

**MINISTRY OF HEALTH OF THE REPUBLIC OF BELARUS
EDUCATIONAL INSTITUTION
BELARUSIAN STATE MEDICAL UNIVERSITY**



APPROVED
by First Vice-Rector, Professor
S.V. Gubkin
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МИНСК

PEDIATRIC INFECTIOUS DISEASES

**Curriculum of higher educational institution
in the educational discipline for the specialty:**

1-79 01 01 General Medicine

Minsk, BSMU 2016

Curriculum is based on the standard educational program “Pediatric Infectious Diseases”, approved August 31, 2016, registration # ТД-Л 555/тип.

COMPILERS:

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RECOMMENDED FOR APPROVAL:

by the Pediatric Infectious Diseases Department of the Educational Institution
“Belarusian State Medical University”
(protocol # 3 of November 12, 2016);

by the Methodological Commission of Pediatric disciplines of the Educational
Institution “Belarusian State Medical University”
(protocol # 2 of 13.10.2016)

EXPLANATORY NOTE

«Pediatric Infectious Diseases» is an academic discipline focusing on systematic scientific knowledge and methods of diagnosis, treatment and prevention of children's infectious diseases.

The curriculum for the academic discipline "Pediatric infectious diseases" aims to explore the latest scientific data on the etiology, pathogenesis, diagnosis, treatment and prevention of the most common children's infections. Infectious diseases in children have its differences from the current diseases in adults, and the proportion of infectious diseases among children is higher than among the adult population. This curriculum includes the latest scientific data on the etiology, pathogenesis, diagnosis, treatment and prevention of the most common infectious diseases among children.

The aim of teaching and learning the discipline "Pediatric Infectious Diseases" is to provide the students with the scientific knowledge about modern diagnosis, treatment and prevention of infectious diseases, taking into account the features of the clinical course of the disease, depending on the child's age and reactivity.

The feature of the new curriculum is to set objectives of the study and teaching of discipline aimed at developing students' academic, social, personal and professional competence.

The purpose of teaching and learning the discipline consists in the formation of obtaining and getting to the student scientific knowledge about modern diagnosis, treatment and prevention of infectious diseases, taking into accounts the features of the clinical course of the disease, depending on the child's age and reactivity.

The tasks of studying the discipline are to develop the students' academic competences, based on the ability to self-search educational and information resources, as well as acquire and understand the knowledge of:

- infectology basic concepts: infectious process, the source of infection, transmission mechanisms, immunity formation, preventive measures;
- causes and mechanisms of the most common children's infectious diseases;
- main ways of typical syndromes of children's infectious diseases manifest themselves;
- factors leading to generalization of the infectious process resulting in severe complications;
- characteristics of the course of infants' diseases;
- treatment of infectious diseases and giving first aid to children in emergency conditions;
- principles of specific prevention of infectious diseases (indications and contraindications to vaccination, vaccination calendar).

The tasks of teaching the discipline include the formation of students' social, personal and professional competences, based on the knowledge and application of:

- the methodology of epidemiological analysis of infectious disease development among children;
- methods of diagnosis, treatment and prevention of children's infectious diseases.

Features of training doctors in the discipline 1-79 01 01 General Medicine require purposeful study of genesis and spread of the diseases among children, main clinical symptoms of infectious diseases in children of various age groups, modern methods of diagnosis and treatment, first aid algorithms in life-threatening states as well as the methods of special prevention.

Teaching and successful learning of the discipline "Pediatric Infectious Diseases" is carried out on the basis of the knowledge and skills previously acquired by the students in the following disciplines:

General Chemistry. Electrolyte composition of blood, blood buffer systems. Acid-base status.

Medical Biology and General Genetics. The concept of ecosystem knowledge of the general laws of wildlife development and environmental influence on the hereditary factors formation.

Biological Chemistry. Molecular basis for pathological processes development, the basic principles of biochemical approaches to diagnosis.

Human Anatomy. Structure features of children organs and tissues, the research of the development of this structure in relation to its function in the body and the general environment.

Histology, Cytology, Embryology. The mechanisms of histogenesis and organogenesis, tissue homeostasis, the limits to tissue changeability. General patterns of tissue and organ reaction to external impact. Structural foundation of homeostasis.

Normal Physiology. The principles of functioning of cells, tissues, organs and systems and the mechanisms of their regulation. Functional parameters and their normal ranges for a healthy organism that are used in practical medicine.

Microbiology, Virology, Immunology. Normal microflora of a human body. Microbiological basics of anti-microbial measures. Etiology, pathogenesis, immunity, microbiological diagnosis, specific therapy and prevention of bacterial, virus, fungal and protozoan diseases.

Propedeutics of Internal Diseases. Examination approaches, clinical and laboratory parameters evaluation.

Pathological Anatomy. General pathological processes. Alteration. Degeneration and necrosis. Circulatory disorder. Inflammation. Compensatory and adaptive processes. Immunopathology.

Pathological Physiology. General patterns and mechanisms of development of pathological processes, compensation mechanisms of disturbances of functions and structures of various organs and systems.

Pathological Physiology. General patterns and mechanisms of pathological processes development, compensation mechanisms of interruption of functions and structures of various organs and systems.

Pharmacology. Pharmacological properties of drugs and the basis of clinical application of drugs. Directions for the use of drugs.

Clinical Pathological Physiology. The mechanisms of genesis, development and outcomes of pathological processes, most widespread diseases and diseased states, pathological rationale of the principles of their diagnosis, treatment and

prevention. The mechanisms of compensation of structural and functional interruption. The principles of formulation diagnosis of a disease.

Epidemiology and Military Epidemiology. The science of epidemiologic process. Anti-epidemic measures and tools. Immunoprophylaxis of human infectious diseases. Organization of anti-epidemic public security. Epidemiological diagnosis. Epidemiological surveillance of enteric infections, aerosol infections, blood infections, infections of external tissues and zoonosis.

Neurology and Neurosurgery. Examination methods in neurology and neurosurgery.

As a result of studying the discipline «Pediatric Infectious Diseases» the student should know:

- etiology, epidemiology, classification, pathogenesis, clinical symptoms and syndromes of the most common infectious diseases in children and adolescents;
- clinical and epidemiological directions, rules of hospitalization of children with infections and epidemiological regime (inpatient and outpatient);
- specificity of laboratory diagnosis of children's infectious diseases and differential diagnostics with other types of diseases that have similar clinical picture;
- main complications and outcomes of infections in children, the principles of treatment of children with infectious diseases;
- clinical symptoms and special characteristics of emergency conditions in children and adolescents with infectious diseases;
- the principles and methods of general and special prevention of children's infectious diseases; vaccination calendar and organization of outpatient immunoprophylaxis;

be able to:

- perform clinical examination of a child with infectious pathology, develop the examination plan, identify the need for hospitalization of a child with an infection;
- evaluate the results of examination of patients with children's infections, deliver a clinical diagnosis;
- fill in medical documents in cases of infectious diseases;
- organize preventive measures in infection outbreak;

master:

- methods of epidemiological analysis of development of an infection in a child;
- methods of identifying the clinical symptoms, atypical, severe and complicated forms of infections;
- contemporary methods of clinical, instrumental and laboratory examination, methods of inpatient and outpatient giving first medical aid in life-threatening conditions;
- methods of treatment and rehabilitation of recovering children;
- methods and form of sanitary education of the population.

The structure of the curriculum in the educational discipline "Pediatric Infectious Diseases" consists of 11 topics.

Total number of academic hours is -74. Classroom hours: lectures - 12 hours, practical classes 35 hours, self-study, case study write-up - 27 hours.

Current assessment is carried out according to the syllabus of the specialty in the form of a credit 8 semester.

Form of higher education – full-time.

ALLOCATION OF ACADEMIC TIME ACCORDING TO SEMESTERS OF STUDY

Code, name of the specialty	semester	Number of academic hours					Forms of current assessment
		total	in-class	including		out-of-class self-studies	
				lectures	laboratory studies (practical classes and seminars)		
1-79 01 01 General Medicine	8	74	47	12	35	27	credit

THEMATIC PLAN

Topic name	Number of in-class hours	
	lectures	practical classes
1. Introduction to Pediatric Infectology	0,5	0,5
2. Measles	0,5	1,5
3. Rubella	0,5	1,5
4. Scarlet Fever	0,5	1,5
5. Pertussis	1	2,5
6. Parotitis Infection	1	2,5
7. Diphtheria. Croup in Children	1	5
8. Influenza in Children and Acute Respiratory Infections of Non-Influenza Etiology	1	5
9. Meningococcal Disease	2	5
10. Herpes Infections in Children	2	5
11. Acute Intestinal Infections in Children	2	5
Total hours	12	35

CONTENT OF THE EDUCATIONAL MATERIAL

1. Introduction to Pediatric Infectology

Role of the Belarusian scientists in the development of pediatric infectious service. Morbidity and mortality in the Republic of Belarus from infectious diseases in children. Infection. Features of infection in children. Clinical characteristics of the infectious disease. The main syndromes in pediatric infectious diseases. Approaches in diagnosis of infectious diseases.

The role of Belarusian scientists in the development of pediatric infectious service. Morbidity and mortality from children's infections in the Republic of Belarus. Infections. Characteristics of children's infections. Clinical characteristics of infectious diseases. The main syndromes of pediatric infectious diseases. Approaches in diagnosis of infectious diseases.

Vaccination calendar. Medical contraindications to vaccination.

Introduction to inpatient antiepidemic regime. The rules of biologic material collecting in patients with infectious diseases for laboratory tests. Interpretation of the results of bacteriological and serological tests.

2. Measles

Etiology. Epidemiology. Contemporary epidemic features. Pathogenesis. Clinical classification. Clinical picture at each stage of the disease. Characteristics of the course of the disease among infants and vaccinated children. Complications.

Laboratory methods. Diagnosis and differential diagnosis of measles. Treatment. Indications for hospitalization.

Prevention of measles: specific and nonspecific. Organizing of anti-epidemic measures at the source of infection.

Management of the patients. Analysis of clinical cases of measles. Indications and contraindications to vaccination. The plan for anti-epidemic measures at the source of infection.

3. Rubella

Etiology. Epidemiology. Contemporary epidemic features.

Pathogenesis. Clinical classification. Pillar clinical symptoms of congenital and acquired rubella. Complications. Laboratory methods. Diagnosis and differential diagnosis of rubella. Treatment. Prevention of rubella. Organization of anti-epidemic measures at the pocket of infection.

Management of the patients. Analysis of clinical cases of congenital and acquired rubella. Development of examination and treatment plans for patients with acquired rubella. Indications and contraindications to vaccination. The plan for anti-epidemic measures at the outbreak of infection.

4. Scarlet Fever

Etiology. Epidemiology. Pathogenesis. Special characteristics of anti-toxic and antibacterial immunity during scarlet fever. Clinical classification. Clinical picture of typical and atypical forms of the disease. Complications. Laboratory methods. Differential diagnosis. Treatment. Indications for hospitalization. Organization of anti-epidemic measures at the outbreak of infection.

Management of the patients. Analysis of clinical cases of patients with scarlet fever. Development of examination and treatment plans for patients with scarlet fever. Writing out prescriptions. Prevention of early and delayed sequela. Management of the patient recovering from streptococcal infection and the rules of admission to children groups.

5. Pertussis

Etiology. Epidemiology. Contemporary epidemic special features. Pathogenesis. Clinical classification. Clinical pictures at various stages of the disease. Special features of the disease development in infants and vaccinated children. Complications. Laboratory methods. Differential diagnosis. Treatment. Indications for hospitalization. Organization of anti-epidemic measures at the outbreak of infection.

Management of the patients. Analysis of clinical cases of pertussis. Developing examination and treatment. Writing out prescriptions. Indications and contraindications to vaccination. Organization of anti-epidemic measures at the outbreak of infection.

6. Parotitis Infection

Etiology. Epidemiology. Pathogenesis. Forms of disease, clinical picture. Laboratory methods. Differential diagnosis. Treatment. Indications for hospitalization. Prevention of measles: specific and nonspecific. Organization of anti-epidemic measures at the outbreak of infection.

Management of the patients. Analysis of clinical cases of various forms of parotitis infection. Development of examination and treatment of patients with various forms of parotitis. Indications and contraindications to vaccination. Organization of anti-epidemic measures at the outbreak of infection.

7. Diphtheria. Croup in Children

Etiology. Epidemiology. Contemporary epidemic characteristics. Pathogenesis. Clinical classification. Clinical forms of oropharynx diphtheria. Diphtheria of airway (croup). Rare forms of diphtheria: diphtheria of nose, diphtheria of eyes, diphtheria of skin, diphtheria of genitals and etc. Laboratory methods. Differential diagnostics of nasopharynx diphtheria. Treatment of diphtheria patients and sanitation of bacteria carriers. Diphtheria prevention: special and non-special. Organization of anti-epidemic measures at the outbreak of infection.

Croup syndrome in children, etiological factors, pathogenesis. Clinical features of acute laryngotracheitis in children. Larynx stenosis – vera and spuria croup. Indicators of severity of larynx stenosis. Differential diagnosis of croup syndrome. Therapeutic approaches to the management of patients with the syndrome of croup. Emergency and intensive care in croup.

Management of the patients with acute constrictive laryngotracheitis. Analysis of clinical cases of diphtheria. Development of examination and treatment plans of patients with diphtheria, croup syndrome, diphtheria bacillus carriers. The method of anti-diphtheria serum injection. Emergency treatment of patients with larynx stenosis (vera and spuria croup). Prescriptions. Indications and contraindications to influenza vaccination. The plan of anti-epidemic measures at the outbreak of infection.

8. Influenza in Children and Acute Respiratory Infections of Non-Influenza Etiology

The etiological structure of modern acute respiratory infections (ARI) in children. Influenza epidemics and pandemics. The main syndromes of ARI (rhinitis, pharyngitis, tonsillitis, adenoids, laryngitis, laryngotracheitis, bronchitis, bronchiolitis, pneumonia). Clinical symptoms of influenza, respiratory syncytial virus infection, parainfluenza, adenovirus, rhinovirus infections, mycoplasmal and chlamydial infections. Diagnosis and treatment of patients with ARI. Indications for hospitalization. Treatment of ARI. Prevention of ARI at the present stage.

Management of the patients with ARI. Development of examination and treatment plans of patients with ARI. Prescriptions. Indications and contraindications to influenza vaccination. The plan of anti-epidemic measures at the outbreak of infection.

9. Meningococcal Disease

Etiology. Epidemiology. Pathogenesis. Clinical classification of meningococcal infection. Localized forms of meningococcal infection (nasopharyngitis, bacteriocarrier) and their role in the spread of infection. Generalized forms of meningococcal infection: purulent meningitis, meningococemia, combined forms. Complications. Laboratory methods. Differential diagnosis. Treatment depending on the forms of the disease, indications for admission to hospital. Meningococcal infection prevention. Organization of anti-epidemic measures at the outbreak of infection.

Management of the patients with meningitis. Analysis of clinical cases of meningococemia, purulent meningitis. Development of examination and treatment plans of patients with meningococemia, purulent meningitis. Evaluation of cerebrospinal fluid tests. First medical aid to the patients with meningococemia, meningitis at pre-hospital stage. The plan of anti-epidemic measures at the outbreak of infection.

10. Herpes Infections in Children

Etiology, herpes viruses classification. Epidemiology. Classification of diseases caused by herpes viruses, clinical pictures of various types of herpes virus (localized and generalized forms of herpes infection caused by type 1 and 2 virus, chicken pox, herpes zoster, glandular fever, acquired and inherent cytomegaloviral infection, exanthem subitum, the diseases caused by human herpes of type 7 and 8). Laboratory methods. Treatment principles of diseases caused by herpes viruses, indication to hospitalization. Prevention of herpes infection in children. Organization of anti-epidemic measures at the outbreak of infection.

Management of the patients with herpes stomatitis, glandular fever, chicken pox. Haemogram interpretation. Development of examination and treatment plans of infectious diseases caused by various herpes viruses. The plan of anti-epidemic measures at the outbreak of various herpes infections.

11. Acute Intestinal Infections in Children

The etiology of acute intestinal infections (AII) in children nowadays. Epidemiology. The main syndromes of AII in children. Pathogenesis of secretory and invasive diarrhea. Development of toxicosis and exicosis during AII in children. Clinical symptoms of AII in children: dysentery, salmonellosis, escherihia coli infection, viral diarrhea. Laboratory methods. Treatment. Rehydration principles. Indication for antibacterial therapy in children. Prevention of AII in children.

Management of the patients with salmonellosis, rotavirus infection. Corpogram interpretation during AII. Development of examination and treatment plans of AII. Prescriptions. The plan of anti-epidemic measures at the outbreak of AII.

EDUCATIONAL DISCIPLINE CURRICULAR CHART

Section, topic #	Topic name	number of hours		Self-studies	literature	Forms of control
		lectures	practical classes			
1.	Introduction to Pediatric Infectology. Measles. Rubella. Scarlet Fever	2	5	4	1 -7, 9	Interviews, tests, cases
2.	Pertussis. Parotitis Infection	2	5	4	1 - 5	Interviews, tests, cases
3.	Diphtheria. Croup in Children	1	5	3	1 – 5	Interviews, tests, practical exercises with oral defense
4.	Influenza in Children and Acute Respiratory Infections of Non-Influenza Etiology	1	5	4	1 – 5, 10, 11	Interviews, tests, seminar reports, article/report publications
5.	Meningococcal Disease	2	5	3	1 - 5	Interviews, tests, cases
6.	Herpes Infections in Children	2	5	4	1 – 5, 8, 9	Interviews, tests, written educational case histories, seminar reports
7.	Acute Intestinal Infections in Children	2	5	4	1 - 5	Tests, questioning, oral credit

INFORMATION AND INSTRUCTIONAL UNIT

LITERATURE

Summary:

1. *Mitsura, V.M., Zhavoronok S.V., Astapov A.A. Pediatric infections / V.M. Mitsura, S.V. Zhavoronok, A.A. Astapov // Minsk, BSMU. 2013. 92 p.*

General:

2. *Infectious diseases, children's infections, epidemiology / V.M. Tsyrkunov [et al.]. - Grodno awarded by the GSMU, 2011. - 106 p.*
3. *Liopo, T.V., Kravchuk U.V. Infectious diseases in children / T.V. Liopo, U.V. Kravchuk. - Grodno, 2013. - 26 p.*
4. *Pediatric Infectious Diseases / S.O. Kramarev [et al.]. - Kyiv, AUS Medicine Publishing. – 2015. – 238 p.*
5. *Red Book'Atlas of Pediatric Infectious Diseases, 2nd edition. Edited by C.J. Baker. American Academy of Pediatrics, 2013. – 675 p.*
6. *The Model Plan Of Examination Of The Patient And Writing Of «The Medical History Of The Stationary Patient» On Pediatric Infectious Diseases: учеб.-метод. пособие / А.А.Астапов, Р.Н. Манкевич, И.Н. Ластовка. – Мн.: БГМУ, 2015.- 20 с.*
7. *Астапов, А.А. Скарлатина у детей: учеб.-метод. пособие / А.А. Астапов, Р.Н. Манкевич. – Минск: БГМУ, 2014. – 25 с.*
8. *Кудин, А.П. ВЭБ-инфекция у детей: уч-методич. пособие / А.П. Кудин. – Минск, БГМУ, 2011. – 29 с.*
9. *Кудин, А.П. Инфекционные экзантемы у детей. Методические рекомендации. / А.П. Кудин. – Минск, БГМУ, 2011. – 29 с.*
10. *Респираторный синдром при инфекционных заболеваниях у детей: учеб.-метод. пособие / Е.Н. Сергиенко, А.А. Астапов. – Минск: БГМУ, 2015. – 46 с.*
11. *Сергиенко, Е.Н. Дифференциальная диагностика респираторного синдрома у детей: учеб.-метод. пособие / Е.Н. Сергиенко, А.А. Астапов. – Минск: Гирос-Н, 2015. – 44 с.*

LIST OF AVAILABLE DIAGNOSTIC TOOLS

Assessment forms:

1. Oral forms:
 - interviews;
 - seminar reports;
 - oral credits;
 - cases.

2. Written forms:

- tests;
- questioning;
- written educational case histories;
- article/report publications.

3. Oral-written forms:

- practical exercises with oral defense;
- cases.

4. Technical forms:

- computer tests.

**PROTOCOL OF THE CURRICULUM APPROVAL
BY OTHER DEPARTMENTS**

Title of the discipline requiring approval	Department	Amendments to the curriculum of the academic discipline	Decision of the department that composed the curriculum (date, protocol #)
1. Infectious Diseases	Infectious Diseases	Amendments are not	protocol # 3 of November 12, 2016
2. Epidemiology and Military Epidemiology	Epidemiology	Amendments are not	protocol # 3 of November 12, 2016

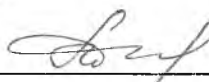
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O.A.
Preobrazhenskaya

Curriculum content, composition and accompanying documents comply with
established requirements.

Dean of the Medical Faculty for
International Students
31.10 2016


V.V. Davydov


Methodologist of Educational
Institution
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University"
31.10 2016



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