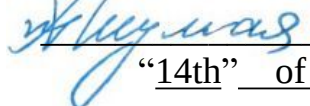


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Federal State Budget Educational Institution
of Higher Education
Pacific State Medical University
of the Ministry of Health of the Russian Federation

APPROVED BY

Director of the Institute of Pediatrics

 /Shumatova T.A./
“14th” of April 2026

SUBJECT GUIDE FOR TEACHERS AND STUDENTS FOR

B1.C.28 Pediatrics

(Name of discipline)

Specialty

**31.05.01 General Medicine (English-
language program)**
(code, name)

Degree

Specialist's degree

Profile

02 "Healthcare"
(in the field of providing primary health care
to the population in medical organizations:
polyclinics, outpatient clinics,
inpatient/outpatient facilities of the municipal
health care system)

Mode of study

Full-time

Period of mastering the BEP

6 years
(nominal length of study)

Institute

of Pediatrics

Vladivostok, 2026

Subject guide for teachers and students for **B1.C.28 Pediatrics** is based on:

1) Federal State Educational Standard of Higher Education for the specialty approved by the Order No. 988 of Ministry of Science and Higher Education of the Russian Federation dated August 12, 2020.

2) Curriculum for the 31.05.01 General Medicine (English-language program), profile 02 "Healthcare" (in the field of providing primary health care to the population in medical organizations: polyclinics, outpatient clinics, inpatient/outpatient facilities of the municipal health care system), approved by the Academic Council of FSBEI HE PSMU of the Ministry of Health of Russia, Report No. 1-7/25-26 dated March 27, 2026.

Subject guide for teachers and students for **B1.C.28 Pediatrics** was developed by the writing team of the Institute of Pediatrics of the FSBEI HE PSMU of the Ministry of Health of Russia, under the guidance of the director of the Institute, Doctor of Medical Sciences, professor Shumatova T.A.

Developed by:

<u>Director of the Institute</u> (position held)	<u>Doctor of Medical Sciences, professor</u> (academic degree, academic title)	<u>Shumatova T.A.</u> (full name)
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1. GENERAL PROVISIONS

Subject guide for **B1.C.28 Pediatrics** is a set of recommendations and explanations that facilitate to optimal organization of mastering this discipline.

Regular analysis of lecture materials and work with end-of-the-text questions are necessary for better understanding of the material and systematization of knowledge of **B1.C.28 Pediatrics**. Particular attention should be paid to emerging questions, confusing terms, and conflicts of points of view during the independent review of the lecture material. If necessary, a student should contact the teacher for advice. Lecture material streamlines students' thinking, while practical classes provide deeper insight into the material of the discipline.

Special attention should be paid to the content of the main provisions and conclusions, explanation of phenomena and facts, and clarification of the practical application of theoretic aspects of topic when preparing for a practical class. During this process students should aim to understand and remember the main provisions of the material under consideration, examples provided, as well as understand the illustrative material.

Collections of assessment tools are used to organize independent study of topics of **B1.C.28 Pediatrics**.

Independent work of students is facilitated by the following:

1. availability and accessibility of the necessary educational and reference material;
2. a system of regular quality control of completed independent work;
3. availability of teacher's advice.

Subject guides for self-study are presented as textbooks, lecture presentations, clinical guidelines, and electronic resources. Subject guides for independent work of students include a list of library resources of the educational institution and other materials accessible to students.

Independent work is a type of in-person extracurricular work of teachers and students of **B1.C.28 Pediatrics**. Control of independent work is conducted by the leading teacher. Evaluation of independent work results is taken into account when conducting interim examination of students throughout **B1.C.28 Pediatrics** course.

Continuous assessment during **B1.C.28 Pediatrics** course is implemented in order to check indicators of achieving competencies, to stimulate students' academic work, and improve methods of mastering new knowledge. Continuous assessment during **B1.C.28 Pediatrics** course is conducted during the semester to assess all types and sections of the academic discipline that encompass the competencies developed by the discipline: classroom questioning, conducting discussions, working with tests, solving practice problems, and working with case studies. Continuous assessment of students' knowledge and results of their preparation for practical classes is conducted during every class session.

Interim assessment aims to determine the level of mastery of competency indicators. It is conducted in the exam format after the student has mastered all sections of **B1.C.28 Pediatrics** and takes into account learning outcomes for all types of student work over the entire period of mastering **B1.C.28 Pediatrics** course.

Time allotted for interim assessment is indicated in the schedule.

Assignments given during practical classes, as well as assignments aimed to prepare students for continuous and interim assessment, are included in the collection of assessment tools for **B1.C.28 Pediatrics**. If necessary, students should contact the teacher for advice. It is necessary to thoroughly think over questions that need clarification before seeking teacher's advice.

2. SUBJECT GUIDES FOR LECTURE CLASSES

Table 1. Subject Guides for **B1.C.28 Pediatrics** Lectures

Semester No. 8 Topic No.1 Modern system of maternity and child welfare services in the Russian Federation and the world. Childhood periods. Age and age periodization in pediatrics. Patterns of physical and neuropsychic development of children. Health groups	
Duration of the lecture (in academic hours):	2
Purpose of the lecture: 1. introduce students to the structure and principles of the maternity and child welfare services in the Russian Federation and the world; 2. characterize the historical development and key features of major national pediatric schools; 3. examine the organization of work of outpatient (polyclinic) and inpatient pediatric services; 4. define the main periods of childhood and their characteristics; 5. present the basic patterns of physical and neuropsychic development of a child; 6. explain the principles of dividing children into health groups and its practical significance.	
Lecture plan, order of presentation of its sections: - Introduction: The importance of pediatrics for public health. - Historical overview: Development of pediatrics as a science and key national schools (Russian, European, American). - Modern system of maternal and child health protection in the Russian Federation: structure, principles, key documents. - The "History of Child Development" as the main document of dispensary observation. - Age periodization: Antenatal and postnatal periods. Characteristics of the newborn, infancy, early childhood, preschool, school, and adolescence periods. - Laws of physical development: Patterns of growth (height, weight, head and chest circumference), methods of assessment (centile tables, sigma deviations). - Laws of neuropsychic development: Stages of psychomotor and speech development. Critical periods. - Health groups: Definition, criteria for assignment (groups I-V). Objectives of observation. - Conclusion: The importance of understanding age norms for diagnosis and prevention.	
Recommended reading: 1. Kildiyarova R.R. Pediatric diseases: textbook. – 2nd ed. – M.: GEOTAR-Media, 2022. 2. Nelson Textbook of Pediatrics, 2-Volume Set, International Edition. 22 ed.	
Topic No.2 Rational feeding of children. Breastfeeding. Artificial and mixed feeding. Calculation of nutrition. Introduction of complementary foods. Therapeutic nutrition	
Duration of the lecture (in academic hours):	2
Purpose of the lecture: 1. tell students about the concept of rational feeding and its importance for child development; 2. characterize the physiological foundations and benefits of breastfeeding; 3. define the indications for mixed and artificial feeding; 4. characterize modern adapted milk formulas; 5. consider the principles of therapeutic and dietary nutrition in childhood; 6. analyze the rules and timing of introducing complementary foods (weaning)	
Lecture plan, order of presentation of its sections: - Introduction: The role of nutrition in child development. The concept of rational feeding - Physiology of lactation. Composition and properties of breast milk. - Benefits of breastfeeding for mother and child. Contraindications to breastfeeding.	

- Classification of milk formulas: adapted, partially adapted, non-adapted; fermented milk, specialized.
- Rules for preparing and storing formula. Feeding technique.
- Principles of calculating nutrition for children in the first year of life (volumetric, caloric, by body weight).
- Introduction of complementary foods in children (weaning)
- The concept of therapeutic nutrition. Main types of therapeutic diets in pediatrics (for malnutrition, food allergies, gastrointestinal diseases)
- Conclusion: Algorithm for pediatrician's actions when choosing the type of feeding

Recommended reading:

1. Kildiyarova R.R. Pediatric diseases: textbook. – 2nd ed. – M.: GEOTAR-Media, 2022.
2. Nelson Textbook of Pediatrics, 2-Volume Set, International Edition. 22 ed.

Topic No.3 Nutrition disorders in young children. Protein-energy deficiency. Causes. Etiology, pathogenesis. Classification. Aspects of calcium and phosphorus metabolism in children. Rickets. Hypovitaminosis of vitamin D. Anemia in infants and toddlers

Duration of the lecture (in academic hours):

2

Purpose of the lecture:

1. define the concept of protein-energy deficiency and its relevance;
2. analyze the etiology and pathogenesis of protein-energy deficiency;
3. study the modern classification of protein-energy deficiency (hypotrophy, hypostature, kwashiorkor);
4. characterize the features of phosphorus-calcium metabolism in a growing organism;
5. study the etiology, pathogenesis, and classification of rickets;
6. analyze the clinical manifestation, diagnosis, and principles of treatment and prevention of rickets;
7. study the classification of anemias in children;
8. master the principles of diagnosis, treatment, and prevention of the most common anemias in this age group (iron deficiency, folate deficiency).

Lecture plan, order of presentation of its sections:

- Introduction: Epidemiology and social significance of malnutrition.
- Etiology of protein-energy deficiency: exogenous (nutritional, infectious, social) and endogenous causes.
- Pathogenesis of protein-energy deficiency. Metabolic and functional disorders.
- Classification of protein-energy deficiency by severity (I, II, III stages) and by time of onset (prenatal, postnatal, mixed).
- Clinical picture of protein-energy deficiency depending on severity. Diagnostic criteria. Principles of complex therapy.
- Physiology of phosphorus-calcium metabolism. The role of vitamin D, parathyroid hormone, calcitonin.
- Etiology and pathogenesis of rickets. Risk factors.
- Classification of rickets (by period, severity, nature of course).
- Clinical picture in different periods of the disease (initial, peak, convalescence, residual effects).
- Laboratory and instrumental diagnostics. Differential diagnosis.
- Principles of treatment: specific and non-specific therapy. Prevention (antenatal and postnatal).
- Classification of anemias (by etiology, by red blood cell size, etc.).
- Clinical picture of iron deficiency anemia.
- Laboratory diagnosis of anemia. Differential diagnosis. Principles of treatment and prevention of iron deficiency anemia

Recommended reading: 1. Kildiyarova R.R. Pediatric diseases: textbook. – 2nd ed. – M.: GEOTAR-Media, 2022. 2. Nelson Textbook of Pediatrics, 2-Volume Set, International Edition. 22 ed.	
Topic No.4 The neonatal period. Newborn care. Transient conditions of newborns	
Duration of the lecture (in academic hours):	2
Purpose of the lecture: 1. define the boundaries and characterize the neonatal period; 2. study the principles of care for a healthy newborn; 3. analyze the transient conditions of newborns and their differential diagnosis with pathology.	
Lecture plan, order of presentation of its sections: - Characteristics of the neonatal period. Term, preterm, post-term newborn. - Primary newborn care. Assessment on the Apgar scale. - Organization of care in the physiological neonatal department: thermal chain, breastfeeding, skin and umbilical cord care. - Transient conditions: physiological weight loss, erythema, jaundice, hormonal crisis, dysbiosis, etc. - Differential diagnosis of transient jaundice with hemolytic disease of the newborn and other pathologies. - The concept of screening in the neonatal period. - Conclusion: The role of the pediatrician in monitoring the newborn	
Recommended reading: 1. Kildiyarova R.R. Pediatric diseases: textbook. – 2nd ed. – M.: GEOTAR-Media, 2022. 2. Nelson Textbook of Pediatrics, 2-Volume Set, International Edition. 22 ed.	
Topic No.5 Vaccination in children. Vaccination schedule. Types of vaccination. Indications and contraindications for vaccination	
Duration of the lecture (in academic hours):	2
Purpose of the lecture: 1. tell students about the theoretical foundations of immunoprophylaxis; 2. study the National Immunization Schedule of the Russian Federation; 3. analyze the types of vaccines, indications, and absolute/relative contraindications to vaccination.	
Lecture plan, order of presentation of its sections: - Introduction: The role of immunoprophylaxis in reducing child morbidity and mortality. - Basic concepts: vaccine, vaccination, immunization, revaccination. - Types of vaccines: live, inactivated, molecular, toxoids. - National Immunization Schedule of the Russian Federation (for children). Characteristics of mandatory vaccinations. - The concept of herd immunity. - Post-vaccination reactions and complications. Their differential diagnosis. - Indications and contraindications for vaccination (true and false). Tactics for vaccinating children from risk groups.	
Recommended reading: 1. Kildiyarova R.R. Pediatric diseases: textbook. – 2nd ed. – M.: GEOTAR-Media, 2022. 2. Nelson Textbook of Pediatrics, 2-Volume Set, International Edition. 22 ed.	
Topic No.6 Emergency care for children with hyperthermia, convulsions, and anaphylaxis	
Duration of the lecture (in academic hours):	2

Purpose of the lecture:

1. master the algorithm for providing emergency care for hyperthermic syndrome in a child;
2. study the principles of emergency care for convulsive syndrome of various etiologies;
3. examine the algorithm for diagnosing and providing emergency care for anaphylactic shock.

Lecture plan, order of presentation of its sections:

- Introduction: Features of emergency conditions in pediatric practice.
- Hyperthermic syndrome: pathogenesis, clinical manifestations, dangers. Physical and pharmacological methods of fever reduction. Algorithm of actions.
- Convulsive syndrome: classification (febrile, afebrile convulsions). Causes in children. Emergency care algorithm. Differential diagnosis.
- Anaphylactic shock: etiology, pathogenesis, clinical variants. Algorithm for emergency care at the prehospital stage (adrenaline, glucocorticoids, infusion therapy).
- Equipment of a pediatrician's bag for emergency care.
- Conclusion: The importance of clear and prompt actions in emergency conditions.

Recommended reading:

1. Kildiyarova R.R. Pediatric diseases: textbook. – 2nd ed. – M.: GEOTAR-Media, 2022.
2. Nelson Textbook of Pediatrics, 2-Volume Set, International Edition. 22 ed.

Semester No. 9

Topic No.1 Semiotics of respiratory diseases in children. Acute upper respiratory tract diseases in children. Lower respiratory tract diseases in children. Bronchitis and pneumonia in children. Asthma in children

Duration of the lecture (in academic hours):

2

Purpose of the lecture:

1. study the anatomical and physiological features of the respiratory system in children that determine the specifics of semiotics;
2. analyze the clinical manifestation and principles of diagnosis of the most common acute upper respiratory tract infections (rhinitis, pharyngitis, tonsillitis, laryngitis);
3. study the etiology, pathogenesis, and classification of acute bronchitis and pneumonia in children;
4. analyze the modern classification, diagnosis, and basic principles of therapy for bronchial asthma in children.

Lecture plan, order of presentation of its sections:

- Anatomical and physiological features of the respiratory tract in children and their clinical significance.
- Semiotics of respiratory failure in children.
- Acute rhinitis: etiology, clinic, treatment.
- Acute pharyngitis and tonsillitis: etiology (viral, bacterial), clinical differences, complications (paratonsillitis, rheumatic fever).
- Acute laryngitis and croup syndrome (acute stenosing laryngotracheitis): etiology, pathogenesis of stenosis, severity, emergency care.
- Differential diagnosis of upper respiratory tract diseases, principles of rational pharmacotherapy.
- Acute bronchitis: definition, etiology, clinical manifestation (simple, obstructive), treatment.
- Community-acquired pneumonia: definition, classification (focal, segmental, lobar, interstitial). Features of the clinic in children of different ages.
- Diagnostic criteria for pneumonia. Principles of antibacterial therapy.
- Bronchial asthma: definition, epidemiology. Modern concept of pathogenesis (chronic allergic inflammation, bronchial hyperreactivity).

- Classification of BA by severity and level of control. Diagnostic criteria (history, peak flowmetry, spirometry). - Basic therapy for BA (inhaled corticosteroids, leukotriene receptor antagonists). Emergency care for an asthma attack.	
Recommended reading: 1. Kildiyarova R.R. Pediatric diseases: textbook. – 2nd ed. – M.: GEOTAR-Media, 2022. 2. Nelson Textbook of Pediatrics, 2-Volume Set, International Edition. 22 ed.	
Topic No.2 Anatomical and physiological features of the cardiovascular system. Congenital heart defects in children. Features of cardiovascular diseases in childhood	
Duration of the lecture (in academic hours):	2
Purpose of the lecture: 1. characterize the anatomical and physiological features of the cardiovascular system in children; 2. study the classification and hemodynamic features of the most common congenital heart defects; 3. analyze the features of acquired heart diseases in children (myocarditis, endocarditis, arrhythmias).	
Lecture plan, order of presentation of its sections: - Features of the fetal circulation and its changes after birth. - Age-related dynamics of heart rate, blood pressure, heart borders. - Classification of congenital heart defects: "blue" and "white" types with hyper- and hypovolemia of the pulmonary circulation. - Clinical picture and diagnostic algorithm for ventricular septal defect, atrial septal defect, patent ductus arteriosus, tetralogy of Fallot. - Acquired heart diseases in children: myocarditis, infective endocarditis (features of etiology and clinic). - Acute rheumatic fever: diagnostic criteria (Jones), principles of treatment and prevention. - Conclusion: The role of the pediatrician in the early detection of heart pathology.	
Recommended reading: 1. Kildiyarova R.R. Pediatric diseases: textbook. – 2nd ed. – M.: GEOTAR-Media, 2022. 2. Nelson Textbook of Pediatrics, 2-Volume Set, International Edition. 22 ed.	
Topic No.3 Anatomical and physiological features of the gastrointestinal tract. Features of gastrointestinal diseases in childhood	
Duration of the lecture (in academic hours):	2
Purpose of the lecture: 1. analyze the anatomical and physiological features of the digestive organs in children and their clinical significance; 2. study the features of the clinical manifestation and progression, diagnosis, and treatment of the most common gastrointestinal diseases in children (GERD, gastritis, peptic ulcer, functional disorders).	
Lecture plan, order of presentation of its sections: - Age-related features of the oral cavity, esophagus, stomach, intestines, liver, and pancreas. - Semiotics of digestive disorders (dysphagia, vomiting, diarrhea, constipation, abdominal pain, jaundice). - Gastroesophageal reflux disease in children: physiological and pathological reflux, clinical manifestations, complications. - Chronic gastritis and gastroduodenitis in children: etiology (H. pylori, etc.), features of the clinic.	

- Peptic ulcer of the stomach and duodenum in children: etiology, pathogenesis, clinical picture, complications. - Functional disorders of the gastrointestinal tract in children (infant colic, functional constipation). - Principles of diagnosis and treatment of major gastrointestinal diseases.	
Recommended reading: 1. Kildiyarova R.R. Pediatric diseases: textbook. – 2nd ed. – M.: GEOTAR-Media, 2022. 2. Nelson Textbook of Pediatrics, 2-Volume Set, International Edition. 22 ed.	
Topic No.4 Urinary organs, anatomical and physiological features. Features of kidney diseases in children. Acute and chronic glomerulonephritis	
Duration of the lecture (in academic hours):	2
Purpose of the lecture: 1. characterize the anatomical and physiological features of the urinary system in children; 2. study the classification, etiology, and pathogenesis of glomerulonephritis; 3. analyze the clinical variants, diagnosis, and principles of treatment of acute and chronic glomerulonephritis.	
Lecture plan, order of presentation of its sections: - Age-related features of the kidneys and urinary tract. Functional immaturity. - Semiotics of urinary system diseases (edema, arterial hypertension, urinary syndrome). - Classification of glomerulonephritis (GN). Etiology and pathogenesis (immune-complex mechanism). - Acute post-streptococcal GN: clinical picture (nephritic syndrome), diagnosis, treatment, prognosis. - Chronic GN: classification (morphological), clinical forms (hematuric, nephrotic, hypertensive, mixed), principles of therapy. - Differential diagnosis of glomerulonephritis with other kidney diseases. - The role of the pediatrician in the early detection and observation of children with kidney pathology.	
Recommended reading: 1. Kildiyarova R.R. Pediatric diseases: textbook. – 2nd ed. – M.: GEOTAR-Media, 2022. 2. Nelson Textbook of Pediatrics, 2-Volume Set, International Edition. 22 ed.	

3. SUBJECT GUIDES FOR PRACTICAL CLASSES

Table 2. Subject Guides for Practical **B1.C.28 Pediatrics** Classes

Semester No.8 Topic No.1 Introduction to pediatrics. Organization of activities of medical organizations providing assistance to children. Structure of children's hospital	
Duration of the practical class (in academic hours):	2
Purpose of the practical class: 1. consolidate acquired knowledge of the subject, goals, and main tasks of pediatrics as a clinical discipline; key age periods of childhood and their characteristics; the structure of the pediatric healthcare system (primary, secondary, tertiary levels of care); 2. during the discussion, outline the main principles of organizing pediatric care (preventive focus, accessibility, continuity, dispensary observation);	

3. thoroughly go over definitions and concepts of "Pediatrics," "neonatology," "adolescent medicine"; "Preventive Pediatrics" vs. "Clinical Pediatrics"; "Dispensary observation (well-child care)," "hospitalization," "day hospital";
4. study patterns of routing a sick child depending on the pathology: from a visit to a local pediatrician → referral to a specialist or diagnostic center → hospitalization in a specialized department; Interaction between the polyclinic (outpatient) and hospital (inpatient) links of service;
5. develop logical thinking skills in analyzing the structure of the pediatric service; ability to navigate virtually through the standard structure of a children's hospital, understanding the sequence of patient admission and the functions of key departments.

Practical classes requirements: classrooms equipped with multimedia equipment, blackboards, and subject guides for the discipline.

Independent work of the student: writing a report paper, preparation of a report on the lecture and working with study materials.

Methods of evaluation of acquired knowledge and skills: review of reports, discussions, case studies, tests.

Recommended reading:

1. Pediatric diseases : textbook Kildiyarova R. R. 2-е изд., перераб. - М. : GEOTAR-Media, 2022. - 751 p. : il. - ISBN 978-5-9704-6544-8
2. Nelson Textbook of Pediatrics, 2-Volume Set, International Edition. 22 ed. Kliegman, R. Kliegman, Robert M (Editor) , St Geme III, Joseph W Nelson Textbook of Pediatrics, 2-Volume Set, International Edition. 22 ed / - ISBN 9780323883054
3. Buehler B., Pediatrics: Developmental and Behavioral Articles / Buehler B., Bhatia J., Coppes M. et al. - Текст: электронный // Free Medical Books: <http://www.freebooks4doctors.com/> [сайт]. URL : https://emedicine.medscape.com/pediatrics_general
4. Pediatrics: Developmental and Behavioral Articles / Buehler B., Bhatia J., Coppes M. et al. - Текст: электронный // Free Medical Books: <http://www.freebooks4doctors.com/> [сайт]. - URL : https://emedicine.medscape.com/pediatrics_general

Topic No.2 General examination of a healthy and sick child, collecting anamnesis, types of history in pediatrics. Constant observation of children, aspects in the first year of life, assessment of health status, health group

Duration of the practical class (in academic hours):

2

Purpose of the practical class:

1. consolidate acquired knowledge of the core principles of clinical observation (regularity, complexity, active approach, preventive focus) and the stages of objective examination of a child (visual inspection, palpation, percussion, auscultation) considering age-specific features;
2. during the discussion, outline the key features of recording medical history in pediatrics (the role of parents, stages), the main parameters for assessing a child's general condition, as well as the goals, stages, and content of preventive examinations in the first year of life (schedule, specialists, scope of investigations) and the criteria for assigning health groups;
3. thoroughly go over definitions and concepts of "clinical observation", "genealogical, biological, and social history", "physical development", "general condition" (satisfactory, moderately severe, severe), "health group" (I-V), "risk group", and "critical periods" of development in the first year of life;
4. study algorithms of conducting a general clinical examination (from assessing general condition and consciousness to systemic examination) and the standard scheme for collecting information on life and medical history, as well as the principles of formulating a diagnosis for a child under observation (follow-up care), reflecting the health group, underlying disease (if present), and its functional stage;

5. develop the practical skill of establishing contact with the child and parents, structured collection of anamnestic data, and correct physical examination taking into account the child's age, as well as the skill of comprehensive health assessment of a child (based on data of physical and neuropsychic development, functional state, resistance, chronic pathology) to determine the health group and plan individual preventive measures.

Practical classes requirements: classrooms equipped with multimedia equipment, blackboards, and subject guides for the discipline.

Independent work of the student: writing a report paper, preparation of a report on the lecture and working with study materials.

Methods of evaluation of acquired knowledge and skills: review of reports, discussions, case studies, tests.

Recommended reading:

1. Pediatric diseases : textbook Kildiyarova R. R. 2-е изд., перераб. - М. : GEOTAR-Media, 2022. - 751 p. : il. - ISBN 978-5-9704-6544-8
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Topic No.3 Patterns of growth and development of children and adolescents. Assessment of physical development at different age periods. Assessment of neuropsychic development at different age periods. Methods and criteria for assessment

Duration of the practical class (in academic hours):

2

Purpose of the practical class:

1. consolidate acquired knowledge of the basic patterns of growth and physical development in children (unevenness, heterochrony, sexual dimorphism, influencing factors), as well as key stages and critical periods of maturation of the nervous system, sensory organs, and the formation of higher mental functions;
2. during the discussion, outline the main anthropometric parameters for different age groups with criteria for their evaluation (centile tables, standard sigma deviations, Z-scores), as well as the main methods for screening and in-depth assessment of neuropsychic development (NPD) and key criteria for age-appropriate norms;
3. thoroughly go over definitions and concepts of "physical development", "somatometric and physiometric signs", "harmonious development", "biological age"; "neuropsychic development (NPD)", "developmental lines", "developmental quotient (DQ)", "developmental delay" and "developmental disharmony";
4. study patterns of changes in growth indicators in different age periods (infancy, early and late childhood, adolescence), as well as patterns of the sequence and interrelationship in the formation of major neuropsychic developmental milestones;
5. develop the practical skill of conducting anthropometry and structured assessment of NPD using standardized methods (e.g., the Denver II screening test, assessment by main developmental lines), interpreting the obtained data, and formulating a comprehensive conclusion about the level and harmony of a child's physical and neuropsychic development.

Practical classes requirements: classrooms equipped with multimedia equipment, blackboards, and subject guides for the discipline.	
Independent work of the student: writing a report paper, preparation of a report on the lecture and working with study materials.	
Methods of evaluation of acquired knowledge and skills: review of reports, discussions, case studies, tests.	
Recommended reading: 1. Pediatric diseases : textbook Kildiyarova R. R. 2-е изд., перераб. - М. : GEOTAR-Media, 2022. - 751 p. : il. - ISBN 978-5-9704-6544-8 2. Nelson Textbook of Pediatrics, 2-Volume Set, International Edition. 22 ed. Kliegman, R.Kliegman, Robert M (Editor) , St Geme III, Joseph W Nelson Textbook of Pediatrics, 2-Volume Set, International Edition. 22 ed / - ISBN 9780323883054 3. Buehler B., Pediatrics: Developmental and Behavioral Articles / Buehler B., Bhatia J., Coppes M. et al. - Текст: электронный // Free Medical Books: http://www.freebooks4doctors.com/ [сайт]. URL : https://emedicine.medscape.com/pediatrics_general 4. Pediatrics: Developmental and Behavioral Articles / Buehler B., Bhatia J., Coppes M. et al. - Текст: электронный // Free Medical Books: http://www.freebooks4doctors.com/ [сайт]. - URL : https://emedicine.medscape.com/pediatrics_general	
Topic No.4 Newborn child. Carrying out anthropometric measurements, assessment of physical development. Carrying out a clinical examination of a newborn child. Assessment of the condition of a newborn child according to the Apgar scale	
Duration of the practical class (in academic hours):	2
Purpose of the practical class: 1. consolidate acquired knowledge of the key parameters and standards of physical development for a full-term newborn (weight, body length, head and chest circumference); 2. during the discussion, outline the main stages and techniques of a systematic clinical examination of a newborn (skin, fontanelles, reflexes, internal organs, musculoskeletal system); 3. thoroughly go over definitions and concepts of "functional maturity of the newborn", "Apgar score", "newborn reflexes (automatic)", "physiological states of the newborn" (transient catarrh, physiological jaundice, etc.); 4. study relationship between anthropometric data, gestational age, and the clinical condition of the newborn, including interpretation of the Apgar score dynamics; 5. develop the skill of conducting correct anthropometry, performing a structured physical examination of a newborn, and assessing the initial adaptation using the Apgar scale; the ability to differentiate between normal (physiological) and potentially pathological signs during the initial neonatal examination.	
Practical classes requirements: classrooms equipped with multimedia equipment, blackboards, and subject guides for the discipline.	
Independent work of the student: writing a report paper, preparation of a report on the lecture and working with study materials.	
Methods of evaluation of acquired knowledge and skills: review of reports, discussions, case studies, tests.	
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Topic No.5 Asphyxia of newborns. Transient conditions of newborns

Duration of the practical class (in academic hours):

2

Purpose of the practical class:

1. consolidate acquired knowledge of the main etiological and pathogenetic links in the development of fetal and newborn asphyxia;
2. during the discussion, outline the main clinical manifestations, degrees of severity (mild, moderate, severe), and immediate consequences of perinatal asphyxia according to modern classifications;
3. thoroughly go over definitions and concepts of "perinatal asphyxia", "primary and secondary apnea", "ABC-reanimation", "transient (physiological) conditions" (e.g., physiological weight loss, uric acid infarction, etc.), and "borderline states";
4. study patterns of clinical manifestation and changes in transient conditions (onset, peak, disappearance) and their key differences from similar pathological symptoms;
5. develop the skill of forming a preliminary diagnosis of asphyxia based on Apgar score, clinical data, and anamnesis, and the skill of differential diagnosis between a physiological condition and a disease;
6. achieve an understanding of the importance of adequate primary resuscitation and subsequent monitoring of a child who has suffered asphyxia, as well as the principles of counselling parents about transient conditions

Practical classes requirements: classrooms equipped with multimedia equipment, blackboards, and subject guides for the discipline.

Independent work of the student: writing a report paper, preparation of a report on the lecture and working with study materials.

Methods of evaluation of acquired knowledge and skills: review of reports, discussions, case studies, tests.

Recommended reading:

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Topic No.6 Breastfeeding. Rules and advantages of breastfeeding. Evaluation of breastfeeding effectiveness. Hypogalactia. Correction methods

Duration of the practical class (in academic hours):

2

Purpose of the practical class:

1. consolidate acquired knowledge of the physiological mechanisms of lactation (prolactin reflex), the composition of breast milk (colostrum, transitional, mature) and its unique properties, as well as objective criteria for sufficient lactation (dynamics of weight gain, frequency of urination/defecation);
2. during the discussion, outline the main advantages of breastfeeding for the child (nutritional, immunological, psychological) and the mother; the key rules for its successful establishment and maintenance (early initiation, feeding on demand, correct attachment); as well as the main signs of effective and ineffective feeding requiring intervention;
3. thoroughly go over definitions and concepts of "exclusive breastfeeding", "hypogalactia" (primary and secondary), "lactation crisis", "effective/ineffective breastfeeding", "test weighing", "galactogogues", the "Ten Steps to Successful Breastfeeding" (WHO/UNICEF), and the "Baby-Friendly Hospital Initiative" (BFHI);
4. study patterns of lactation, the dynamics of milk composition, the most common problems and misconceptions, as well as the patterns of development of hypogalactia (risk factors, main causes) and the typical dynamics of weight gain in a breastfed infant;
5. develop an understanding of the structure of breastfeeding support at the state and international levels (the role of the pediatrician, lactation consultant, "Mother and Child Room" in the Russian Federation, WHO global strategy) and the ability to create an individual plan for lactation support and correction, including non-pharmacological and pharmacological methods in accordance with clinical guidelines.

Practical classes requirements: classrooms equipped with multimedia equipment, blackboards, and subject guides for the discipline.

Independent work of the student: writing a report paper, preparation of a report on the lecture and working with study materials.

Methods of evaluation of acquired knowledge and skills: review of reports, discussions, case studies, tests.

Recommended reading:

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Topic No.7 Mixed and artificial feeding. Classification of milk formulas, principles of adaptation of formulas for feeding. Rules of artificial feeding, calculation of food volume

Duration of the practical class (in academic hours):

2

Purpose of the practical class:

1. consolidate acquired knowledge of the medical indications for transitioning to mixed/artificial feeding, the concepts of "supplementary feeding" and "complete formula feeding," as well as the features of metabolism and nutritional needs of formula-fed infants compared to breastfed infants;
2. during the discussion, outline the main criteria for choosing an infant formula and the key principles of adapting formulas to the composition of breast milk (protein, fat, carbohydrate components, microbiota), as well as the strict rules for organizing artificial feeding (fixed schedule, precise volume, preparation technique, hygiene) and justify possible differences in the timing and sequence of introducing complementary foods;
3. thoroughly go over definitions and concepts of "adapted," "partially adapted," and "non-adapted (simple)" formulas; "follow-on" and "specialized/therapeutic" formulas (for allergies, regurgitation, lactase deficiency, etc.), as well as the formulas for calculating daily and single feeding volumes ("volumetric method," "caloric method," "Shkarin's calculation method") and the criteria for readiness to start complementary feeding (weaning);
4. study methods of calculating the daily and single volume of feeding depending on the child's age and body weight, as well as the patterns of changes in feeding frequency and formula volume with the child's age and the classic scheme for introducing complementary foods (considering the type of primary feeding);
5. develop the practical skill of selecting an adequate breast milk substitute for a healthy child and in cases of minor functional digestive disorders, counselling parents on the rules for preparing and storing formula, as well as the skill of calculating the diet, creating an individual feeding schedule, and planning the introduction of complementary foods for a specific child;
6. achieve the ability to explain to parents the importance of adhering to the rules of mixed and artificial feeding, correct common mistakes, and provide well-reasoned justifications for the principles of introducing complementary foods

Practical classes requirements: classrooms equipped with multimedia equipment, blackboards, and subject guides for the discipline.

Independent work of the student: writing a report paper, preparation of a report on the lecture and working with study materials.

Methods of evaluation of acquired knowledge and skills: review of reports, discussions, case studies, tests.

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Topic No.8 Complementary feeding (weaning), timing and rules for its introduction to breastfed children

Duration of the practical class (in academic hours):

2

Purpose of the practical class:

1. consolidate acquired knowledge of physiological readiness of the infant's digestive and nervous systems for the introduction of complementary foods (extinction of the "tongue-thrust" reflex, ability to sit with support, interest in food);
2. during the discussion, outline the main rules for the introduction of complementary foods: sequence (vegetable puree → cereals → meat puree → etc.), principles (monocomponent, gradual, in the first half of the day), and optimal timing (6 months of age for a breastfed child);
3. thoroughly go over definitions and concepts of "complementary feeding" and "supplementary feeding", "food tolerance", "monocomponent product", "pedagogical complementary feeding";
4. study patterns of the child's response to the introduction of a new product (assessment of skin, stool, behavior) and the logic of expanding the diet in terms of consistency and diversity;
5. develop the skill of compiling individual recommendations on the timing, sequence and volume of complementary feeding products, taking into account the child's health status, physical development and regional characteristics;
6. achieve an understanding of the role of complementary foods in the prevention of nutritional deficiency (iron, zinc) and the formation of healthy eating habits, as well as the ability to correct typical mistakes made by parents.

Practical classes requirements: classrooms equipped with multimedia equipment, blackboards, and subject guides for the discipline.

Independent work of the student: writing a report paper, preparation of a report on the lecture and working with study materials.

Methods of evaluation of acquired knowledge and skills: review of reports, discussions, case studies, tests.

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Topic No.9 Therapeutic nutrition of infants and young children

Duration of the practical class (in academic hours):

2

Purpose of the practical class:

1. consolidate acquired knowledge of the fundamentals of diet therapy and the physiological characteristics of the gastrointestinal tract in young children that affect nutrient digestion and absorption;
2. during the discussion, outline the main principles of constructing therapeutic diets: elimination, sparing (mechanical, chemical, thermal), adequacy, and stages (unloading/relief → adaptation → restoration);
3. thoroughly go over definitions and concepts of "elimination diet," "hypoallergenic diet," "elemental and semi-elemental formulas," "nutritional support," and "nutritional rehabilitation";

4. study patterns of dietary correction for common pathologies: food allergies, malabsorption syndromes (celiac disease, lactase deficiency), acute intestinal infections, chronic kidney disease, and metabolic disorders;
5. develop the skill of selecting specialized therapeutic milk formulas and formulating a step-by-step nutrition plan for specific clinical situations in infants and young children;
6. achieve the ability to differentiate between prophylactic and therapeutic diets, justify the choice of a specific nutritional strategy, and counsel parents on organizing therapeutic nutrition at home.

Practical classes requirements: classrooms equipped with multimedia equipment, blackboards, and subject guides for the discipline.

Independent work of the student: writing a report paper, preparation of a report on the lecture and working with study materials.

Methods of evaluation of acquired knowledge and skills: review of reports, discussions, case studies, tests.

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Topic No.10 Chronic nutrition disorders. Protein-energy malnutrition in young children. Causes. Etiology, pathogenesis. Diagnostics. Differential diagnostics

Duration of the practical class (in academic hours):

2

Purpose of the practical class:

1. consolidate knowledge of the physiological nutritional requirements for infants and young children and the key risk factors leading to chronic eating disorders.
2. during the discussion, outline the main etiological factors (exogenous, endogenous, mixed) of PEM and the pathogenetic chain leading to trophic disorders, metabolic failure, and dysfunction of organs and systems.
3. thoroughly go over the definitions and concepts of: "protein-energy malnutrition (PEM)," "hypotrophy" (Grades I, II, III), "kwashiorkor," "marasmus," "paratrophy," and "trophic insufficiency syndrome."
4. study patterns of clinical manifestations depending on the severity and form of PEM (deficiency of subcutaneous fat, tissue turgor, psychomotor development delay, specific symptoms) and the algorithm for mandatory laboratory and instrumental examination.
5. develop the skill of comprehensive assessment of a child's nutritional status (anthropometry, clinical signs, anamnesis) and formulating a diagnosis of PEM indicating etiology, form, severity, and associated complications.
6. achieve the ability to conduct a differential diagnosis between primary (nutritional) PEM and secondary forms caused by chronic infections, malabsorption syndromes, genetic diseases, and CNS pathology.

Practical classes requirements: classrooms equipped with multimedia equipment, blackboards, and subject guides for the discipline.

Independent work of the student: writing a report paper, preparation of a report on the lecture and working with study materials.

Methods of evaluation of acquired knowledge and skills: review of reports, discussions, case studies, tests.

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Topic No.11 Dystrophy by the type of hypotrophy. Causes. Etiology, pathogenesis. Classification. Clinical manifestations. Diagnostics. Treatment

Duration of the practical class (in academic hours):

2

Purpose of the practical class:

1. consolidate knowledge of the age-specific physiological norms of growth and development, and the key exogenous and endogenous factors disrupting the nutrient supply chain.
2. during the discussion, outline the main pathogenetic links in the development of hypotrophy: from nutrient deficiency to disruption of trophism, enzymatic activity, and regulation of metabolism.
3. thoroughly go over the definitions and concepts of: "hypotrophy", "prenatal and postnatal hypotrophy", "deficiency of body weight" in relation to height and age, "trophic disorders", and the modern classification by severity (I, II, III degree) and time of occurrence.
4. study patterns of the development of clinical symptoms depending on the severity: from thinning of subcutaneous fat and decreased tissue turgor to growth retardation, multiple vitamins deficiency, and dysfunction of major organs and systems.
5. develop the skill of comprehensive diagnosis: collecting a focused nutritional history, calculating body weight deficit, assessing trophic status, and interpreting laboratory data to determine the stage and etiology.
6. achieve the ability to formulate an individual treatment plan based on the "three phases" principle: 1) adaptation and tolerance determination, 2) intermediate nutrition, 3) intensified (reparative) nutrition, including correction of dehydration and associated conditions.

Practical classes requirements: classrooms equipped with multimedia equipment, blackboards, and subject guides for the discipline.

Independent work of the student: writing a report paper, preparation of a report on the lecture and working with study materials.

Methods of evaluation of acquired knowledge and skills: review of reports, discussions, case studies, tests.

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Topic No.12 Malabsorption syndrome in children. Causes. Etiology, pathogenesis. Classification. Clinical manifestations. Diagnostics. Treatment

Duration of the practical class (in academic hours):

2

Purpose of the practical class:

1. consolidate knowledge of the physiology of digestion and absorption in different parts of the gastrointestinal tract, and the role of enzymatic, transport, and barrier functions.
2. during the discussion, outline the main etiological groups of malabsorption: primary (enzymatic defects like celiac disease, lactase deficiency), secondary (post-infectious, due to pancreatitis, IBD), and impaired transport or lymphatic drainage.
3. thoroughly go over the definitions and concepts of: "malabsorption syndrome", "maldigestion", "primary and secondary lactase deficiency", "celiac disease (gluten enteropathy)", "exocrine pancreatic insufficiency", "steatorrhea", "creatorrhea".
4. study patterns of clinical presentation depending on the type of malabsorption: general (failure to thrive, dystrophy) and specific signs (characteristics of stool - polyfecal matter, steatorrhea, diarrhea; symptoms of vitamin and micronutrient deficiencies).
5. develop the skill of diagnostic search: from clinical suspicion based on history and examination to planning and interpreting key tests (coprogram, fecal elastase, breath tests, serological markers for celiac disease, endoscopy with biopsy).
6. achieve the ability to formulate basic principles of etiotropic and pathogenetic treatment: elimination diet (gluten-free, lactose-free), enzyme replacement therapy, correction of micronutrient deficiencies, and nutritional support.

Practical classes requirements: classrooms equipped with multimedia equipment, blackboards, and subject guides for the discipline.

Independent work of the student: writing a report paper, preparation of a report on the lecture and working with study materials.

Methods of evaluation of acquired knowledge and skills: review of reports, discussions, case studies, tests.

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Topic No.13 Aspects of calcium-phosphorus metabolism in children. Vitamin D metabolism. Rickets, risk factors. Pathogenesis. Classification. Clinic. Diagnostics. Principles of therapy and prevention	
Duration of the practical class (in academic hours):	2
Purpose of the practical class: 1. consolidate knowledge of the physiological role of calcium and phosphate ions, the main stages of osteogenesis and bone remodeling, as well as the age-specific requirement for vitamin D; 2. during the discussion, outline the key features of mineral metabolism in children (high turnover, positive balance, growth influence) and its endocrine regulation (PTH, calcitonin, vitamin D), as well as the main groups of risk factors for developing rickets (antenatal, nutritional, perinatal, associated with malabsorption) and the pathogenetic links leading to impaired mineralization; 3. thoroughly go over the concepts and stages of metabolism: "calcitriol (1,25-dihydroxyvitamin D)", "pre-vitamin D", the role of the renal renin-angiotensin system in the synthesis of the active form, "osteogenesis", "bone mineralization", as well as the definitions: "rickets", "osteomalacia", "hypovitaminosis D", "vitamin D-resistant rickets", and the modern classification of rickets (by period, severity, course, and variant); 4. study the patterns of changes in the requirements for calcium, phosphorus, and vitamin D during different age periods and the risk factors for developing deficiency, as well as the patterns of the evolution of clinical symptoms of rickets depending on the period of the disease (initial, peak, convalescence, residual effects) and the dynamics of laboratory indicators (calcium, phosphorus, alkaline phosphatase, PTH); 5. develop the practical skill of interpreting laboratory indicators of mineral metabolism (total and ionized calcium, phosphorus, alkaline phosphatase, parathyroid hormone) and conducting a comprehensive diagnostic search for rickets: from identifying initial symptoms and bone changes to analyzing laboratory and radiological data; 6. achieve the ability, based on a comprehensive assessment, to evaluate the risk of developing mineralization disorders (rickets, osteopenia) and formulate a plan for the comprehensive treatment of rickets, including specific therapy with vitamin D preparations, non-specific measures (nutrition, regimen, massage), and the principles of secondary prevention.	
Practical classes requirements: classrooms equipped with multimedia equipment, blackboards, and subject guides for the discipline.	
Independent work of the student: writing a report paper, preparation of a report on the lecture and working with study materials.	
Methods of evaluation of acquired knowledge and skills: review of reports, discussions, case studies, tests.	
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Topic No.14 Anemia, risk factors. Pathogenesis. Classification. Clinic. Diagnostics. Principles of therapy and prevention	
Duration of the practical class (in academic hours):	2
Purpose of the practical class: 1. consolidate knowledge of the physiological needs for iron, vitamin B12, folic acid and other hematopoietic factors in different age periods, as well as the mechanisms of erythropoiesis; 2. during the discussion, outline the main risk factors for the development of anemia in children (antenatal, nutritional, perinatal, chronic diseases, blood loss) and pathogenetic mechanisms (deficiency, hemolysis, hypoplasia); 3. thoroughly go over the definitions and concepts of: "anemia", "hypochromia", "microcytosis", "reticulocyte index", "ferritin", "transferrin saturation", and modern classification by etiology (deficiency, posthemorrhagic, hemolytic, hypoplastic) and severity. 4. study patterns of the relationship between the etiology of anemia, the dynamics of its development and clinical manifestations: from general anemic syndrome (pallor, fatigue) to specific signs (pica in iron deficiency, jaundice in hemolysis, neurological symptoms in B12-deficiency). 5. develop the skill of diagnostic search: from interpreting a complete blood count with red cell indices to planning and interpreting confirmatory tests (iron metabolism, Coombs test, hemoglobin electrophoresis, bone marrow examination). 6. achieve the ability to formulate a comprehensive treatment plan for the main types of anemia, including etiotropic therapy (iron supplementation, vitamin B12, elimination of the cause), pathogenetic support, and primary/secondary prevention strategies.	
Practical classes requirements: classrooms equipped with multimedia equipment, blackboards, and subject guides for the discipline.	
Independent work of the student: writing a report paper, preparation of a report on the lecture and working with study materials.	
Methods of evaluation of acquired knowledge and skills: review of reports, discussions, case studies, tests.	
Recommended reading: 1. Pediatric diseases : textbook Kildiyarova R. R. 2-е изд., перераб. - М. : GEOTAR-Media, 2022. - 751 p. : il. - ISBN 978-5-9704-6544-8 2. Nelson Textbook of Pediatrics, 2-Volume Set, International Edition. 22 ed. Kliegman, R.Kliegman, Robert M (Editor) , St Geme III, Joseph W Nelson Textbook of Pediatrics, 2-Volume Set, International Edition. 22 ed / - ISBN 9780323883054 3. Buehler B., Pediatrics: Developmental and Behavioral Articles / Buehler B., Bhatia J., Coppes M. et al. - Текст: электронный // Free Medical Books: http://www.freebooks4doctors.com/ [сайт]. URL : https://emedicine.medscape.com/pediatrics_general 4. Pediatrics: Developmental and Behavioral Articles / Buehler B., Bhatia J., Coppes M. et al. - Текст: электронный // Free Medical Books: http://www.freebooks4doctors.com/ [сайт]. - URL : https://emedicine.medscape.com/pediatrics_general	
Topic No.15 Vaccination schedule. Types of vaccination. Indications and contraindications for vaccination	

Duration of the practical class (in academic hours):	2
Purpose of the practical class: 1. consolidate knowledge of the basics of immunology (active/passive immunity, anamnestic response), the principles of herd immunity formation, and major vaccine-preventable diseases. 2. during the discussion, outline the main sections of the national vaccination schedule (routine and for epidemic indications), types of vaccines by composition (live attenuated, inactivated, recombinant) and their mechanism of action. 3. thoroughly go over the definitions and concepts of: "primary vaccination" and "booster vaccination", "cold chain", "post-vaccination reactions" and "adverse events", "false contraindications", "medical exemption" (absolute and temporary). 4. study patterns of forming and interpreting an individual vaccination history, the algorithm for pre-vaccination preparation (examination, temperature check), and typical timelines for the onset of post-vaccination reactions. 5. develop the practical skill of working with the vaccination schedule: determining the timing and type of the next vaccination for a child of any age, assessing vaccine compatibility and intervals between immunizations. 6. achieve the ability to assess a child's condition before vaccination, differentiate between true contraindications (severe allergic reaction, immunodeficiency) and temporary conditions (acute illness, exacerbation of a chronic disease), and explain the benefits and risks of vaccination to parents.	
Practical classes requirements: classrooms equipped with multimedia equipment, blackboards, and subject guides for the discipline.	
Independent work of the student: writing a report paper, preparation of a report on the lecture and working with study materials.	
Methods of evaluation of acquired knowledge and skills: review of reports, discussions, case studies, tests.	
Recommended reading: 1. Pediatric diseases : textbook Kildiyarova R. R. 2-е изд., перераб. - М. : GEOTAR-Media, 2022. - 751 p. : il. - ISBN 978-5-9704-6544-8 2. Nelson Textbook of Pediatrics, 2-Volume Set, International Edition. 22 ed. Kliegman, R.Kliegman, Robert M (Editor) , St Geme III, Joseph W Nelson Textbook of Pediatrics, 2-Volume Set, International Edition. 22 ed / - ISBN 9780323883054 3. Buehler B., Pediatrics: Developmental and Behavioral Articles / Buehler B., Bhatia J., Coppes M. et al. - Текст: электронный // Free Medical Books: http://www.freebooks4doctors.com/ [сайт]. URL : https://emedicine.medscape.com/pediatrics_general 4. Pediatrics: Developmental and Behavioral Articles / Buehler B., Bhatia J., Coppes M. et al. - Текст: электронный // Free Medical Books: http://www.freebooks4doctors.com/ [сайт]. - URL : https://emedicine.medscape.com/pediatrics_general	
Topic No.16 Emergency care for children. Bronchial obstruction syndrome, allergy, anaphylaxis	
Duration of the practical class (in academic hours):	2
Purpose of the practical class: 1. consolidate knowledge of the pathophysiology of bronchial obstruction, fever, and anaphylaxis in children, including age-specific features of the respiratory and immune systems; 2. during the discussion, outline the main clinical signs and criteria for severity assessment for each syndrome: signs of respiratory failure (tachypnea, retractions, SaO₂) in bronchial obstruction, "red" and "white" hyperthermia, stages and clinical manifestations of anaphylaxis;	

3. thoroughly go over the definitions and concepts of: "broncho-obstructive syndrome (BOS)", "status asthmaticus", "hyperthermic syndrome", "febrile seizures", "anaphylactic shock", "ABC algorithm", and "triage";
4. study patterns of the sequence of actions and drug therapy at the pre-hospital and hospital stages for each condition: inhaled bronchodilators and systemic steroids for BOS, antipyretics and physical cooling for hyperthermia, adrenaline, volume resuscitation and antihistamines for anaphylaxis;
5. develop the skill of conducting a rapid primary assessment (ABCDE approach), measuring vital signs (respiratory rate, heart rate, SaO₂, blood pressure), and performing urgent therapeutic interventions according to clinical protocols;
6. achieve the ability to differentiate these critical conditions from similar pathologies, manage a team in an emergency, and determine the order of actions under time pressure.

Practical classes requirements: classrooms equipped with multimedia equipment, blackboards, and subject guides for the discipline.

Independent work of the student: writing a report paper, preparation of a report on the lecture and working with study materials.

Methods of evaluation of acquired knowledge and skills: review of reports, discussions, case studies, tests.

Recommended reading:

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Topic No.17 Emergency care for children with hyperthermia, convulsive conditions

Duration of the practical class (in academic hours):

2

Purpose of the practical class:

1. consolidate knowledge of the pathophysiology of hyperthermia ("red" and "white" fever) and the differential diagnosis of convulsive conditions in children;
2. during the discussion, outline the main principles of providing care for different types of fever and seizures, as well as clear indications for hospitalization.
3. thoroughly go over the definitions and concepts of: "hyperthermic syndrome," "febrile seizures," "red" and "white" fever, "lytic mixture."
4. study patterns of the clinical presentation and dynamics of a child's condition with correctly provided emergency care.
5. develop the practical skill of rapid assessment of a patient's condition, creating a care algorithm with calculation of drug dosages, and making a decision on the need for hospitalization.

Practical classes requirements: classrooms equipped with multimedia equipment, blackboards, and subject guides for the discipline.

Independent work of the student: writing a report paper, preparation of a report on the lecture and working with study materials.	
Methods of evaluation of acquired knowledge and skills: review of reports, discussions, case studies, tests.	
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Topic No.18 Summary of the semester	
Duration of the practical class (in academic hours):	2
Purpose of the practical class: 1. consolidate knowledge of the key sections of the course: organization of pediatric care, assessment of child development, principles of infant feeding, semiotics and treatment of major childhood diseases. 2. during the discussion, outline the main integrative connections between the studied topics, demonstrating a holistic approach to the pediatric patient. 3. thoroughly go over complex or controversial clinical situations that caused the greatest difficulties during the semester. 4. study patterns of applying theoretical knowledge to solve complex situational problems. 5. achieve an objective final assessment (semester score) based on cumulative results of current control, intermediate assessment, and the final assessment event.	
Practical classes requirements: classrooms equipped with multimedia equipment, blackboards, and subject guides for the discipline.	
Independent work of the student: writing a report paper, preparation of a report on the lecture and working with study materials.	
Methods of evaluation of acquired knowledge and skills: review of reports, discussions, case studies, tests.	
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Semester No.9

Topic No.1 Anatomical and physiological characteristics of the respiratory system in children. Semiotics of respiratory diseases in children. Acute respiratory diseases in children. Etiology, pathogenesis, clinical features, differential diagnosis, treatment and prevention

Duration of the practical class (in academic hours):

2

Purpose of the practical class:

1. consolidate knowledge of the main stages of respiratory organ development, mechanisms of external respiration, as well as the anatomical and physiological characteristics and protective barriers of the upper respiratory tract in children of different ages.
2. during the discussion, outline the key anatomical and physiological features of the respiratory system in children (narrow airways, rich vascularization, etc.) and the main etiological agents of upper respiratory tract viral infections (rhinoviruses, influenza and parainfluenza viruses, etc.) with key links in pathogenesis (inflammation, edema, intoxication).
3. thoroughly go over the definitions and concepts of: "physiological tachypnea of infancy," "respiratory failure," "bronchial obstruction syndrome," "syndrome of consolidation of lung tissue," as well as "acute nasopharyngitis (rhinopharyngitis)," "acute tonsillopharyngitis," "acute laryngitis (croup)," "catarrhal and purulent inflammation," "obstructive and stenotic syndrome."
4. study the patterns of the relationship between anatomical and physiological features and the nature of respiratory disease progression (predisposition to obstruction, rapid edema) and the patterns of the clinical presentation of upper respiratory tract viral infections depending on the level of involvement (rhinitis, pharyngitis, laryngitis), the child's age, and the risk of complications (otitis media, sinusitis).
5. develop the practical skill of performing a physical examination of the respiratory system in children of different ages (inspection, palpation, percussion, auscultation) and conducting differential diagnosis: distinguishing viral from bacterial tonsillitis, croup from epiglottitis, and identifying "red flags" indicating severe progression.
6. achieve the ability to determine the leading respiratory syndrome and level of involvement based on identified symptoms (nature of cough, shortness of breath, auscultation data), as well as to formulate a comprehensive patient management plan, including syndromic therapy and the rational use of antibiotics.

Practical classes requirements: classrooms equipped with multimedia equipment, blackboards, and subject guides for the discipline.

Independent work of the student: writing a report paper, preparation of a report on the lecture and working with study materials.

Methods of evaluation of acquired knowledge and skills: review of reports, discussions, case studies, tests.

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Topic No.2 Bronchitis in children. Community-acquired pneumonia in children	
Duration of the practical class (in academic hours):	2
Purpose of the practical class: 1. consolidate knowledge of the anatomical and physiological characteristics of the lower respiratory tract in children and the etiology of acute bronchitis and community-acquired pneumonia depending on age. 2. during the discussion, outline the main clinical, laboratory, and radiological criteria for differentiating between acute simple bronchitis, obstructive bronchitis, and pneumonia. 3. thoroughly go over the definitions and concepts of: "acute (simple) bronchitis", "obstructive bronchitis", "broncho-obstructive syndrome", "community-acquired pneumonia" (focal, segmental), "respiratory failure". 4. study patterns of the disease course: the typical clinical presentation and possible complications of pneumonia (pleural effusion, destruction). 5. develop the practical skill of assessing the severity of a patient with pneumonia, creating an examination algorithm (mandatory and additional methods), and selecting initial empiric antibacterial therapy. 6. achieve the ability to justify indications for hospitalization in pneumonia and bronchitis with obstruction, and to explain the treatment and monitoring plan to parents.	
Practical classes requirements: classrooms equipped with multimedia equipment, blackboards, and subject guides for the discipline.	
Independent work of the student: writing a report paper, preparation of a report on the lecture and working with study materials.	
Methods of evaluation of acquired knowledge and skills: review of reports, discussions, case studies, tests.	
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Topic No.3 Bronchial obstruction syndrome in children and adolescents. Asthma in children and adolescents	
Duration of the practical class (in academic hours):	2

Purpose of the practical class:

1. consolidate knowledge of the pathophysiology of bronchial obstruction (inflammation, bronchospasm, edema, hypersecretion) and the specific immune mechanisms underlying allergic asthma (atopy, IgE-mediated inflammation).
2. during the discussion, outline the main clinical and functional criteria for distinguishing between episodic viral-induced bronchial obstruction, recurrent obstructive bronchitis, and the onset/confirmation of bronchial asthma across different age groups.
3. thoroughly go over the definitions and concepts of: "bronchial obstruction syndrome (BOS)", "bronchial hyperresponsiveness", "allergic (atopic) march", "asthma control and severity", "spirometry parameters (FEV1, FVC)", and "peak expiratory flow (PEF) monitoring".
4. study patterns of clinical presentation: typical triggers (allergens, viruses, exercise), symptom patterns (nocturnal/early morning symptoms, response to bronchodilators), and progression from recurrent wheezing in toddlers to classical asthma in older children.
5. develop the practical skill of taking a focused allergic and respiratory history, analyzing spirometry results, and using asthma control tools (e.g., ACT, c-ACT) to assess the patient's status.
6. achieve the ability to formulate a diagnosis according to modern classification, develop a basic stepwise treatment plan based on control level (controller vs. reliever therapy), and provide initial education on inhaler technique and self-management principles.

Practical classes requirements: classrooms equipped with multimedia equipment, blackboards, and subject guides for the discipline.

Independent work of the student: writing a report paper, preparation of a report on the lecture and working with study materials.

Methods of evaluation of acquired knowledge and skills: review of reports, discussions, case studies, tests.

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Topic No.4 Anatomical and physiological characteristics of the cardiovascular system and methods for examining the circulatory system in young and older children and adolescents. Congenital heart defects and great vessels in children

Duration of the practical class (in academic hours):

2

Purpose of the practical class:

1. consolidate knowledge of the main stages of cardiogenesis, transitional circulation, normal cardiac anatomy and hemodynamic basics, as well as age-specific norms for heart rate and blood pressure.
2. during the discussion, outline the key anatomical and physiological characteristics of the cardiovascular system in children (relative size and position of the heart, myocardial features, etc.),

as well as the main principles for classifying congenital heart defects based on the presence of cyanosis, the nature of hemodynamic disturbances, and the timing of clinical manifestation.

3. thoroughly go over the definitions and concepts of: "fetal circulation and its restructuring," "physiological tachycardia of infancy," "age-specific blood pressure percentiles," "functional (innocent) murmur," "congenital heart defect (CHD)," "shunt" (left-to-right, right-to-left), "pulmonary hypertension," "ductus-dependent circulation," "cyanosis," "oxygen saturation (SpO₂)," "hypoxemic spells."

4. study the patterns of changes in ECG parameters and echocardiography data with age, as well as the patterns of clinical presentation of major CHD groups: signs of heart failure and pulmonary overflow in left-to-right shunts; cyanosis and hypoxemia in right-to-left shunts; systolic murmur and pressure gradient in obstructive defects.

5. develop the practical skill of a comprehensive clinical examination of the cardiovascular system (inspection, palpation, percussion, auscultation) with an emphasis on identifying signs of CHD: assessment of skin color, dyspnea, pulsations, apex beat, character and radiation of murmurs, as well as the skill of correctly measuring blood pressure and recording an ECG in a child.

6. achieve the ability, based on the clinical picture, ECG, and chest X-ray findings, to suspect a CHD, determine the presumed type of hemodynamic disturbance, and assess the urgency of referral to a pediatric cardiologist/cardiac surgeon for diagnosis verification via echocardiography.

Practical classes requirements: classrooms equipped with multimedia equipment, blackboards, and subject guides for the discipline.

Independent work of the student: writing a report paper, preparation of a report on the lecture and working with study materials.

Methods of evaluation of acquired knowledge and skills: review of reports, discussions, case studies, tests.

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Topic No.5 Anatomical and physiological characteristics of the gastrointestinal tract. Semiotics of gastrointestinal diseases. Peculiarities of the course of gastrointestinal diseases in childhood

Duration of the practical class (in academic hours):

2

Purpose of the practical class:

1. consolidate knowledge of the main stages of development of the gastrointestinal tract (GIT) and the formation of its secretory, motor, absorption and barrier functions in different age periods.
2. during the discussion, outline the main AFC of the GIT in children compared to adults: relative immaturity of enzymatic systems, high permeability of the intestinal mucosa, peculiarities of gastric and intestinal motility, and characteristics of the intestinal microbiocenosis.

3. thoroughly go over the definitions and concepts of: "physiological dyspepsia of newborns", "physiological regurgitation", "malabsorption syndrome", "malnutrition syndrome", "diarrheal syndrome", "constipation syndrome", "abdominal pain syndrome", "hepatolienal syndrome".
4. study patterns of the relationship between AFC of the GIT and the characteristics of pathological processes in children: a tendency to rapid development of dehydration with diarrhea, severity of intoxication, and high frequency of functional disorders.
5. develop the skill of a detailed physical examination of the digestive organs: examination of the oral cavity, palpation of the abdomen (superficial and deep) in children of different ages, percussion, auscultation, and identification of key pathological symptoms (tension, pain, enlargement of organs).
6. achieve the ability to identify and differentiate the main gastrointestinal syndromes based on history and clinical examination, determining the probable level of damage (esophagus, stomach, intestines, hepatobiliary system) and the direction of the diagnostic search.

Practical classes requirements: classrooms equipped with multimedia equipment, blackboards, and subject guides for the discipline.

Independent work of the student: writing a report paper, preparation of a report on the lecture and working with study materials.

Methods of evaluation of acquired knowledge and skills: review of reports, discussions, case studies, tests.

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Topic No.6 Diseases of the stomach and duodenum. Diseases of the biliary system (biliary tract dysfunction, cholecystitis), pancreas and liver (pancreatitis, hepatitis)

Duration of the practical class (in academic hours):

2

Purpose of the practical class:

1. consolidate knowledge of the anatomical and physiological features of the stomach, duodenum, biliary tract, pancreas, and liver that determine the specifics of their pathology in children.
2. during the discussion, outline the main etiological factors and pathogenetic mechanisms of gastritis, duodenitis, peptic ulcer disease, biliary dysfunction, cholecystitis, pancreatitis, and hepatitis in the pediatric population.
3. thoroughly go over the definitions and concepts of: "chronic gastroduodenitis", "peptic ulcer disease" (stomach, duodenum), "biliary dyskinesia (BD)" (hypo- and hyperkinetic types), "cholecystitis", "reactive and chronic pancreatitis", "hepatitis" (infectious, toxic, autoimmune).
4. study patterns of the clinical course in children: often blurred or atypical symptoms, dominance of autonomic and pain syndromes, high frequency of combined pathology of the gastroduodenal zone and biliary tract.

5. develop the skill of collecting a targeted anamnesis (character of pain, connection with food, dyspeptic symptoms), interpreting the results of laboratory tests (amylase, lipase, liver enzymes, markers of infections) and instrumental methods (ultrasound of the abdominal organs, FGDS).
6. achieve the ability to formulate a differential diagnosis, determine a basic examination plan, and justify the principles of complex therapy, including diet, pharmacological correction (proton pump inhibitors, prokinetics, choleretics, hepatoprotectors, enzymes) and non-drug methods.

Practical classes requirements: classrooms equipped with multimedia equipment, blackboards, and subject guides for the discipline.

Independent work of the student: writing a report paper, preparation of a report on the lecture and working with study materials.

Methods of evaluation of acquired knowledge and skills: review of reports, discussions, case studies, tests.

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Topic No.7 Organs of urine formation and excretion, anatomical and physiological features. Peculiarities of the course of kidney diseases in children (UTI, acute pyelonephritis, etc.) Acute and chronic glomerulonephritis. CRF

Duration of the practical class (in academic hours):

2

Purpose of the practical class:

1. consolidate knowledge of urinary system embryogenesis, stages of nephron maturation, physiological processes of urine formation, as well as the anatomical and physiological characteristics (APC) that determine the specifics of pathology (pyelonephritis, glomerulonephritis) in childhood.
2. during the discussion, outline the main APC of the urinary system organs in children, the key etiological factors and pathogenetic mechanisms of urinary tract infections (UTIs), acute pyelonephritis, acute and chronic glomerulonephritis (AGN, CGN), as well as the stages of chronic kidney disease (CKD).
3. thoroughly go over the definitions and concepts of: "physiological oliguria of the newborn", "transient proteinuria", "glomerular filtration rate (GFR)", "urinary tract infection (UTI)", "acute pyelonephritis", "acute nephritic/nephrotic syndrome", "chronic glomerulonephritis", "chronic kidney disease (CKD)".
4. study the patterns of the relationship between APC and the development of urological pathology (risk of UTIs, hydronephrosis), as well as the patterns of the clinical presentation depending on age (non-specific symptoms in infants, the classic triad of AGN) and the dynamics of CKD stages.
5. develop the practical skill of collecting a history of urination, palpating the kidneys, interpreting the results of a general urinalysis and key laboratory tests (leukocyturia, bacteriuria, hematuria, proteinuria, creatinine, GFR) taking into account age-specific norms.

6. achieve the ability to differentiate physiological and pathological conditions, formulate a preliminary diagnosis based on clinical and laboratory data, determine management tactics (indications for hospitalization, empiric antibiotic therapy for UTIs/pyelonephritis), and understand the basic principles of long-term follow-up of a child with CKD (diet, blood pressure control, prevention of complications).

Practical classes requirements: classrooms equipped with multimedia equipment, blackboards, and subject guides for the discipline.

Independent work of the student: writing a report paper, preparation of a report on the lecture and working with study materials.

Methods of evaluation of acquired knowledge and skills: review of reports, discussions, case studies, tests.

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Topic No.8 Hereditary diseases of childhood with systemic manifestations. Summary of the semester

Duration of the practical class (in academic hours):

2

Purpose of the practical class:

1. consolidate knowledge of the basic patterns of inheritance (autosomal dominant/recessive, X-linked), types of mutations, and principles of cytogenetic and molecular genetic diagnosis.
2. during the discussion, outline the main groups of hereditary diseases with systemic manifestations: chromosomal syndromes (Down, Edwards, Patau), monogenic diseases affecting connective tissue (Marfan, Ehlers-Danlos syndromes), metabolic disorders (mucopolysaccharidoses, cystic fibrosis, phenylketonuria), and neurocutaneous syndromes (neurofibromatosis, tuberous sclerosis).
3. thoroughly go over the definitions and concepts of: "hereditary disease" vs. "congenital malformation", "genotype" and "phenotype", "expressivity" and "penetrance", "dysmorphic features/stigmata", "screening for hereditary metabolic diseases" (neonatal screening), "genetic counseling".
4. study patterns of the clinical presentation: identification of characteristic phenotypic "portraits" and combinations of pathologies of multiple organ systems (skeletal, cardiovascular, nervous, etc.) suggesting a genetic etiology.
5. develop the skill of forming diagnostic suspicion based on a combination of dysmorphias, developmental delay, and pathology of several organs, and understanding the algorithm for referring a patient to a geneticist (family tree, specialized tests).
6. achieve a comprehensive assessment of the level of mastery of the semester's material through a final control event, which includes testing knowledge of key topics: organization of pediatric

care, development assessment, nutrition, major childhood diseases (respiratory, cardiovascular, renal, hematological), and emergency conditions
Practical classes requirements: classrooms equipped with multimedia equipment, blackboards, and subject guides for the discipline.
Independent work of the student: writing a report paper, preparation of a report on the lecture and working with study materials.
Methods of evaluation of acquired knowledge and skills: review of reports, discussions, case studies, tests.
Recommended reading: 1. Pediatric diseases : textbook Kildiyarova R. R. 2-е изд., перераб. - М. : GEOTAR-Media, 2022. - 751 p. : il. - ISBN 978-5-9704-6544-8 2. Nelson Textbook of Pediatrics, 2-Volume Set, International Edition. 22 ed. Kliegman, R.Kliegman, Robert M (Editor) , St Geme III, Joseph W Nelson Textbook of Pediatrics, 2-Volume Set, International Edition. 22 ed / - ISBN 9780323883054 3. Buehler B., Pediatrics: Developmental and Behavioral Articles / Buehler B., Bhatia J., Coppes M. et al. - Текст: электронный // Free Medical Books: http://www.freebooks4doctors.com/ [сайт]. URL : https://emedicine.medscape.com/pediatrics_general 4. Pediatrics: Developmental and Behavioral Articles / Buehler B., Bhatia J., Coppes M. et al. - Текст: электронный // Free Medical Books: http://www.freebooks4doctors.com/ [сайт]. - URL : https://emedicine.medscape.com/pediatrics_general

4. GUIDELINES FOR CONTINUOUS AND INTERIM ASSESSMENT

Table 3. Guidelines for Conducting Continuous and Interim Assessment during **B1.C.28 Pediatrics** Course

Type of assessment	Assessment format
Continuous assessment	- oral/written classroom questioning: at the beginning of each practical class on the topic of the previous lecture / practical class; - evaluation of practical tasks: assessment of completion and results of tasks assigned during classes (working with case studies, filling out tables, analyzing tests, calculating nutrition, interpreting analyses). - individual assignments: assessment of reports, essays, and presentations on given topics. - "pediatrician's diary": regular assessment of the quality of maintaining a supervision history, including medical history, examination data, and follow-up plan. - continuous testing: conducting test control after completing major thematic sections (e.g., "Nutrition of Children," "Pathology of Infants," "Respiratory Diseases").
Interim certification	8th Semester: Conducted in the form of a pass/fail test. Includes an oral interview or written test covering the main topics of the semester (organization of pediatric care, child nutrition, physiology and pathology of infants and young children). The result is considered based on the results of continuous assessment and the final test. 9th Semester: Conducted in the form of a written exam. The exam ticket includes: 1. Theoretical question on the pathology of organs and systems in older

	children.
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2. Clinical case requiring diagnosis, differential diagnosis, and development of a management plan.

The exam allows for a comprehensive assessment of the development of professional competencies and learning outcomes for the entire discipline.

5 ASPECTS OF THE IMPLEMENTATION OF THE COURSE FOR STUDENTS WITH DISABILITIES AND SPECIAL NEEDS

5.1. Availability of accessible environment

For students with disabilities and special needs, if a written application is submitted, lectures and practical classes are carried out taking into account health limitations, individual capabilities and medical status (hereinafter referred to as individual characteristics) of the student. Compliance with the following general requirements is ensured: teaching aids for collective and individual use are provided, required technical assistance is provided by an assistant, buildings and premises where lectures and practical classes are taking place meet accessibility requirements, other arrangements lack of which makes it impossible or difficult to master the discipline are made.

5.2. Compliance with general requirements

When lectures and practical classes are carried out at the written application of the student, the following general requirements are met: lectures and practical classes for students with disabilities and special needs take place at the same location as for students who do not have disabilities, if this does not cause difficulties for students; an assistant (assistants), who provide(s) students with the necessary technical assistance taking into account individual characteristics of the student, is (are) provided; necessary teaching aids are provided, taking into account individual characteristics of the student.

5.3. Availability of the internal policies and procedures of FSBEI HE PSMU of the Ministry of Health of Russia to students with disabilities in a form accessible to them.

All internal policies and procedures of FSBEI HE PSMU of the Ministry of Health of Russia concerning the discipline are made available to students with disabilities in a form accessible to them.

5.4. Increase in the duration of interim assessment of students with disabilities and special needs in relation to the established duration

Format of the interim assessment of academic performance within the scope of the discipline for students with disabilities and special needs is selected taking into account individual characteristics (orally, by writing on paper, by typing on a computer, as a test, etc.). The duration of the interim assessment in relation to the established duration is increased at the written application of the student with disabilities. Time limit for the student's preparation for the test is increased by at least 0.5 hours

6. STAFFING REQUIREMENTS OF THE DISCIPLINE

Academic teaching personnel that ensure the implementation of the discipline education process meet the requirements of the Federal State Educational Standard of Higher Education for the **31.05.01 General Medicine** specialty; list of the aforementioned personnel is available on the website of the educational organization.

