

**MINISTRY OF HEALTH OF UKRAINE  
KHARKIV NATIONAL MEDICAL UNIVERSITY**

**Department of Pediatrics №1 and Neonatology**

**Academic year 2021/2022**

**SYLLABUS OF THE EDUCATIONAL DISCIPLINE  
“PRACTICAL ASPECTS OF PEDIATRIC CARDIOLOGY.  
METHODS OF FUNCTIONAL DIAGNOSTICS IN CHILDREN”**

**Normative educational component**

**The form of education is full-time, distance**

**Educational program for training specialists of the second (master's)  
level of higher education training 22 "Healthcare"**

**in specialty 222 "Medicine"**

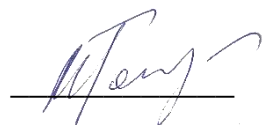
**Course 6**

The syllabus of the discipline was  
approved at the meeting of the  
Department of Pediatric #1 and  
Neonatology

Protocol No.1 from

"27" August 2021

Head of Department



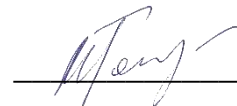
prof. M. Gonchar

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

Protocol No.1 from

"27" August 2021

Chairperson of the methodical  
commission of KhNMU on problems  
of professional training  
pediatric profile



prof. M. Gonchar

**Authors:** Margaryta Gonchar, Boichenko Alyona, Sanina Iryna, Onikienko Oleksandr, Nataliya Matsiyevska

Teachers: Boichenko Alyona, Logvinova Olga, Sanina Iryna, Onikienko Oleksandr

Teacher information:

Alona Boichenko - MD, Ass. Professor, specialization - pediatrics, pediatric cardiology, ultrasound diagnostics. [ad.boichenko@kntmu.edu.ua](mailto:ad.boichenko@kntmu.edu.ua)

Olga Logvinova - MD, Ass. Professor, specialization - pediatrics, pediatric pulmonology, immunology. [ol.lohvinova@kntmu.edu.ua](mailto:ol.lohvinova@kntmu.edu.ua)

Iryna Sanina – PhD, Ass. Professor, specialization- pediatrics, functional diagnostics. [io.sanina@kntmu.edu.ua](mailto:io.sanina@kntmu.edu.ua)

Oleksandr Onikiienko - PhD, Assistant, specialization- pediatrics, functional diagnostics. [ol.onikiienko@kntmu.edu.ua](mailto:ol.onikiienko@kntmu.edu.ua)

Tel. (057) 777-37-81, E-mail: [kaf.pediatrics1@gmail.com](mailto:kaf.pediatrics1@gmail.com), [kaf.3med.pediatrui1@kntmu.edu.ua](mailto:kaf.3med.pediatrui1@kntmu.edu.ua)

**Direct consultations:** time and location according to department schedule.

**On-line consultations:** Moodle, Zoom, Google Meet (schedule and location by prior agreement with a lecturer)

**Location:** Municipal Non-profit Enterprise of the Kharkiv Regional Council “Regional Clinical Children Hospital

## INTRODUCTION

The syllabus of the discipline "Practical aspects of pediatric cardiology. Methods of functional diagnostics in children" is compiled in accordance with the educational-professional program "Medicine ", the second (master's) level, field of knowledge 22 "Health".

**Objective:** to provide training for highly qualified specialists in the field of medicine, namely in pediatrics, able to solve complex problems of cardiac disease and functional diagnostics in the childhood diseases.

### Learning outcomes.

The course covers the main aspects of training a future pediatrician, family doctor or neonatologist.

According to the training program in the discipline of " Practical aspects of pediatric cardiology. Methods of functional diagnostics in children", the applicant receives theoretical knowledge, methodological training, practical skills and abilities in the following areas:

- Differential diagnostics of the most common diseases of the circulatory system
- Emergency care for major emergencies..
- Functional diagnostics tests of the most common diseases of the circulatory system.

**The subject of study** of the discipline are conditions and diseases that can occur in children with cardiovascular pathology.

### **Interdisciplinary links:**

#### **Prerequisites and co-requisites of the discipline**

The discipline "Practical aspects of pediatric cardiology. Methods of functional diagnostics in children" is related to the disciplines of medical biology, normal and pathological anatomy, normal and pathological physiology, biochemistry, microbiology, propaedeutics of pediatrics, medical genetics, pharmacology and medical prescription, epidemiology and principles of evidence-based medicine, emergency care, and also have practical skills in caring for pediatric patients and their management in outpatient and inpatient settings.

#### **Post-requisites of the discipline.**

The main provisions of the training discipline should be applied in the study of related disciplines during the 6 year of study, is the basis for preparing for the licensed exam, preparing for study in higher education institutions at the programs of the third educational and scientific level.

## **1. PURPOSE AND TASKS OF THE COURSE**

**1.1. The purpose of the study** is to provide training for highly qualified specialists in the field of pediatrics, able to solve complex problems of diagnosis of major somatic diseases and conditions in children of different ages.

**1.2. The main objectives** of the course are the acquisition general and professional competencies of the educational and professional program "Medicine" of the second level of higher education, specialty 222 Medicine.

**1.3. Competences and learning outcomes**, the formation of which is facilitated by the discipline:

1.3.1. The study of the discipline provides students with the acquisition of competencies:

- **Integrated competencies:**  
ability to solve typical and complex specialized tasks and practical problems in professional activities in the field of health care, or in the learning process, which involves research and/or innovation and is characterized by complex and uncertain conditions and requirements.
- **General competencies:**  
ability for abstract thinking, analysis and synthesis, ability to learn and to be trained; the ability to apply knowledge in practical situations; knowledge and understanding of the subject area and understanding of professional activities; adaptability and action in a new situation; the ability to make informed decisions; work in a team; interpersonal interaction skills; ability to communicate effectively in certain language with using both personal skills and appropriate technology; to be certain and responsible for any activities and take into account all social aspects.
- **Professional competencies in pediatrics:**  
Survey skills; ability to identify and evaluate a list of necessary laboratory and instrumental investigations; ability to establish a preliminary and clinical diagnosis of the disease; ability to determine the necessary regimens of work, rest and nutrition; the ability to define causes and principles of treatment of disease; ability to diagnose and provide an intensive care in emergency conditions; medical manipulation skills; the ability to plan and implement sanitary, preventive and anti-epidemic events, including infectious diseases; the ability to define tactics for the management of persons subject to dispensary supervision; ability to make medical records.

1.3.2. The study of the discipline provides students with the acquisition of the following program learning outcomes:

PRT 1 – to have general and special fundamental and profession-oriented knowledge, abilities, skills and competences required for carrying out typical professional tasks, which are associated with activity in the medical field in a particular position

PRT 2 – to have knowledge about psychophysiological peculiarities of human, human health, health support, prophylaxis of diseases, treatment of human, health of population

Use of knowledge and understanding:

PRT 3 – to apply the acquired knowledge, skills and understanding for performing typical tasks in the doctor’s activity, whose sphere of use is determined by lists of syndromes, signs and symptoms, diseases, medical emergencies, laboratory and instrumental methods of examination, medical manipulations

PRT 4 – to collect information about the patient

PRT 5 – to evaluate results of questioning, physical examination, data of laboratory and instrumental methods of examination

PRT 6 – to establish of an initial clinical diagnosis of a disease

PRT 7 – to determine the character and principles of treatment of diseases

PRT 8 – to determine the required diet, mode of work and rest in treating diseases

PRT 9 – to determine the tactics for managing the persons subject for regular medical check-ups

PRT 10 – to diagnose medical emergencies, determine tactics for provision of emergency medical aid

PRT 15 – to perform medical manipulations

PRT 17 – be able to keep medical documents and processing state, social and medical information

Formation of judgements:

PRT 18 –to assess the state of human health and provide its support with consideration of effects of the environment and other determinants of health

PRT 20 – to apply the acquired knowledge about the current system of health care for optimization of one’s own professional activity and participation in performing practical tasks in the field

PRT 21 – to adhere to the ethical code of the doctor, which ensures the formation of a specialist with appropriate personal qualities

The study of this discipline promotes development of the following soft skills:

- Communicability (implemented through: working in groups with brainstorming during the analysis of clinical cases, presenting results of independent work to the group),
- teamwork (implemented through: working in groups with brainstorming during the analysis of clinical cases),
- conflict management (implemented through: business games),
- time management (implemented through: self-organization during working in groups and individually),
- leadership skills (implemented through: presenting the results of individual work for the group).

## 2. INFORMATION SCOPE OF THE COURSE

### 2.1 General information

Name of indicators	Field of knowledge, direction of training, educational and qualification level	Characteristics of the discipline
		full-time education
Number of credits 3	Area of knowledge 22 "Health care"	Normative
The total number of hours is 90	Specialty: 222 "Medicine" 228 "Pediatrics"	<b>Year of preparation:</b>
		6th
		<b>Semester</b>
		XI-XII
	Education level:	<b>Lectures</b> 0 hours

Hours for day (or evening) form of study: classroom - 30 independent work of the student - 60	master	<b>Practical, seminar</b>
		30 hours
		<b>Laboratory</b>
		0 hours
		<b>Individual work</b>
		60 hours
		<b>Individual tasks:</b> Type of control: credit

## 2.2 Description of the discipline

### 2.2.1 Lectures

Not provided per the curriculum

### 2.2.2 Seminars

Not provided per the curriculum

### 2.2.3 Practical classes

№ n/o	Topics	Number of hours	Learning methods	Forms of control
1.	Topic 1. Critical congenital heart disease in newborns. Duct-dependent congenital heart disease. Modern approaches to diagnosis and monitoring of complications. Pulmonary hypertension. Persistent fetal circulation.	5	Verbal (explanation, conversation, discussion), Visual (presentation, videos), business, role play, (case simulation, delegation of duties), case method, debates, brainstorming, interactive virtual cases, use of mannequins	oral examination (individual and frontal); written survey; test control
2.	Topic 2. Cardiomyopathies in childhood: features of manifestation and clinical presentation, early diagnosis at the preclinical stage in relatives (according to ESC working group on myocardial and pericardial diseases). Heart failure	5	Verbal (explanation, conversation, discussion), Visual (presentation, videos), business, role play, (case simulation, delegation of duties), case method, debates, brainstorming, interactive virtual cases, use of mannequins	oral examination (individual and frontal); written survey; test control
3.	Topic 3. Bradyarrhythmias and tachyarrhythmias in childhood: etiology, features and treatment.	5	Verbal (explanation, conversation, discussion), Visual (presentation, videos), business, role play, (case simulation, delegation of duties), case method, debates, brainstorming,	oral examination (individual and frontal); written survey; test control

			interactive virtual cases, use of mannequins	
4.	Topic 4. Syncope in children and adolescents. Sudden cardiac death.	5	Verbal (explanation, conversation, discussion), Visual (presentation, videos), business, role play, (case simulation, delegation of duties), case method, debates, brainstorming, interactive virtual cases, use of mannequins	oral examination (individual and frontal); written survey; test control
5.	Topic 5. Echocardiography in pediatrics and neonatology: scanning modalities and interpretation of results.	5	Verbal (explanation, conversation, discussion), Visual (presentation, videos), business, role play, (case simulation, delegation of duties), case method, debates, brainstorming, interactive virtual cases, use of mannequins	oral examination (individual and frontal); written survey; test control
6.	Topic 6. The value of electrocardiography in the practice of pediatricians and family physicians. ECG analysis in normal and in pathology. The main stages of ECG analysis in children of different ages with arrhythmias and conduction.	5	Verbal (explanation, conversation, discussion), Visual (presentation, videos), business, role play, (case simulation, delegation of duties), case method, debates, brainstorming, interactive	oral examination (individual and frontal); written survey; test control

			virtual cases, use of mannequins	
<b>Hours in general</b>		30		

#### 2.2.4. Laboratory classes

Not provided by the curriculum

#### 2.2.5. Individual work

№ n/o	Topics	Number of hours	Learning methods	Forms of control
1.	Topic 7. Diagnosis and monitoring of cardiovascular disorders in newborns. Etiology and pathophysiology of secondary cardiomyopathy in young children.	5	Practical (self-education)	oral examination (individual and frontal); written survey; test control
2.	Topic 8. Anatomical and physiological features of the cardiovascular system in newborns and infants. The concept of hemodynamic adaptation of newborns in the early neonatal period.	5	Practical (self-education)	oral examination (individual and frontal); written survey; test control
3.	Topic 9. Modern approaches to the management of children with congenital heart disease in the pre- and postoperative period. Features of heart failure in children with congenital heart disease. Vaccination strategy.	5	Practical (self-education)	oral examination (individual and frontal); written survey; test control
4.	Topic 10. Cardiology in young athletes. Athlete's heart, differential diagnosis and observation.	5	Practical (self-education)	oral examination (individual and frontal); written survey; test control
5.	Topic 11. Cardiovascular disorders in children with metabolic diseases.	5	Practical (self-education)	oral examination (individual and frontal); written survey; test control
6.	Topic 12. Autonomic imbalance in children and correction options.	5	Practical (self-education)	oral examination (individual and frontal); written survey; test control
7.	Topic 13. Acute coronary syndrome in childhood.	5	Practical (self-education)	oral examination (individual and frontal); written survey; test control



8.	Topic 14. Rare diseases and syndromes in pediatric cardiology.	5	Practical (self-education)	oral examination (individual and frontal); written survey; test control
9.	Topic 15. Pharmacological tests in the pediatric practice. Purpose and method of conducting, evaluation of the sample, indications and contraindications.	5	Practical (self-education)	oral examination (individual and frontal); written survey; test control
10	Stress tests in the pediatric practice. Purpose and methods, evaluation of the sample, indications and contraindications.	5	Practical (self-education)	oral examination (individual and frontal); written survey; test control
11	Ambulatory blood pressure monitoring (ABPM). Principles of operation of the device and basic blood pressure monitoring systems. Methods of conducting, indications, conclusion.	5	Practical (self-education)	oral examination (individual and frontal); written survey; test control
12	Daily ECG monitoring. Principles of operation of the device and basic Holter monitoring systems. Research methodology. Patient's diary. Indication.	5	Practical (self-education)	oral examination (individual and frontal); written survey; test control
Total hours of independent student work		60		

### 3. EVALUATION CRITERIA

#### 3.1 Policy of learning activities assessment

**Assessment of current learning activities (CLA).** Teachers make sure that every student received the necessary competence in the province included in the topics of practical classes. Assimilation of the topic (current control) is controlled in a practical lesson according to the specific goals. The following tools are used to assess the level of preparation of students: tests, solving situational problems, interpretation and evaluation of laboratory tests, methods of prescribing therapy, monitoring the acquisition of practical skills.

When assessing the mastery of each topic of the discipline the student is graded according to the traditional 4-point system: "excellent", "good", "satisfactory" or "unsatisfactory".

**Assessment of the discipline.** The final lesson (FL) is conducted in accordance with the program of academic discipline during the semester on schedule, during classes. Assessment of the discipline is given to the student at the last (final) lesson. The final score for the current learning activity (CLA) and the final lesson (FL) is defined as the arithmetic mean of the traditional grades for each class and FL, rounded to 2 decimal places and listed in a multi-point scale according to the standard table 1 and «Instructions of assessment of current student's learning activities» or recalculation average grades of CLA into score according to the ECTC, which teacher can get automatically using electronic journal of Automated Control System (ACS).

Student should get minimum - 120 points, maximum - 200 points during the current learning activities.

#### **Assessment of students' independent work**

Assimilation of topics that are submitted only for independent work is checked during the current learning activities of topic on conformable classes.

### Policy of learning activities assessment

3.1. Evaluation of the success of education of students is carried out on the basis of the order of KhNMU from 21.08.2021 № 181 "Instructions for evaluating the educational activities of students of higher education at the Kharkiv National Medical University".

Link:

[http://www.knmu.kharkov.ua/index.php?option=com\\_content&view=article&id=1226%3A2013-03-25-12-07-55&catid=4%3A2011-05-04-07-20-12&Itemid=19&lang=uk](http://www.knmu.kharkov.ua/index.php?option=com_content&view=article&id=1226%3A2013-03-25-12-07-55&catid=4%3A2011-05-04-07-20-12&Itemid=19&lang=uk)

**Assessment of current learning activities (CLA).** Teachers make sure that every student received the necessary competence in the province included in the topics of practical classes. Assimilation of the topic (current control) is controlled in a practical lesson according to the specific goals. The following tools are used to assess the level of preparation of students: tests, solving situational problems, interpretation and evaluation of laboratory tests, methods of prescribing therapy, monitoring the acquisition of practical skills.

When assessing the mastery of each topic of the discipline the student is graded according to the traditional 4-point system: "excellent", "good", "satisfactory" or "unsatisfactory".

Assessment of the discipline. The final lesson (FL) is conducted in accordance with the program of academic discipline during the semester on schedule, during classes. Assessment of the discipline is given to the student at the last (final) lesson. The final score for the current learning activity (CLA) and the final lesson (FL) is defined as the arithmetic mean of the traditional grades for each class and FL, rounded to 2 decimal places and listed in a multi-point scale according to the standard table 1 and «Instructions of assessment of current student's learning activities» or recalculation average grades of CLA into score according to the ECTC, which teacher can get automatically using electronic journal of Automated Control System (ACS). Student should get minimum - 120 points, maximum - 200 points during the current learning activities.

Student should get minimum - 120 points, maximum - 200 points during the current learning activities.

After graduating from the discipline the student receives a credit.

#### **Assessment of students' independent work**

Assimilation of topics that are submitted only for independent work is checked during the current learning activities of topic on conformable classes.

#### **Recalculation of the average grade for the current activity into a multi-point scale (for disciplines completed by the credit)**

4-point scale	200- point scale	4-point scale	200- point scale	4-point scale	200- point scale
1	2	1	2	1	2
5	200	4.3-4,31	172	3.6-3,61	144
4.97-4,99	199	4,27-4,29	171	3.57-3,59	143
4.95-4,96	198	4.24-4,26	170	3.55-3,56	142
4.92-4,94	197	4.22-4,23	169	3.52-3,54	141
4.9-4,91	196	4.19-4,21	168	3.5-3,51	140
4.87-4,89	195	4.17-4,18	167	3.47-3,49	139
4.85-4,86	194	4.14-4,16	166	3.45-3,46	138

4.82-4,84	193	4.12-4,13	165	3.42-3,44	137
4.8-4,81	192	4.09-4,11	164	3.4-3,41	136
4.77-4,79	191	4.07-4,08	163	3.37-3,39	135
4.75-4,76	190	4.04-4,06	162	3.35-3,36	134
4.72-4,74	189	4.02-4,03	161	3.32-3,34	133
4.7-4,71	188	3.99-4,01	160	3.3-3,31	132
4.67-4,69	187	3.97-3,98	159	3.27-3,29	131
4.65-4,66	186	3.94-3,96	158	3.25-3,26	130
4.62-4,64	185	3.92-3,93	157	3.22-3,24	129
4.6-4,61	184	3.89-3,91	156	3.2-3,21	128
4.57-4,59	183	3.87-3,88	155	3.17-3,19	127
1	2	1	2	1	2
4.54-4,56	182	3.84-3,86	154	3.15-3,16	126
4.52-4,53	181	3.82-3,83	153	3.12-3,14	125
4.5-4,51	180	3.79-3,81	152	3.1-3,11	124
4.47-4,49	179	3.77-3,78	151	3.07-3,09	123
4.45-4,46	178	3.74-3,76	150	3.05-3,06	122
4.42-4,44	177	3.72-3,73	149	3.02-3,04	121
4.4-4,41	176	3.7-3,71	148	3-3,01	120
4.37-4,39	175	3.67-3,69	147	Less than3	Insufficient
4.35-4,36	174	3.65-3,66	146		
4.32-4,34	173	3.62-3,64	145		

### 3.2. Questions for credit and exam:

1. What are the main clinical signs typical for children with the syndrome of acute heart failure.
2. Give the definition and classification of cardiomyopathies in children.
3. Diagnostic criteria for dilated cardiomyopathy.
4. Diagnostic features and peculiarities of hypertrophic cardiomyopathy.
5. The diagnostic features of restrictive cardiomyopathy.
6. Clinical manifestations and differential diagnosis of congenital heart defects in children.
7. Treatment of children with acute heart failure.
8. Differential diagnostics of syncope.
9. What are the diagnostic criteria of atrial fibrillation?
10. What are the diagnostic criteria of paroxysmal tachycardia?
11. What are the diagnostic criteria of atrioventricular block?
12. What are the diagnostic criteria of sinus node block?
13. What are the diagnostic criteria of RBB?
14. What are the diagnostic criteria of LBB?
15. Clinical variants of paroxysmal tachycardia and atrial fibrillation in children.
16. What are the diagnostic criteria of extrasystolia?
17. What are the diagnostic criteria of ventricular tachycardia?
18. Stress functional tests in the practice of a pediatrician.
19. Indications for testing with exercise.
20. Absolute and relative contraindications to exercise tests.
21. Criteria for termination of tests with physical activity.
22. Medical tests in the practice of a pediatrician: indications and contraindications to their conduct

### 3.3. Control questions:

1. Classification of cardiac heart defects.
2. Critical congenital heart disease in newborns.
3. Etiology and classification of PAH.
4. Clinical criteria of PAH.
5. Give the definition and classification of cardiomyopathies.
6. The mechanism of action of the echocardiograph. Echocardiography modes (B-mode, M-mode, Doppler echocardiography).
7. Types of echocardiography (transthoracic, esophageal, intracardiac).
8. Features of echocardiography in children with somatic and surgical pathology.
9. The mechanism of action of the electrocardiograph. Methods and features of ECG in children of different ages.
10. ECG analysis in children with arrhythmias and conduction.
11. Indications for additional methods of examination of the cardiovascular system according to ECG data.
12. Types of loading tests (test with hyperventilation, respiratory arrest, clinorthostatic test, sinocarotid test, bicycle ergometry, treadmill test, tilt test).
13. Indications and contraindications, scope of tests, features of children of different ages, evaluation of the sample.
14. Features of conducting and evaluating standardized exercise tests in athletes.
15. Emergency care for complications during the test.
16. Types of Holter monitoring (daily ECG monitoring, wireless ECG monitoring).
17. Preparing the patient for the study. The concept of "patient diary".
18. Absolute and relative indications for HMECG.
19. The main stages of the analysis of HMEKG.
20. Features of HM ECG in children of different ages.
21. Assessment of arrhythmias and conduction, heart rate variability, ischemic myocardial changes.
22. Features of Ambulatory Blood Pressure Monitoring (ABPM) in children of different ages.
23. Preparing the patient for the study. The concept of "patient diary".
24. Absolute and relative indications for ABPM.
25. The main stages of ABPM analysis.
26. Features of conducting in children of different ages.

### 3.4. Individual tasks

**Assessment of individual student tasks** is carried out by the teacher:

- 10 points - publication of the article in publications included in scientometric databases
- 9 points - presentation at international scientific student conferences or other forums outside Ukraine with the publication of work in conference materials
- 8 points - participation in international scientific student conferences with the publication of work in the conference materials,
- 7 points - participation in intra-university and inter-university olympiads and student scientific conferences with the publication of the work (with a prize)
- 6 points - participation in intra-university and inter-university competitions and student scientific conferences with the publication of the work (without receiving a prize)
- 5 points - writing an essay on the topic or a description of a clinical case (case study), creating a video or other digital versions of visual material.

Scores for individual student tasks (a total of not more than 10 points) can be added as an incentive additional points to the final score for current learning activities, calculated using Table 1 and are part of the assessment of the discipline.

### **3.5. Rules for appealing the assessment**

The procedure for appealing is carried out in accordance with the order № 150 of 24.06.2021 on approval of the new version of the "Regulations on the procedure for deduction, renewal and transfer of persons", and approved by the order of KhNMU from 30.09.2020 №252 "Regulations on appeal Education of Kharkiv National Medical University".

Link:

[http://www.knmu.kharkov.ua/index.php?option=com\\_content&view=article&id=1226%3A2013-03-25-12-07-55&catid=4%3A2011-05-04-07-20-12&Itemid=19&lang=uk](http://www.knmu.kharkov.ua/index.php?option=com_content&view=article&id=1226%3A2013-03-25-12-07-55&catid=4%3A2011-05-04-07-20-12&Itemid=19&lang=uk)

## **4. THE POLITICS AND VALUES OF DISCIPLINE.**

In order to successfully complete the relevant course, it is necessary to attend practical classes regularly; to have theoretical preparation for practical classes; not to be late and not to miss classes; perform all necessary tasks and work actively during each lesson; be able to work in a group; contact the curators of the course on various issues on the subject of classes and receive it when you need it.

Students can discuss different tasks, but their performance is strictly individual. You are not allowed to write off, use any kind of software, tips, use a mobile phone, tablet or other electronic gadgets during classes for purposes other than the learning process. Students are not allowed to be late for practical classes.

Visiting patients during the curation in the hospital is possible, provided that students have the appropriate uniform, a health book with a note about the timely medical examination.

Students with special needs can meet with the teacher or warn him before the start of classes, it can be done by the head of the group on the students request. If you have any questions, please contact the teacher.

Students' participation in research and conferences on this topic is encouraged. All students of KhNMU are protected by the Regulations on prevention and settlement of Cases Related to Sexual Harassment and Discrimination at Kharkiv National Medical University, designed to determine an effective mechanism for resolving conflict situations related to discrimination and sexual harassment. on the basis of the following regulations of Ukraine: Constitution of Ukraine; Law of Ukraine "On Education"; Law of Ukraine "On Higher Education"; Law of Ukraine "On Principles of Prevention and Counteraction of Discrimination in Ukraine"; Law of Ukraine "On Ensuring Equal Rights and Opportunities for Women and Men"; Convention for the Protection of Human Rights and Fundamental Freedoms; Convention for the Suppression of Discrimination in Education; Convention on the Elimination of All Forms of Discrimination against Women; General Recommendation № 25 to Article 4, paragraph 1, of the Convention on the Elimination of All Forms of Discrimination against Women, General Comment № 16 (2005) "Equal rights for men and women to use economic, social and cultural rights" (Article 3 of the International Covenant on Economic, Social and Cultural Rights; Committee on Economic, Social and Cultural Rights of the United Nations); education in the spirit of respect for human rights and fundamental freedoms (UNESCO), the Concept of the State Social Program for Equal Rights and Opportunities for Women and Men until 2021. Kharkiv National Medical University ensures education and work, that is free from discrimination, sexual harassment, intimidation or exploitation. The University admits the importance of confidentiality. All persons, responsible for the implementation of this policy, (staff of deans' offices, faculties, institutes and the Center of Gender Education, members of the student government and ethics committee, vice-rector for research and teaching) are confidential, regarding those, who report or accuse of discrimination. or sexual

harassment (except where the law requires disclosure and / or when disclosure by the University is necessary to protect the safety of others).

KhNMU creates a space of equal opportunities, free from discrimination of any national, racial or ethnic origin, sex, age, disability, religion, sexual orientation, gender, or marital status. All rights, privileges, programs and activities, granted to students or staff of the University, apply to anybody, without exception, in case they are properly qualified. The anti-discrimination policy and the policy of counteracting sexual harassment of KhNMU are confirmed by the Codex of Corporate Ethics and the Charter of KhNMU.

#### The rules of behavior in University and on classes

It is important for students to follow the rules of good behavior at the university. These rules are common to all, they also apply to all teachers and staff and are not fundamentally different from the generally accepted norms.

During classes it is allowed:

- leave the audience for a short time if necessary and with the permission of the teacher;
- drink soft drinks;
- take photos of presentation slides;
- take an active part in the class

Forbidden:

- eat (except for persons whose special medical condition requires another - in this case, medical confirmation is required);
- smoking, drinking alcohol and even low-alcohol beverages or drugs;
- use obscene language or use words that offend the honor and dignity of colleagues and faculty;
- gambling;
- to damage the material and technical base of the university (damage inventory, equipment; furniture, walls, floors, litter the premises and territories);
- shouting, shouting or listening to loud music in classrooms and even in corridors during classes.

## 5. ACADEMIC INTEGRITY

The Department of Pediatrics №1 and Neonatology has zero tolerance to any form of the plagiarism. Students are expected to constantly raise their awareness on the academic writing. The first lessons will provide information on what to consider plagiarism and how to properly conduct research and scientific research.

Follow the link for more information at: Regulations on academic integrity and ethics of academic relations at Kharkiv National Medical University

[http://files.knmu.edu.ua:8181/upload/redakt/doc\\_uchproc/polog\\_ad\\_etyka\\_text.pdf](http://files.knmu.edu.ua:8181/upload/redakt/doc_uchproc/polog_ad_etyka_text.pdf)  
[http://www.knmu.kharkov.ua/index.php?option=com\\_content&view=article&id=2520%3A2015-04-30-08-10-46&catid=20%3A2011-05-17-09-30-17&Itemid=40&lang=uk](http://www.knmu.kharkov.ua/index.php?option=com_content&view=article&id=2520%3A2015-04-30-08-10-46&catid=20%3A2011-05-17-09-30-17&Itemid=40&lang=uk)

[http://files.knmu.edu.ua:8181/upload/redakt/doc\\_uchproc/kodex\\_AD.docx](http://files.knmu.edu.ua:8181/upload/redakt/doc_uchproc/kodex_AD.docx)

## 6. RECOMMENDED LITERATURE

1. Nelson Textbook of Pediatrics 21th Edition. Robert M. Kliegman, Joseph St. Geme. Publisher: Elsevier. 2019. P. 4112.
2. 2015 ESC Guidelines for the management of patients with ventricular arrhythmias and the prevention of sudden cardiac death: The Task Force for the Management of Patients with

- Ventricular Arrhythmias and the Prevention of Sudden Cardiac Death of the European Society of Cardiology (ESC) Endorsed by: Association for European Paediatric and Congenital Cardiology (AEPC) // European Heart Journal, Volume 36, Issue 41, 1 November 2015, Pages 2793–2867
3. International recommendations for electrocardiographic interpretation in athletes. Sanjay Sharma et al. // European Heart Journal (2017) 00, 1–19
  4. Recommendations and Considerations Related to Preparticipation Screening for Cardiovascular Abnormalities in Competitive Athletes: 2007 Update <http://circ.ahajournals.org/cgi/content/full/115/12/1643>
  5. Multimodality Imaging Guidelines of Patients with Transposition of the Great Arteries: A Report from the American Society of Echocardiography Developed in Collaboration with the Society for Cardiovascular Magnetic Resonance and the Society of Cardiovascular Computed Tomography. Meryl S. Cohen et al. // J Am Soc Echocardiogr 2016;29:571-621.
  6. Clinical guidelines diagnosis and treatment manual 2016 edition Update September 2017 Электронный ресурс: [http://refbooks.msf.org/msf\\_docs/en/clinical\\_guide/cg\\_en.pdf](http://refbooks.msf.org/msf_docs/en/clinical_guide/cg_en.pdf)
  7. Guidelines for the Echocardiographic Assessment of Atrial Septal Defect and Patent Foramen Ovale: From the American Society of Echocardiography and Society for Cardiac Angiography and Interventions Электронный ресурс: [http://www.onlinejase.com/article/S0894-7317\(15\)00387-9/fulltext](http://www.onlinejase.com/article/S0894-7317(15)00387-9/fulltext)
  8. Nazzareno Galiè, et al., ESC Scientific Document Group, 2015 ESC/ERS Guidelines for the diagnosis and treatment of pulmonary hypertension: The Joint Task Force for the Diagnosis and Treatment of Pulmonary Hypertension of the European Society of Cardiology (ESC) and the European Respiratory Society (ERS): Endorsed by: Association for European Paediatric and Congenital Cardiology (AEPC), International Society for Heart and Lung Transplantation (ISHLT), European Heart Journal, Volume 37, Issue 1, 1 January 2016, Pages 67–119, <https://doi.org/10.1093/eurheartj/ehv317>
  9. Antonio Pelliccia, et al., ESC Scientific Document Group, 2020 ESC Guidelines on sports cardiology and exercise in patients with cardiovascular disease: The Task Force on sports cardiology and exercise in patients with cardiovascular disease of the European Society of Cardiology (ESC), European Heart Journal, Volume 42, Issue 1, 1 January 2021, Pages 17–96, <https://doi.org/10.1093/eurheartj/ehaa605>

## 7. INFORMATION RESOURCES

**Internet resources:** <http://www.medscape.com>, <http://www.orpha.net>, <https://www.ace.com/>, <http://www.endocrinology.org>, <http://www.cochranelibrary.com/>

## 8. OTHER

### Useful links:

Provisions on prevention, prevention and settlement of cases related to sexual harassment and discrimination in KhNMU [http://files.knmu.edu.ua:8181/upload/redakt/doc\\_uchproc/polog-sex.doc](http://files.knmu.edu.ua:8181/upload/redakt/doc_uchproc/polog-sex.doc)

Regulations on Academic Integrity and Ethics of Academic Relations at Kharkiv National Medical University [http://files.knmu.edu.ua:8181/upload/redakt/doc\\_uchproc/polog\\_ad\\_etyka\\_text.pdf](http://files.knmu.edu.ua:8181/upload/redakt/doc_uchproc/polog_ad_etyka_text.pdf)

The order of conducting classes on in-depth study by students of Kharkiv National Medical University of certain disciplines beyond the scope of the curriculum

[http://files.knmu.edu.ua:8181/upload/redakt/doc\\_uchproc/nak-poriad-pogl-vyv-dysc.docx](http://files.knmu.edu.ua:8181/upload/redakt/doc_uchproc/nak-poriad-pogl-vyv-dysc.docx)

Regulations on the Commission on Academic Integrity, Ethics and Conflict Management of KhNMU

[http://files.knmu.edu.ua:8181/upload/redakt/doc\\_uchproc/polog\\_komis\\_ad\\_text.pdf](http://files.knmu.edu.ua:8181/upload/redakt/doc_uchproc/polog_komis_ad_text.pdf)

Regulations on the recognition of the results of non-formal education at Kharkiv National Medical University

[http://files.knmu.edu.ua:8181/upload/redakt/doc\\_uchproc/polog\\_neform\\_osv.pdf](http://files.knmu.edu.ua:8181/upload/redakt/doc_uchproc/polog_neform_osv.pdf)

INCLUSIVE EDUCATION:

[http://www.knmu.kharkov.ua/index.php?option=com\\_content&view=article&id=7108%3A2021-03-10-14-08-02&catid=12%3A2011-05-10-07-16-32&Itemid=33&lang=uk](http://www.knmu.kharkov.ua/index.php?option=com_content&view=article&id=7108%3A2021-03-10-14-08-02&catid=12%3A2011-05-10-07-16-32&Itemid=33&lang=uk)

ACADEMIC INTEGRITY:

[http://www.knmu.kharkov.ua/index.php?option=com\\_content&view=article&id=2520%3A2015-04-30-08-10-46&catid=20%3A2011-05-17-09-30-17&Itemid=40&lang=uk](http://www.knmu.kharkov.ua/index.php?option=com_content&view=article&id=2520%3A2015-04-30-08-10-46&catid=20%3A2011-05-17-09-30-17&Itemid=40&lang=uk)

[http://files.knmu.edu.ua:8181/upload/redakt/doc\\_uchproc/kodex\\_AD.docx](http://files.knmu.edu.ua:8181/upload/redakt/doc_uchproc/kodex_AD.docx)