

**DANYLO HALYTSKY LVIV NATIONAL MEDICAL UNIVERSITY**

Department of **Pediatrics No 1, Pediatrics No 2**



**"APPROVED"**

First Vice-Rector on Scientific and Pedagogical work  
Danylo Halitsky Lviv National Medical University  
Associate Professor Iryna SOLONYNKO

*Iryna Solonyenko*

10 2023

**DISCIPLINE PROGRAM**

**"Paediatrics and Neonatology"**

**OK-26.1**

**Training of specialists of the second (master's) level of higher education**

**field of knowledge 22 «Health Care»**

**specialty 222 "Medicine"**

Discussed and approved  
at the methodological meeting of the Department of  
Pediatrics No 1  
Protocol No 16  
of "20" April 2023  
Head of Department  
Professor Sergiy NYANKOVSKYY

*Sergiy Nyankovskyy*

Approved by the profile Methodical Commission  
of Pediatric disciplines  
Protocol No 2  
of "27" April 2023  
Head of profile methodical  
commission  
Professor Lesya BESH

*Lesya Besh*

Discussed and approved  
at the methodological meeting of the Department of  
Pediatrics No 1  
Protocol No 12  
of "21" April 2023  
Head of Department  
Professor Lesya BESH

*Lesya Besh*

*1/7*

THIS PROGRAMME WAS CREATED BY

**Besh L.V.**, Professor, Head of the Department of Pediatrics No2, doctor of science in medicine,  
**Nyankovskyy S.L.**, Professor, Head of Department of Pediatrics No 1, doctor of science in medicine,  
**Borysiuk O.P.**, - Associate Professor of the Department of Pediatrics No 2,  
**Voznyak A.V.**, - Associate Professor of the Department of Pediatrics No 1

REVIEWERS

**Kulachkovska I.Y.**, Associate Professor of the department of propaedeutic pediatrics and medical genetics  
Danylo Halytskyi Lviv National Medical University, PhD.  
**Gromnatska N.M.**, Professor of Department of Family Medicine, Danylo Halytskyi Lviv National Medical  
University, doctor of science in medicine.

## Introduction

The program of the discipline **Pediatrics and Neonatology** has been developed according to the *Educational and professional program "Medicine"* of the second (master's) level of higher education *fields of knowledge 22 "Health care" specialty 222 "Medicine"*

### Description of academic discipline (abstract)

When studying the discipline "**Pediatrics and Neonatology**" students consolidate knowledge gained in the classroom at the department of Propaedeutic of Pediatrics, improve the methodology of objective examination of the child. Mastering skills of collecting history data, systemizing the symptoms into syndromes, planning examination of a sick child, evaluation of laboratory and instrumental examinations, carrying out a differential diagnosis most common childhood diseases in the case of their typical course, determination of preliminary clinical diagnosis, determination of therapeutic tactics, treatment with prescription of medical drug doses, emergency medical care, solving situational problems, practicing practical skills on dummies and bedside of a sick child, feeling in medical records.

Structure of discipline <b>"Pediatrics and Neonatology"</b>	Quantity of credits, hours consist of:				Academic Year	Types of Control
	Total hours/credit	Classroom		Independent work of student		
		Lectures	Workshops			
Consists of 6 thematic chapters	4 credits / 120 hours	10	51	59	4	Credit

### The subject of studying the discipline is:

Health care for children aged 0 to 18 years, prevention, diagnosis and treatment of diseases, taking into account the age-specific psycho-physiological features of children.

**Interdisciplinary integration:** In accordance with the academic curriculum of the discipline "**Pediatrics and Neonatology**" a student must have an acquired knowledge of basic disciplines:

- Medical Biology
- Biological physics
- The normal anatomy and human physiology
- Pathologic Anatomy and physiology
- Propaedeutic of Pediatrics
- Pharmacology

With these disciplines the curriculum of discipline "Pediatrics and Neonatology" is integrated. As the continuation of the Propaedeutic of Pediatrics, the discipline in parallel with other clinical disciplines provides integration of teaching with these disciplines and forming skills of future physicians to use the acquired knowledge in their professional activity.

### 1. Purpose and tasks of academic discipline

**1.1.** The purpose of teaching the educational discipline " Pediatrics and Neonatology " is as follows: formation of the ability to use knowledge, skills to solve typical problems of the doctor in the children's health field, the use of which is foreseen by defined list of syndromes and symptoms of diseases, emergency conditions, physiological conditions, and diseases requiring special tactics of patient

management; laboratory and instrumental examinations, medical manipulations.

**1.2.** The main **task** of studying the discipline "Pediatrics and Neonatology" is that the student should know and be able to do while study the discipline.

As a result of studying the discipline "Pediatrics and Neonatology" student **should know:**

- Etiologic factors of the most common childhood diseases;
- Pathogenesis of the most common somatic diseases of childhood;
- Classification of the most common somatic diseases of childhood;
- The main clinical symptoms of the most common somatic diseases of childhood;
- Principles of treatment of the most common childhood diseases.

As a result of studying the discipline "Pediatrics and Neonatology" student **should be able to:**

- Collect the history data.
- To carry out physical assessment of a sick child.
- Make and formulate preliminary diagnosis.
- Plan the additional instrumental and laboratory investigations of a sick child.
- Evaluate the results of laboratory and instrumental studies.
- Make differential diagnosis of the most common childhood diseases in their typical course.
- Development of medical care interventions.

**1.3. Competence and learning outcomes**, the formation of which is facilitated by the discipline in accordance with the requirements of the Standard of Higher Education.

The discipline provides students with the acquisition of the following **competences:**

***Integral competence:***

The ability to solve complex problems, including those of a research and innovation nature in the field of medicine Ability to continue learning with a high degree of autonomy.

***General competences:***

GC1	The ability to abstract thinking, analysis, and synthesis
GC2	Ability to learn and master modern knowledge
GC3	Ability to apply knowledge in practical situations
GC4	Knowledge and understanding of subject area and understanding of professional activity
GC5	The ability to adapt and act in a new situation
GC6	Ability to make a justified decision
GC7	Ability to work in a team
GC8	Interpersonal skills interaction
GC9	Ability to communicate in foreign language
GC10	Skills in using information and communication technologies
GC11	Ability to search, process and analyze information from various sources
GC12	Awareness and perseverance concerning taken tasks and duties
GC14	The ability to exercise their rights and responsibilities as a member of society, to realize the values of civil (free democratic) society and the need for its sustainable development, the rule of law, human and civil rights

***Professional (Special) competences:***

PS1	Ability to collect medical information about the patient and analyze clinical data
PS2	Ability to determine the required list of laboratory and instrumental studies and assess their results
PS3	The ability to establish preliminary and clinical diagnoses
PS4	Ability to determine the necessary regime, training, work and recreation for healthy children and for those who are being treated for illnesses

PS5	Ability to prescribe an appropriate diet in treatment and prevention of diseases
PS6	Ability to determine the principles and type of treatment and prevention of diseases
PS7	Ability to diagnose emergency conditions
PS8	Ability to determine the tactics of emergency medical care
PS10	The skills of performing medical manipulations
PS11	Ability to solve medical problems in new or unfamiliar environments in the presence of incomplete or limited information taking into account aspects of social and ethical responsibility
PS13	Ability to carry out sanitary and preventive measures
PS16	Ability to keep medical records, including electronic forms
PS17	The ability to assess the impact of environmental, socio-economic and biological determinants on individual, family and population health
PS21	Clearly and unambiguously communicate one's own knowledge, conclusions, and arguments about health problems and related issues to professionals and non-specialists, particularly to trainees.
PS24	Adherence to ethical principles when working with patients
PS25	Adherence to professional and academic integrity, to be responsible for the reliability of the obtained scientific results

Detailed competences are present in accordance with the descriptors of the NRK in the form of "Competences Matrix".

### Competences Matrix

	Competence	Knowledge	Skills	Communication	Autonomy and responsibility
<b>Integral competence</b>					
The ability to solve complex problems, including those of a research and innovation nature in the field of medicine Ability to continue learning with a high degree of autonomy.					
<b>General competence</b>					
1.	Abstract-thinking, analysis and synthesis capability (GC1)	Know the ways of analyzing, synthesis and further modern learning	Be able to analyze information, make informed decisions, be able to master modern knowledge	Establish the appropriate links for achieving the goals.	To be responsible for the timely acquiring of modern knowledge.
2.	Ability to learn and master modern knowledge (GC2)	To know the current trends of medicine development and analyze them	Be able to analyze professional information, make informed decisions, acquire modern knowledge	Establish the appropriate links for achieving the goals.	To be responsible for the timely acquisition of modern knowledge.
3.	Ability to apply the knowledge in practical situations (GC3)	Have specialized conceptual knowledge, acquired in the process of studying.	To be able to solve difficult tasks and problems that arise in professional activity.	Understandable and unequivocal explanation of own conclusions and knowledge to specialists and non-specialists.	To be responsible for decisions, made in difficult conditions
4.	Knowledge	Have profound	Be able to carry	Ability to	To be responsible

	and understanding of subject area and professional activity (GC4)	knowledge in the structure of professional activity.	out professional activities that need updating and integrating knowledge.	effectively form communications strategy in professional activities	for professional development, the ability to further professional training with a high level of autonomy
5.	The ability to adapt and act in a new situation (GC5)	To know types and ways of adaptation, principles of action in a new situation	To be able to use means of self-regulation, to be able to adapt to new situations (circumstances) of life and activity.	Establish appropriate links to achieve the result.	To be responsible for, timely use of methods of self-regulation.
6.	The ability to make a justified decision (GC6)	To know the tactics and strategies of communication, laws and methods of communicative behavior	To be able to make justified decisions, choose the ways and strategies of communication to ensure effective teamwork	Use strategies to communicate and interact with interpersonal skills	To be responsible for choice and tactics of communication method
7.	Ability to work in a team (GC7)	To know the tactics and strategies of communication, laws and methods of communicative behavior.	To choose the ways and strategies of communication to ensure effective teamwork	Use communication strategies	To be responsible for choice and tactics of communication method
8.	Skills of Interpersonal interaction (GC8)	Know the laws and ways of interpersonal interaction	To choose the ways and strategies of communication for interpersonal interaction	Use the skills of interpersonal interaction	To be responsible for choice and tactics of communication method
9.	Ability to communicate in foreign language (GC9)	Have basic knowledge of a foreign language	Able to communicate a foreign language.	Use a foreign language in professional activities	To be responsible for the development of professional knowledge with the use of foreign language.
10.	Skills of using of informative and communicative technologies (GC10)	To possess profound knowledge in the field of informative and communicative technologies applied in professional activities	To be able to use informative and communicative technologies in the professional field, that need updating and integrating the knowledge.	Using of informative and inter-communicative technology in professional activities	To be responsible for the development of professional knowledge and skills.
11.	Ability to	Have	Be able to search,	Obtain information	Be responsible for

	search, process and analyze information from various sources (GC11)	knowledge about searching and analysis of information from various sources	process and analyze information	from a particular source and draw conclusions from its analysis	the completeness and quality of information analysis and conclusions
12.	Awareness and perseverance concerning taken tasks and duties (GC12)	Know the responsibilities and ways of fulfilling the tasks	To be able to identify goals and objectives to be persistent and conscientious in the performance of responsibilities	To establish interpersonal-net connections for effective execution of tasks and responsibilities	To be responsible for the quality of fulfillment of the tasks
13.	The ability to exercise their rights and responsibilities as a member of society, to realize the values of civil (free democratic) society and the need for its sustainable development, the rule of law, human and civil rights (GC14)	Know your social and civil rights and responsibilities	To form your civil consciousness, to be able to act in accordance with it	Ability to convey own public and social position	To be responsible for the own citizenship position and activity

**Special (Professional, subject) competence**

1.	Ability to collect medical information about the patient and analyze clinical data (PC1)	To have specialized knowledge about the child, her organs and systems, the anatomical and physiological peculiarities of the children of different age, to know the standard methods of inquiry, taking genealogical information, preparation of pedigree, physical examination of patient of	To be able to talk to a child-and/or her parents (guardians), on the basis of algorithms and standards. Use the principles of communication with the parents of children with incurable diseases. Using standard techniques To carry out examination of the patient. Be able to examine psychomotor and	To effectively form a communication strategy when communicating with the patient and/or his parents (guardians). Transfer information about the health of the child or intrauterine development of the fetus to the relevant medical documentation.	Be responsible for qualitative gathering of information received on the basis of interviews, surveys, review, and palpation, percussion of organs and systems and for timely assessment of the condition: child's health, psychomotor and physical development of the child and Intrauterine development of
----	--	---	---	---	---

		different ages. To know the methodology for assessment of prenatal development of the fetus. Know the stages and methods of examination of psychomotor and physical development of the child.	physical development of the child. Able to assess the quality of care, infant feeding and nutrition of children. Be able to conduct a comprehensive assessment of child health.		fetus and for taking appropriate measures.
2.	Ability to determine the required list of laboratory and instrumental studies and assess their results (PC2)	To have specialized knowledge about the child, her organs and systems, standard methods of laboratory and instrumental examinations	To be able to analyze the results of laboratory and instrumental examinations and to make preliminary diagnosis	To form and convey to the patient and/or his/her parents (guardians), experts conclusions on the necessary List of laboratory and instrumental studies	Be responsible for deciding on the results evaluation of laboratory and instrumental examinations
3.	Ability to establish preliminary and clinical diagnosis (PC3)	To have specialized knowledge about the child, its organs and systems; Standard methods of examination; algorithms for diagnosing diseases; Algorithms for selection of leading symptoms or syndromes; preliminary and final clinical diagnoses; methods of laboratory and instrumental examination; Assessment of the child's condition.	Be able to conduct physical examination of the patient; Be able to make informed decisions about allocation of leading clinical symptom or syndrome; Be able to make the preliminary and final clinical diagnosis; to recommend laboratory and instrumental examination of the patient by applying standard methods	On the basis of normative documents fill in medical documents- (ambulatory and hospital cards, etc.).	On the basis of ethical and legal norms, be responsible for making reasonable decisions and actions on the correct preliminary and final clinical diagnosis
4.	Ability to determine the necessary regime, training, work	To have specialized knowledge about the child, her organs and	To be able to determine the necessary regime of training, work and rest of	To form and convey to the patient and/or his parents (guardians) and experts	Be responsible for the validity of the recommended regime of study, work and rest of



	and recreation for healthy children and for those who are being treated for illnesses (PC4)	systems, the anatomical physiological and age peculiarities; ethical and legal norms; Algorithms and standard schemes for determining the regime of training, work and rest of healthy children and at treatment of the disease, on the basis of preliminary and clinical diagnosis	healthy children and in the treatment of the disease	conclusions on the necessary regime, mode of study, work and rest of healthy children and in the treatment of the disease	healthy children and in the treatment of the disease
5.	Ability to prescribe an appropriate diet in treatment and prevention of diseases (PC5)	Have specialized knowledge about algorithms and standard schemes of nutrition for healthy children and during the treatment of diseases	Be able to determine the type of nutrition of healthy children and on the basis of preliminary and final diagnoses, the type of nutrition in the treatment of diseases	Formulate and communicate to the patient and/or their parents (guardians), specialists conclusions on the nutrition of healthy children and in the treatment of diseases	Be responsible for the reasonableness of nutritional determinations for healthy children and in the treatment of illness
6.	Ability to determine the principles and type of treatment and prevention of diseases (PC6)	Have specialized knowledge of algorithms and standard methods for disease treatment	Able to determine the principles and methods of treatment of disease	To form and convey to the patient and/or his/her parents (guardians), experts own conclusions about the principles and methods of the treatment	Be responsible for deciding on the principles and methods of treatment of disease
7.	Ability to diagnose emergency conditions (PC7)	To have specialized knowledge about the person, its organs and systems, standard methods of human examination (at home, on the street, in the health care	To be able, in terms of lack of information, using standard methods, to make a reasonable decision, to assess the condition of the person and determine the main clinical syndrome (or	Under any circumstances, on the basis of appropriate ethical and legal norms, make a reasonable decision concerning assessment of the severity of the human condition, diagnosis and	Be responsible for the timely and effective medical measures for the diagnosis of emergency conditions.

		institution) in terms of lack of information.	what is due to the severity of the victim/injured)	organization of necessary medical measures, depending on the human condition; fill in relevant medical documents.	
8.	Ability to determine the tactics of emergency medical care (PC8)	Know legislative base for emergency medical care, including the law of Ukraine "on emergency medical care". To have specialized knowledge about human emergency conditions; principles of emergency medical care, algorithms for providing emergency medical care for emergency states.	To be able to determine emergency conditions; The principles and tactics of emergency medical care; To carry out organizational and diagnostic measures aimed at rescue and save the human life. To be able to provide emergency medical care in the emergency state of a person	Substantiate and explain to the patient or his legal representative the need for emergency assistance and get consent for medical intervention. Explain the need and procedure for therapeutic measures of emergency medical care.	Be responsible for correct determination of urgent state, degree of its severity and tactics of emergency medical care. Responsible for timeliness of and quality of emergency medical care.
9.	The skills of performing medical manipulations (PC10)	To have specialized knowledge about the child, its organs and systems, the anatomical physiological and age peculiarities; Knowledge of algorithms of medical manipulations	Be able to carry out medical manipulations	Reasonably formulate and communicate to the patient, and/or their parents (guardians), specialists the conclusions about the need for medical manipulation	To be responsible for the quality of medical manipulations
10.	Ability to solve medical problems in new or unfamiliar environments in the presence of incomplete or limited information	Have specialist knowledge of standard child assessment techniques (at home, outdoors, in a health care setting) new or unfamiliar environments and in information-	Be able to assess the child's condition and identify the main clinical syndrome (or the severity of the victim's condition) in an information-poor environment, using standard	In all circumstances, respecting appropriate ethical and legal standards, make an informed decision on the assessment of the severity of the child's condition, the diagnosis and the organisation of the	Be responsible for solving medical problems in new or unfamiliar environments in the presence of incomplete or limited information

	taking into account aspects of social and ethical responsibility (PC11)	poor settings	techniques	necessary medical measures according to the child's condition; complete the relevant medical documents	
11.	Ability to provide sanitary and preventive measures (PC13)	<p>To know the system of hygienic and prophylactic events among the population observed.</p> <p>To know the principles of organization of follow-up of different groups of population, who are subject to supervision (newborns, children, teenagers) and a group of patients;</p> <p>To know the assessment indicators of the organization and efficiency of follow-up. To know the methodical approaches to assess the condition of the surrounding environment and the presence of factors which affect the health of the population in these conditions.</p> <p>Know principles of rational nutrition, water supply, mode of activity and rest, forming a favorable work environment, primary prevention of diseases and injuries; Principles</p>	<p>Be able to form groups of children for their clinical examination.</p> <p>Be able to make a plan for clinical groups.</p> <p>Have skills in organizing the follow-up contingents.</p> <p>Have the skills to analyze the health of population groups based on the results of clinical and medical and preventive measures.</p> <p>Have skills in drafting analytical certificate about the health of children depending on factors of industrial and environmental conditions.</p> <p>Able to organize the propaganda of healthy lifestyles, primary prevention of diseases and injuries of the population.</p>	<p>Based on the results of clinical examination and analysis of children's health, state of production and environment know the principles of submitting analytical information to the local management and health authorities; to heads of industrial enterprises about method of elimination the harmful effects on children's health. Use the local press to publications on health improvement activities and environmental improvements, use radio, television, lectures and interviews.</p>	<p>Be responsible for timely and qualitative activities on assessment of the health of children, health improvement and improvement of the health of certain contingents, improving the environment, promoting healthy lifestyles, primary prevention of diseases and injuries.</p>

		and methods of promoting healthy lifestyles			
12.	Ability to keep medical records, including electronic forms (PC16)	Know the system of official document circulation in the doctor's work, including modern computer information technology	Be able to determine the source and location of the required information depending on its type; To be able to process information and analyze received information	To receive the necessary information from the defined sources and form the relevant conclusions based on its analysis	Be responsible for the completeness and quality of the analysis of information and conclusions based on its analysis.
13.	Ability to assess the environmental impact of the environment, socio-economic and biological determinants on the health of the individual, family, population (PC17)	To know the methods of assessment the health of the child population; environmental factors that negatively affect the health of the children's population; methods of statistical analysis and laboratory research, health assessment of certain contingents, factors; measures to prevent the negative impact of environmental factors on the health of the child population. To know socioeconomic and biological determinants that influence on health of children's population; Types and methods of prophylaxis to prevent the	Be able to assess the health of the children's population, environmental conditions and negative factors of health impact. Possess the methods of statistical and laboratory analysis of health of different populations. Be able to form preventive measures based on data on the relationship between the state of the environment and the health status of certain contingents of the population. Be able to calculate indicators of public health. Be able to assess the relationship and influence of socio-economic and biological factors on the	To formulate conclusions on the health status of the children's population, based on data on the relationship with environmental factors, socio-economic and biological determinants, and make proposals to the relevant authorities and institutions on the implementation of preventive measures. Interact with specialists in the sanitary-hygienic profile and managers of enterprises, institutions and the relevant departments on nature protection, surrounding environment	To be responsible for timely conclusions regarding the health status of the children's population on the basis of data on the negative impact of environmental factors, socio-economic and biological determinants, and on the timely introduction of proposals for the implementation of appropriate preventive measures.

		negative impact of socioeconomic factors on the health of the child population and its individual groups Know the principles of forming risk groups, risk areas, time and risk factors.	health of the individual, family, and population. Be able to plan preventive measures to prevent the negative impact of socioeconomic factors on the health of children's population and its individual groups.		
14.	Clearly and unambiguously communicate one's own knowledge, conclusions, and arguments about health problems and related issues to professionals and nonspecialists, particularly to trainees (PC21)	To think critically about problems in the field and on the border of the fields of knowledge	Ability to solve problems in new and unfamiliar environments in the presence of incomplete or limited information, taking into account aspects of social and ethnic responsibility	Use foreign languages in professional activities	Be responsible for contributing to professional knowledge and practice and/or evaluating results
15.	Adherence to ethical principles when working with patients (PC24)	Know ethical principles of Helsinki declaration of human rights as medical subjects, and other law of harmonization in medical practice	Be able to follow ethical principles when working with patients	Communicate ethical principles when working with patients	To be responsible implementation of ethical principles into practice
16.	Adherence to professional and academic integrity, to be responsible for the reliability of the obtained scientific	Know the basic principles of academic and professional integrity		Adhere to the principles of academic and professional integrity	Be responsible for observing the principles of academic and professional integrity

**Normative content of higher education training,  
formulated in terms of Program Learning Outcomes (PLO)**

1. Have a thorough knowledge of the structure of professional activity. Be able to carry out professional activities that require updating and integration of knowledge. To be responsible for professional development, ability to further professional training with a high level of autonomy **PLO1**.
2. Understanding and knowledge of basic and clinical biomedical sciences, at a level sufficient to solve professional problems in the field of health care **PLO2**.
3. Identify and identify the leading clinical symptoms and syndromes; according to standard methods, using preliminary data of the patient's anamnesis, data of the patient's examination, knowledge about the person, his organs and systems, to establish a preliminary clinical diagnosis of the disease **PLR4**.
4. Collect complaints, life history and disease, assess the psychomotor and physical development of the patient, the state of organs and systems of the body, based on the results of laboratory and instrumental studies to assess information about the diagnosis, taking into account the patient's age **PLO5**.
5. Establish a final clinical diagnosis by making an informed decision and analysis of the obtained subjective and objective data of clinical, additional examination, differential diagnosis, adhering to the relevant ethical and legal norms, under the supervision of a physician-manager in a health care institution **PLO6**.
6. Order and analyze additional (mandatory and optional) examination methods (laboratory, functional and / or instrumental) for differential diagnosis of diseases **PLO7**.
7. To determine the main clinical syndrome or what causes the severity of patient condition by making an informed decision under various circumstances (at healthcare facility, or outside it), including in conditions of emergency, in the battlefield, in conditions of lack of information and limited time **PLO8**.
8. To determine the nature and principles of treatment of patients (conservative, operative), taking into account the age of the patient, in a health care facility, outside it and at the stages of medical evacuation, including in the field, on the basis of a preliminary clinical diagnosis, adhering to the relevant ethical and legal norms, by making an informed decision on existing algorithms and standard schemes. If necessary to expand the standard scheme and justify personalized recommendations under the supervision of a physician **PLO9**.
9. To determine the necessary mode of work, rest and nutrition based on the final clinical diagnosis, adhering to the relevant ethical and legal norms, by making an informed decision according to existing algorithms and standard schemes **PLO10**.
10. Assess and monitor the child's development, provide recommendations for breastfeeding and nutrition depending on age, organize preventive vaccinations on the calendar **PLO13**.
11. Define tactics and provide emergency medical care in emergencies for a limited time in accordance with existing clinical protocols and treatment standards **PLO14**.
12. Perform medical manipulations in a medical institution, at home or at work based on a previous clinical diagnosis and / or indicators of the patient's condition by making an informed decision, adhering to the relevant ethical and legal norms **PLO17**.
13. Plan and implement a system of anti-epidemic and prophylactic measures for the emergence and spread of diseases among the population **PLO19**.
14. Search for the necessary information in the professional literature and databases of other sources, analyze, evaluate and apply this information **PLO21**.
15. Assess the impact of the environment on human health in order to assess the state of morbidity in the population **PLO23**.
16. Organize the necessary level of personal safety (own and those being cared for) in the event of typical hazardous situations in the individual's field of work **PLO24**.
17. Clearly and unambiguously communicate knowledge, conclusions and arguments on health issues and related issues to professionals and non-specialists **PLO25**.
18. Fluent in the state and English languages, both orally and in writing to discuss professional activities, research and projects **PLO27**.

**Learning outcomes for Discipline:**

- To assess information on the diagnosis at the conditions of health care, its unit, using knowledge of the laws of development and the occurrence of diseases in children, based on the results of examination of the patient and results of laboratory and instrumental investigations.
- To make differential diagnosis of disease.
- Prescribe treatment.
- To determine the prognosis of the disease.

**2. Information volume of academic discipline**

4 Credits ECTS 120 hours are allocated for studying a discipline.

**Thematic chapter 1. INFANT'S DISEASES****Topic 1: Protein and energy deficiency in young children. Rickets. Hypervitaminosis "D".**

Definition, classification, clinical features, treatment and prevention of protein-energy deficiency in children. Definition, classification, etiology, pathogenesis, clinical features, diagnosis and treatment of rickets. Prevention of rickets. Etiology, pathogenesis, clinical manifestations, diagnosis, prevention hypervitaminosis D, emergency care and prognosis.

**Topic 2. Principles of feeding children during the first year of life.** Basic concepts of rational nutrition for healthy and sick young children. Complementary feeding.

**Topic 3. Spasmophilia: clinical forms, diagnosis and treatment.** Etiology, classification, clinic, diagnosis, prevention, treatment.

**Topic 4. The most common congenital heart defects in children.** Etiology of the most common congenital heart defects (CHD) in children. Classification of heart defects, hemodynamics in the most common CHD in children (atrial septal defect, ventricular septal defect, tetralogy of Fallot, coarctation of the aorta, pulmonary atresia, d-transposition of the great arteries, aortic valve stenosis and pulmonary valve stenosis, patent ductus arteriosus, total anomalous pulmonary venous return, etc.). Diagnosis of the most common CHDs in children. Management and prognosis of the most common CHDs in children. Conservative strategy for treatment of CHDs. Indications for cardiac surgery. Treatment of heart failure. Secondary prevention of infective endocarditis.

**Thematic chapter 2. THE RESPIRATORY SYSTEM DISEASES OF CHILDHOOD.**

**Topic 5. Acute respiratory infections in children. Croup in children. Bronchiolitis.** Definitions, etiology, pathogenesis, clinical manifestations, diagnosis, treatment and prevention of acute nasopharyngitis, acute pharyngitis, acute laryngopharyngitis, acute tracheitis and bronchiolitis in children. Clinical manifestation and emergency care for acute laryngeal stenosis (croup), hyperthermia syndrome and febrile convulsions.

**Topic 6. Acute bronchitis in children. Acute respiratory disease COVID-19 in children. Pneumonia in children.** Definition, etiology, pathogenesis, clinical manifestations, diagnosis, treatment and prevention of acute bronchitis, acute obstructive bronchitis, and recurrent bronchitis in children. Definition, classification, etiology, pathogenesis, clinical manifestations, diagnosis, treatment and prevention of pneumonia in children. Prognosis. Diagnosis and emergency care of respiratory failure in children. Clinical presentation, prevention and treatment of acute respiratory disease COVID-19 in children.

**Topic 7. Congenital anomalies and chronic diseases of the respiratory system in children.** Definitions, classification, etiology, pathogenesis, clinical manifestations, diagnosis, treatment, prevention and prognosis of congenital anomalies and chronic diseases of the of the respiratory system in children.

**Thematic chapter 3. ALLERGIC DISEASES IN CHILDREN. The main goals:****Topic 8. Atopic march in children. Food allergy. Allergic rhinitis in children.**

Atopic March in children. Definition, classification, etiology, pathogenesis, clinical manifestations, diagnosis, treatment and prevention of food allergy and atopic dermatitis in children, prognosis. Definition, classification, etiology, pathogenesis, clinical manifestations, diagnosis, treatment and prevention of allergic rhinitis in children, prognosis. Definition, etiology, pathogenesis, clinical manifestations, diagnosis, treatment, prevention of urticaria in children.

### **Topic 9. Bronchial asthma in children**

Definition. Risk factors and pathogenesis of asthma. Classification, clinic manifestations, diagnosis, treatment and prevention of asthma in children, prognosis. Emergency treatment of status asthmaticus.

### **Topic 10. Drug allergy in children**

Definition, etiology, pathogenesis, clinical manifestations, diagnosis, treatment, prevention of drug allergy in children.

## **Thematic chapter 4. CARDIORHEUMATOLOGY OF CHILDHOOD.**

**Topic 11. Inflammatory and non-inflammatory heart diseases in children. Cardiac arrhythmias and conduction disorders in children.** Definition, classification, etiology, pathogenesis, clinical manifestations, diagnosis, treatment and prognosis of carditis in children. Cardiomyopathies in children: definition, classification, etiology, pathogenesis, clinical manifestations, diagnosis, treatment and prognosis. Cardiac arrhythmias and conduction in children: classification, causes, symptoms, diagnosis, treatment, emergency care and prognosis.

**Topic 12. Acute rheumatic fever in children.** Definition, classification, etiology, pathogenesis, clinical manifestations, diagnosis, treatment, primary and secondary prevention, prognosis of acute rheumatic fever in children.

**Topic 13. Juvenile rheumatoid arthritis and reactive arthropathy in children.** Definition, classification, etiology, pathogenesis, clinical manifestations, diagnosis, treatment, primary and secondary prevention, prognosis of juvenile rheumatoid arthritis, systemic lupus erythematosus, systemic dermatomyositis, systemic scleroderma, systemic vasculitis.

**Topic 14. Kawasaki disease: causes, symptoms, diagnosis and management.** Etiology, clinical presentation, diagnostic criteria. Management strategies (treatment of acute disease, refractory disease, long-term treatment).

## **Thematic chapter 5. DISEASES OF THE DIGESTIVE SYSTEM IN CHILDREN.**

**Topic 15. Functional gastrointestinal disorders in children. Patient's follow-up for writing of a medical record.** Definition, classification (according to the Rome criteria IV), etiology, pathogenesis, clinical features and diagnosis of cyclic vomiting syndrome, functional dyspepsia in infants, constipation and colic in infants. Treatment and prevention of functional gastrointestinal disorders. Prognosis. Definition, classification, etiology, pathogenesis, clinical manifestations, diagnosis, treatment and prevention of functional dyspepsia, abdominal pain, gastroesophageal reflux, duodenal gastric reflux. Symptoms, diagnosis, treatment and prevention of dysfunction of the gallbladder and sphincter of Oddi.

Patient's follow-up for writing of a medical record.

**Topic 16. Organic diseases of digestive system in children.** Definition, classification, etiology, pathogenesis, clinical manifestations, diagnosis, treatment, prevention of organic diseases (esophagitis, gastritis, duodenitis, gastric ulcer and 12 duodenal ulcer). Definition, classification, etiology, pathogenesis, clinical manifestations, diagnosis, treatment of irritable bowel syndrome, functional constipation, ulcerative colitis, Crohn's disease, prognosis. Symptoms, diagnosis, treatment and prevention of biliary system diseases.

## **Thematic chapter 6. THE DISEASES OF URINARY TRACT IN CHILDREN.**

### **Topic 17. Urinary tract infections in children**

Definition, classification of urinary tract infections in children, differential diagnosis of lower and upper urinary tract. Etiology, pathogenesis, clinical manifestations, diagnosis, treatment, prevention and prognosis of cystitis in children. Definition, etiology, pathogenesis, classification, clinical features, diagnosis, treatment, prevention and prognosis of pyelonephritis in children.

### **Topic 18. Metabolic nephropathies in children.**

Definition, classification, etiology, pathogenesis, clinical manifestations, diagnosis, treatment, prevention and prognosis of metabolic nephropathies in children.

### **Topic 19. Glomerulonephritis in children. Acute and chronic renal failure in children.**



Definition, classification, etiology, pathogenesis, clinical manifestations, diagnosis, treatment, prevention and prognosis of glomerulonephritis (acute and chronic) in children. Definition, classification, etiology, pathogenesis, clinical manifestations, diagnosis, treatment, prevention and prognosis metabolic nephropathies in children.

Acute and chronic renal failure: risk factors, etiology, pathogenesis, disease stage, symptoms, diagnosis, treatment, prevention, prognosis.

**Topic 20. Tubulopathies, interstitial nephritis, hereditary nephritis.**

Definition, classification, etiology, pathogenesis, clinical manifestations, diagnosis, treatment, prevention and prognosis of tubulopathies, interstitial nephritis, hereditary nephritis.

**Topic 21. Discussion of medical records.**

**3. Structure of the educational discipline**

Topic	Lectures	Workshops	IWS	Individual work
<b>Thematic chapter 1. Infant's diseases</b>				
1. Protein and energy deficiency in young children. Rickets. Hypervitaminosis "D"		4	2	
2. Principles of feeding children during the first year of life			3	
3. Spasmophilia: clinical forms, diagnosis and treatment			3	
4. The most common congenital heart defects in children		4	2	
<b>Total for thematic chapter 1</b>		<b>8</b>	<b>10</b>	
<b>Thematic chapter 2. Respiratory system diseases in children</b>				
5. Acute respiratory infections in children. Croup in children. Bronchiolitis.			3	
6. Acute bronchitis in children. Acute respiratory disease COVID-19 in children. Pneumonia in children.	2	4	2	
7. Congenital anomalies and chronic diseases of the respiratory system in children.			3	
<b>Total for thematic chapter 2</b>	<b>2</b>	<b>4</b>	<b>8</b>	
<b>Thematic chapter 3. Allergic disorders in children</b>				
8. Atopic march in children. Food allergy. Allergic rhinitis in children.		4	2	
9. Bronchial asthma in children	1	4	2	
10. Drug allergy in children	1		3	
<b>Total for thematic chapter 3</b>	<b>2</b>	<b>8</b>	<b>7</b>	
<b>Thematic chapter 4. Pediatric cardio-rheumatology</b>				
11. Inflammatory and non-inflammatory heart diseases in children. Cardiac arrhythmias and conduction disorders in children	1	4	2	
12. Acute rheumatic fever in children	1	4	2	
13. Juvenile rheumatoid arthritis and reactive arthropathy in children		4	2	
14. Kawasaki disease: causes, symptoms, diagnosis and management			3	

<b>Total for thematic chapter 4</b>	<b>2</b>	<b>12</b>	<b>9</b>	
<b>Thematic chapter 5. Pediatric gastroenterology</b>				
15. Functional gastrointestinal disorders in children. Patient's follow-up for writing of a medical record	1	4	2	
16. Organic diseases of digestive system in children	1	4	2	
<b>Total for thematic chapter 5</b>	<b>2</b>	<b>8</b>	<b>4</b>	
<b>Thematic chapter 6. Urinary system diseases in children</b>				
17. Urinary tract infections in children	1	4	2	
18. Metabolic nephropathies in children			3	
19. Glomerulonephritis in children. Acute and chronic renal failure in children.	1	4	2	
20. Tubulopathies, interstitial nephritis, hereditary nephritis			3	
<b>Total for thematic chapter 6</b>	<b>2</b>	<b>8</b>	<b>10</b>	
21. Writing and discussion of medical record		3		<b>11</b>
<b>Total: 120 hours, 4 credits ECTS</b>	<b>10</b>	<b>51</b>		<b>59</b>
<i>Final control</i>				<i>Credit</i>

IWS – independent work of student

#### 4. Thematic plan of lectures

No.	Topic	Hours
1.	Acute bronchitis in children. Pneumonia in children	2
2	Bronchial asthma in children. Drug allergies. Principles of emergency care.	2
3.	Inflammatory and non-inflammatory heart disease in children. Acute rheumatic fever in children.	2
4.	Functional and organic diseases of the digestive system in children.	2
5.	Diseases of the urinary system in children	2
<b>Total</b>		<b>10</b>

#### 5. Thematic plan of workshops

No.	Topic	Hours
1	Protein and energy deficiency in young children. Rickets. Hypervitaminosis "D"	4
2	The most common congenital heart defects in children	4
3	Acute bronchitis in children. Acute respiratory disease COVID-19 in children. Pneumonia in children	4
4	Atopic march in children. Food allergy. Allergic rhinitis in children	4
5	Bronchial asthma in children	4
6	Inflammatory and non-inflammatory heart diseases in children. Cardiac arrhythmias and conduction disorders in children	4
7	Acute rheumatic fever in children	4
8	Juvenile rheumatoid arthritis and reactive arthropathy in children	4
9	Functional gastrointestinal disorders in children. Patient's follow-up for writing of a medical record	4
10	Organic diseases of digestive system in children	4
11	Urinary tract infections in children	4
12	Glomerulonephritis in children. Acute and chronic renal failure in children	4

13	Discussion of medical records.	3
<b>Total</b>		<b>51</b>

## 6. Thematic plan of independent work of students

No.	Topic	Hours	Type of control
1	Preparation for practical classes	24	On-going control during workshops
2	Principles of feeding children during the first year of life	3	During final control
3	Spasmophilia: clinical forms, diagnosis and treatment	3	
4	Acute respiratory infections in children. Croup in children. Bronchiolitis	3	
5	Congenital anomalies and chronic diseases of the respiratory system in children	3	
6	Drug allergy in children	3	
7	Kawasaki disease: causes, symptoms, diagnosis and management	3	
8	Metabolic nephropathies in children	3	
9	Tubulopathies, interstitial nephritis, hereditary nephritis	3	
10	Writing of medical record	11	
<b>Total of ISW</b>			<b>59</b>

**7. Individual work** (medical records) are a form of training organization to generalize and consolidate the knowledge that students receive in the process of learning, as well as the application of this knowledge in practice, that is a personal educational task.

All students receive the patient for follow up and prepare a medical record, which is discussed on the final class.

## 8. Teaching methods

The practical classes on the methodology of the organization are clinical. An aim is to control the theoretical material mastering and developing practical skills, as well as the ability to analyze and apply the obtained knowledge to solve practical problems. Practical trainings are mainly held in children's departments of clinical bases of the department.

- Each lesson starts with test control to assess the initial level of knowledge and to determine a degree of readiness of students to class. The lecturer defines the purpose of the training and creates positive cognitive motivation; Answers the questions of the students who have arisen during the ISW on the topic of classes.
- The main part of the lesson is the practical work of the student at the bedside of a patient. A lecturer with students is bypassing the patients. Students examine sick children, collect anamnesis, examine them, perform diagnostic manipulations, etc. Control of the main part of the lesson is carried out by assessing the student's practical skills, ability solve typical situational tasks. The lecturer discusses and gives explanations, emphasizes the features of the disease course in a particular child, targets a more rational realization of this or that method of examination, etc.
- At the final part of workshop student is invited to give an answer to situational tasks. The teacher sums up the results of the lesson, gives students the task for independent work, points to nodal questions of the next topic and offers a list of recommended literature for self-study.

During the mastering of discipline, the following educational technologies are used: methods of transmission and assimilation of knowledge, abilities and skills, lecture, simulation technologies, clinical practical training, role-playing educational games, case-based methods, multimedia presentations, educational videos.

## 9. Methods of control

The methods, forms of control and the evaluation system are carried out in accordance with the

requirements of the discipline program and instructions on the assessment system of students at the European Credit and Transfer system of the educational process which was approved by Ministry of Health of Ukraine (Ministry of Health of Ukraine letter No 08.01-47/10395 from 15.04.2014).

The assimilation of the topic is controlled by practical exercises in accordance with specific objectives: the ability to determine the etiological and pathogenetic factors of the most important somatic diseases in children, to classify and analyze a typical clinical presentation of disease in children, to draw up an examination plan and analyze the data of laboratory and instrumental examinations, to establish a diagnosis and prescribe treatment; to determine the main emergency conditions and demonstrate mastery of the principles of emergency care, assess the disease prognosis, demonstrate knowledge of moral and deontological principles of a medical specialist and the principles of professional subordination in pediatrics.

To evaluate student's knowledge, the advantage is given to standardized methods of control: testing (written or computer-based), structured written work, standardized by the method of performing control of practice skills, work with standard medical documentation.

The means of control are multiple choice questions, situational clinical cases and interpretation of the data of the laboratory and instrumental examination, control of the implementation of practical skills.

- **Types of control:** current and final

- **Form of final control:** credit.

Current control is carried out at each practical lesson and aims to check the assimilation of students of the educational material.

Final control (credit) is consists of assessing the student's mastery of the educational material solely on the basis of the results of his performance of certain types of work on practical classes. Credit of the discipline is held after the end of its study, before the examination session.

Control of execution of independent work, which is provided for in the topic along with classroom work, is carried out during the current control of the topic at the corresponding classroom session. Mastering of topics that are assigned only to independent work is controlled during by the final control.

Control of individual work - defense of the case report. The case report should be written and submitted for verification on time (at least one week before the defense).

Control of assimilation of practical skills on the relevant topic of the workshop is carried out both during the current control and the final control.

#### **Evaluation Criteria**

**Excellent ("5")** – the student correctly responds to 90-100% of the test of A format. Correctly, clearly, logically corresponds to all standardized questions of the current topic.

Closely binds theory with practice and demonstrates the correct implementation of practical skills. Analyzes the results of the lab/instrumental investigations without problems, and has proper methods of examination of the patient. Makes differential diagnosis. Solves clinical case with higher level of difficulty and knows how to compile the material.

**Good ("4")** -the student responds correctly to 70-89% of the test of A format. Correctly and essentially responds to all standardized questions of the current topic. Demonstrates knowledge of practical skills. Correctly uses theoretical knowledge to solve practical problems.

Able to solve easy and medium complexity clinical cases. Has the necessary practical knowledge and techniques and their uses, more than the required minimum.

**Satisfactory ("3")** -the student responds correctly to 50-69% of the test of A format. Incomplete, with the help of additional questions answers all the standardized questions on the current topic. Cannot independently make a clear logical answer. While the students is answering and demonstrating practical knowledge he makes mistakes. Can solve only the easiest situational tasks. Has knowledge of only the minimum methods of investigations.

**Unsatisfactory ("2")** - the student responds correctly to 50% of the test of A format.

Does not know the material of the current topic, cannot build a logical response, does not respond to additional questions, and does not understand the content of the material. During the response and demonstration of practical skills makes significant, gross mistakes.

Evaluation of the independent work of students for preparation to the practical classes is carried out during the current control of the topic at the appropriate workshop.

## 10. The current control

The current control is carried out on each practical class in accordance with specific objectives of each topic. Traditional grades are exhibited in the academic journal of student's achievement during practical classes. The practical classes in studying of the discipline "Pediatrics" are structured and provide a comprehensive assessment of all types of theoretical and practical training of students during practical classes.

Current control of *theoretical knowledge*:

- Written or computer-based testing;
- Individual questioning, interview
- Solving of typical clinical cases
- Evaluation of practical skills

### 10.1 Evaluation of current educational activities.

During the assessment of each subject's absorption for current educational activities, the student is exhibiting estimates for **4-th grade** (traditional) scale taking into account the approved criteria assessment for appropriate discipline. All kinds of works, based on the curriculum, are taken into account. The student should get an estimate from each topic and then it will be converted into points according to 200-point scale.

- The student responds minimum 10 MCQ's (tests according to the topic, format A).
- Answers standardized questions that require basic knowledge to understand the current topic.
- Demonstrates the knowledge and ability of practical skills in accordance with the topic of practical lesson.
- Solves situational clinical cases on the topic.

## 11. Form of the final control of learning performance

Final control form – **credit**

The control methods are standardized and include control of theoretical and practical training. Students are admitted to semester final control:

- who have performed all types of work, tasks provided for in the curriculum for the semester in accordance with the discipline;
- attended all classes provided by the curriculum;
- worked out missed classes;
- scored the number of points for the current success, not less than the minimum.

Students who have missed workshops are allowed with the *Dean's permission* to work academic debts up to the specified term within the semester.

The credit is granted after the end of the discipline (during the last lesson).

The credit is granted by teachers who carried out practical and other classes in the group.

“Students are given a Credit, if their average score of marks during the semester is at least "3" (120 points for 200-point scale).

The record Credit is made in the student's academic book as well as credit and examination record list.

## 12. Chart of calculation and distribution of points that students receive:

*For disciplines the form of final control of which is “credit”:*

**The maximum number of points** that the student can recruit for the current educational activity when studying the discipline is 200 points.

**The minimum number of points** to be dialed by the student for the current educational activities for admission is 120 points.

**The calculation of points** is carried out based on the student's estimates for the 4-th point (national) scale during the study of the discipline, by calculating the arithmetic mean (AM) rounded up to two decimal places. Resulting value is converted into points according to multipoint scale as follows:

$$x = \frac{CA \times 200}{5}$$

For convenience, a conversion table for 200-point scale is given below.

**Recalculation of the average assessment for the current activity in a multi-level scale for the disciplines completed**

4- бальна шкала	200- бальна шкала	4- бальна шкала	200- бальна шкала	4- бальна шкала	200- бальна шкала	4- бальна шкала	200- бальна шкала
5	200	4.45	178	3.92	157	3.37	135
4.97	199	4.42	177	3.89	156	3.35	134
4.95	198	4.4	176	3.87	155	3.32	133
4.92	197	4.37	175	3.84	154	3.3	132
4.9	196	4.35	174	3.82	153	3.27	131
4.87	195	4.32	173	3.79	152	3.25	130
4.85	194	4.3	172	3.77	151	3.22	129
4.82	193	4.27	171	3.74	150	3.2	128
4.8	192	4.24	170	3.72	149	3.17	127
4.77	191	4.22	169	3.7	148	3.15	126
4.75	190	4.19	168	3.67	147	3.12	125
4.72	189	4.17	167	3.65	146	3.1	124
4.7	188	4.14	166	3.62	145	3.07	123
4.67	187	4.12	165	3.57	143	3.02	121
4.65	186	4.09	164	3.55	142	3	120
4.62	185	4.07	163	3.52	141	Менше 3	Недос- татньо
4.6	184	4.04	162	3.5	140		
4.57	183	4.02	161	3.47	139		
4.52	181	3.99	160	3.45	138		
4.5	180	3.97	159	3.42	137		
4.47	179	3.94	158	3.4	136		

Control of execution of independent work, which is provided for in the topic along with classroom work, is carried out during the current control of the topic at the corresponding classroom session. Mastering of topics that are assigned only to independent work is controlled during by the final control.

Points of discipline are independently converted both in the ECTS scale and in 4-grade scale. The ECTS scale scores in the 4-grade scale are not converted and vice versa. Scores of students who study according to one specialty, taking into account the number of points earned from discipline are ranked on the ECTS scale as follows:

Evaluation of ESTS	Statistical index
A	Best 10% of students
B	Next 25% of students
C	Next 30% of students
D	Next 25% of students
E	Next 10% of students

Ranking by assigning ratings of "A", "B", "C", "D", "E" is conducted for students of this course, who learn same specialty and successfully completed the study of discipline. Students who have received an assessment of FX, F ("2") are not written to the list of ranked students. Students with a rating FX after recompiling automatically receive a score of "E".

Points of discipline for students who have successfully completed the program are converted into a traditional 4-th grade scale according to absolute criteria, which are listed below in the table:

Scores on discipline	Score according to the four-point scale
170 - 200	5
140 - 169	4

139 -120	3
Low than 120	2

Evaluation of ECTS is not converted to a traditional scale because the ECTS scale and the 4-th grade scale are independent.

Objectivity of evaluation of student's educational activity is checked by statistical methods (coefficient of correlation between ECTS and estimation according to national scale).

### 13. Methodological aid

- Working program of discipline
- Thematic plans of lectures, practical classes and independent work of students
- Methodical guidelines of practical classes for the students
- Methodical guidelines for the teachers
- Methodical materials that provide independent work of the student
- Multiple choice questions and clinical cases for practical classes
- The list of standardized methods for performing practical skills
- Recorded video of lectures

### 14. Reference

#### Main sources

1. Nelson textbook of Pediatrics 21st Edition by Robert M. Kliegman, Joseph W. St Geme III, et al. Philadelphia: Elsevier, 2020.
2. Marc Dante K., Kliegman R.M., Behrman R.E., Jenson H.B. Nelson Essentials of Pediatrics, 8 ed., Saunders, 2018.- 832 p.
3. Pediatric Secrets / 6th ed. by Polin R.A., Ditmar M.F. / Mosby, 2015.- 752 p.
4. Frank G., Zaoutis L., Catalozzi M., Zaoutis L.B., Shah S.S. The Philadelphia guide: inpatient pediatrics / LWW, 2019.- 608 p.

#### Additional sources

1. Park M, Salamat M. Park's pediatric cardiology for practitioners. 7th ed. Amsterdam: Elsevier; 2020. 690 p.
2. Petty RE, Laxer R, Lindsley C, et al. Textbook of pediatric rheumatology. 8th ed. Amsterdam: Elsevier; 2020. 768 p.
3. Pediatric allergy: principles and practice. 4 ed. Leung D, Akdis C, Bacharier L (eds). Amsterdam: Elsevier; 2020. 440 p.
4. Pediatric nephrology. 8th ed. Emma F, Goldstein SL, Bagga A, et al (eds). New York (NY): Springer; 2022. 2500 p.
- Waseem M. Pediatric pneumonia [Internet]. New York (NY): Medscape, LCC; 2020; [updated Jun 05, 2020; cited 2022 May 16]; [39 p]. <https://emedicine.medscape.com/article/967822-overview>
5. COVID-19: special considerations in children. Bethesda (MD): NIH; 2022; [updated: August 8, 2022; cited August 15, 2022];
6. Global strategy for asthma management and prevention [Internet]. Fontana (WI): GINA, 2022; [updated 2022; cited 2022 Aug 17]. Available from: <https://ginasthma.org/gina-reports/>

### 15. Information resources

[https://emedicine.medscape.com/pediatrics\\_general](https://emedicine.medscape.com/pediatrics_general)  
<https://pubmed.ncbi.nlm.nih.gov/>  
<https://www.who.int/>  
<https://www.aap.org/en-us/Pages/Default.aspx>  
<http://www.generalpediatrics.com/>

