatment, allergoprophylaxis.

Drug allergy. Stevens-Johnson and Lyell syndromes. Immunopathogenesis, clinic, allergodiagnosics, treatment, allergoprophylaxis.

Drug allergy. Allergic vasculitis, leukoclastic variant. Immunopathogenesis, clinic, allergodiagnosics, treatment, allergoprophylaxis.

Pathophysiological basis for the use of scarification tests and prick tests for the diagnosis of sensitization to drug compounds

Indications and contraindications for scarification tests and pre-tests with drugs.

Methods of scarification tests and prick tests with drugs.

Methods of evaluation of scarification tests and prick tests with drugs.

Emergency care in case of complications during scarification tests and prick tests with drugs.

Topic № 4. Methods of treatment for drug allergies. Methods of patch tests with drugs.

Principles of antiallergic therapy of drug allergies: the use of adrenaline, oxygen,

Principles of antiallergic therapy in allergology: the use of crystalloid and colloidal solutions.

Principles of antiallergic therapy in allergology: use of antihistamines, doses.

Principles of antiallergic therapy in allergology: use of systemic glucocorticoids, doses.

Principles of antiallergic therapy in allergology: use of antileukotriene drugs, doses.

Pathophysiological basis of the use of patch tests for the diagnosis of sensitization to drug compounds

Indications and contraindications for patch tests with drugs.

Methods of patch tests with drugs.

Methods for evaluating patch tests with drugs.

Emergency care in case of complications during patch tests with drugs.

Topic № 5. Laboratory diagnosis of drug allergy, the place of standardized and non-standardized tests in the doctor's practice: ELISA, basophil stimulation test, ELISA-CAST.

Methods of diagnosing allergies: clinical, blood tests, smears from the nasal mucosa, total IgE.

Methods of allergy diagnosis: skin scarification and pre-tests, intradermal test, challenge test and provocation tests.

Methods for diagnosing allergies: ELISA determination of total IgE, specific IgE.

Methods for diagnosing allergies: basophil stimulation test ELISA-CAST.

Topic № 6. Standardized laboratory methods for the diagnosis of drug allergy ELISA, immuno-CAP, CAST, FAST.

Methods of allergen-component diagnosis of allergy: ImmunoCAP study.

Methods of allergen-component diagnosis of allergy: a multicomponent study ISAC, ALEX2.

Possibilities of diagnosis of drug allergy.

Methods for diagnosing allergies: FAST basophil stimulation test.

Topic № 7. Drug allergy to antibiotics, local and systemic anesthetics.

Pathogenetic mechanisms of antibiotic allergy.

Types of allergic reactions in allergy to antibiotics.

Clinical forms of drug allergy with allergy to antibiotics.

Diagnosis and emergency care for anaphylaxis with antibiotics.

The place of pre- and scarification tests in the diagnosis of antibiotic allergy.

Laboratory diagnosis of allergy to antibiotics (ELISA for specific IgE, ImmunoCAP, basophil stimulation test ELISA-CAST, FAST).

Topic № 8. Drug allergy to analgesics, intravenous X-ray contrast agents, antihypertensive and other drugs.

Pathogenetic mechanisms of allergy to analgesics, intravenous X-ray contrast agents, antihypertensive and other drugs.

Types of allergic reactions in case of allergy to analgesics, intravenous X-ray contrast agents, antihypertensive and other drugs.

Drug and non-drug mechanisms of allergy to analgesics, intravenous X-ray contrast agents, antihypertensive and other drugs.

Clinical forms of drug allergy in case of allergy to analgesics, intravenous X-ray contrast agents, antihypertensive and other drugs.

Drug allergy. Serum sickness. Immunopathogenesis, clinic, allergodiagnosics, treatment, allergoprophylaxis.

Diagnosis and emergency care for anaphylaxis with analgesics, intravenous X-ray contrast agents, antihypertensive and other drugs.

The place of pre- and scarification tests in the diagnosis of allergies to analgesics, intravenous X-ray contrast agents, antihypertensives and other drugs.

Laboratory diagnosis of allergy to analgesics, intravenous X-ray contrast agents, antihypertensive and other drugs (ELISA for specific IgE, ImmunoCAP, basophil stimulation test ELISA-CAST, FAST).

Topic № 9. Drug allergy to drugs for local anesthesia and anesthesia.

Pathogenetic mechanisms of allergy to drugs for local anesthesia and anesthesia.

Types of allergic reactions in allergy to drugs for local anesthesia and anesthesia.

Clinical forms of drug allergy in case of allergy to a means for local anesthesia and anesthesia.

Diagnosis and emergency care for anaphylaxis with drugs for local anesthesia and anesthesia.

The place of prick- and scarification tests in the diagnosis of allergy to drugs for local anesthesia and anesthesia.

Laboratory diagnosis of allergy to drugs for local anesthesia and anesthesia (ELISA for specific IgE, ImmunoCAP, basophil stimulation test ELISA-CAST, FAST).

Topic № 10. Drug allergy to drugs that have the properties of haptens. Patch test.

Types of standardized allergens for patch tests.

Types of drugs that have the properties of haptens: beta-lactams, metals, dental materials, cosmetics.

PAC tests for drugs that have the properties of haptens. Types of standardized allergens for PAC tests.

Drug allergy. Allergic contact dermatitis: definition, causes, immunopathogenesis, clinic, allergodiagnosics (PAC tests), laboratory diagnosis, tryptase determination and prevention.

Topic № 11. Emergencies (anaphylactic shock, angioedema (Quincke's edema) and acute urticaria) in clinical practice.

Drug allergy. Anaphylaxis. Anaphylactic shock. Immunopathogenesis, clinic, allergodiagnosics,

treatment, allergoprophylaxis.

Drug allergy. Emergency care for anaphylactic shock. Laboratory diagnostics. Skin tests with drugs.

Drug allergy. Acute urticaria. Emergency care for acute urticaria. Laboratory diagnostics. Skin tests with drugs.

Drug allergy. Acute angioedema. Emergency care for acute angioedema. Laboratory diagnostics. Skin tests with drugs.

3.3. Individual tasks

Preparation of a review of scientific literature or conducting scientific research (optional):

- Mechanisms of the immune response in allergies.
- Causes, pathogenesis and clinical manifestations of anaphylaxis.
- Anaphylactic shock.
- Angioneurotic edema (Quincke's edema).
- Acute urticaria.
- Drug allergies. Anaphylaxis.
- Methods of skin tests (pre-tests, scarification tests) to determine drug sensitization.
- Standardized laboratory methods for the diagnosis of drug allergies.
- Hypersensitivity to drugs that have the properties of haptens. Patch tests.

Types of individual tasks:

1. Curation of a patient with allergic pathology.
2. Report of the patient's medical history in a practical lesson.
3. Report of the abstract or presentation in a practical lesson.
4. Writing abstracts, articles.
5. Participation in competitions and student conferences.

3.6. Rules for appealing the assessment If the student does not agree with the assessment, he informs the teacher. The teacher should ask additional questions to clarify the level of knowledge of the student and inform him about the results of the additional survey. If the applicant does not agree with the assessment, his survey is conducted collectively by two teachers, who are appointed by the head of the department. The survey commission may include a teacher who conducted practical classes in the group. If necessary, the head of the department joins the commission. After an additional survey, the commission notifies the student of the final grade received.

4. DISCIPLINE POLICY

In order to achieve the goals of training and successfully complete the course, it is necessary to: join the work from the first day; attend lectures regularly; read the material in advance, before its consideration in a practical lesson; not to be late and not to miss classes; come to the department dressed in a medical gown, have changeable shoes, have a phonendoscope, notebook, pen; perform all necessary tasks and work every day; be able to work with a partner or in a group; ask for help and get it when you need it.

Academic mobility, interchangeability of credit credits (volume of 1 credit 30 hours) is provided. Students can discuss different tasks, but their performance is strictly individual. It is not allowed to write off, use various software, tips, use a mobile phone, tablet or other electronic gadgets during the lesson. Students are not allowed to be late for practical classes. Omissions of practical classes are worked out hour by hour to the teacher of group or the next teacher. Admission and consultations are held daily from 15⁰⁰ - 17⁰⁰, on Saturdays in accordance with the "Regulations on the procedure for students to study" from 07.12.2015 № 415.

Students with special needs must meet with the teacher or warn him before classes, at the request student this can be done by the group leader. If you have any questions, please contact the teacher.

5. ACADEMIC INTEGRITY

Observance of academic integrity by students provides:

- independent performance of educational tasks, tasks of current and final control of learning outcomes (for persons with special educational needs this requirement is applied taking into account their individual needs and opportunities);
- references to sources of information in the case of the use of ideas, statements, information;
- compliance with copyright law;
- providing reliable information about the results of their own educational (scientific, creative) activities.

Violation of academic integrity is considered to be:

- 1) academic plagiarism** - publication (in part or in full) of scientific results obtained by others as the results of their own research, and / or reproduction of published texts by other authors without indication of authorship; a form of academic plagiarism is self-plagiarism, which consists in reproducing one's own previously published texts without reference to the source of information;
- 2) fabrication** - falsification of research results, references, or any other data related to the educational process;
- 3) deception** - providing knowingly false information about their own educational activities or the organization of the educational process;
- 4) writeoff** -- the use without external permission of external sources of information during the evaluation of learning outcomes;
- 5) bribery** - the provision (receipt) of a participant in the educational process or a proposal to provide (receive) funds, property or services of a tangible or intangible nature in order to obtain illegal benefits in the educational process.

For *violation of academic integrity*, students may be held liable for such academic liability.

5. Recommended reading:

Basic

1. Essentials of clinical immunology / Ed.: Helen Chapel, Mansel Haeney, Siraj Misbah, Neil Snowden. – Sixth edition.- Wiley Blackwell.- 2014.- 377 p.
2. Molecular Allergology. User's Guide/ Ed.: Matricardi P.M., Kleine-Tebbe J., Jürgen H.H., Valenta R., Ollert M. // EAACE, 2016.-402p.
3. Oxford Handbook of Clinical Immunology and Allergy / Third edition / Edited by Gavin PS - Oxford University Press, 2015 - 659 p.

Auxiliary

4. Component-Cross-reactivity-Map-150903_ru
5. Lectures of the head of the department MD Professor Kravchun PG, MD Professor Babadzhan VD, 2020 - 2021 year.
6. Recommendations for the use of molecular diagnostics in the diagnosis of allergic diseases / Valenta R., Tonutti E., Bizzaro N. et al // Eur Ann Allergy Clin Immunol.- Vol 50, No. 2, 52-59, 2018.
7. USMLE STEP 1 Lecture Notes, 2016 / Immunology and Microbiology / Tiffany L. Alley, Kim Moscatello- NY-Kaplan, Inc., 2016 - 519 p.

6. Information resources

1. Page in Moodle <http://distance.knmu.edu.ua/course/view.php?id=1690>
2. Ukrainian Library Association www.ula.org.ua
3. <http://repo.knmu.edu.ua/>
4. <http://dspace.meduniv.lviv.ua/>

5. <https://studfiles.net/mgmu/2741/> Allergology and Immunology National Guide R.M. Haitov 2014.pdf
6. www.allergen.org
7. www.allergyeducation-ma.com
8. www.allergyeducation-ma.com