

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

Контрольный  
экземпляр

APPROVED  
by First Vice-Rector, Professor  
I.N.Moroz  
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Reg. # UD-6.04/23 24/edu. sub.

TROPICAL AND PARASITIC DISEASES

Curriculum of educational institution in the educational discipline for the  
specialty 1-79 01 01 «General Medicine»  
Sub-Residency «General Clinical Practice»

Minsk 2023

Curriculum is based on the educational program of educational institution in the educational discipline «Tropical and parasitic diseases» for the Sub-Residency «General Clinical Practice (for foreign citizens)», approved 11.08.2023, registration # УД-Л 04/2324 уч. год.

**COMPILERS:**

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**RECOMMENDED FOR APPROVAL:**

by the Department of Infectious Diseases of the Educational Institution «Belarusian State Medical University»  
(protocol № 13 of 30.06.2023);

by the Scientific and Methodological Council of the Educational Institution «Belarusian State Medical University»  
(protocol # 7 of 10.08.2023)

## EXPLANATORY NOTE

«Tropical and parasitic diseases» is the educational discipline containing systematized scientific knowledge of the etiology, epidemiology, pathogenesis, clinical manifestations, diagnostic methods, treatment and prevention of infectious and non-infectious diseases that are common in the tropical and subtropical world zones.

The purpose of teaching the discipline «Tropical and parasitic diseases» of the Sub-Residency «General Clinical Practice (for foreign citizens)» is the formation of students' academic, social, personal and professional competencies to provide medical care to patients with communicable and non-communicable diseases that are common in the tropics.

The tasks of teaching the discipline are to form students' scientific knowledge necessary for:

- diagnostics of tropical and parasitic diseases based on anamnestic, clinical and laboratory and instrumental methods of research;

- differential diagnosis with other infectious and non-infectious diseases occurring with similar symptoms, based on their main syndromes;

- etiotropic and pathogenetic treatment of tropical infectious diseases;

- predicting the development and diagnosis of emergency conditions in tropical diseases and the provision of emergency medical care;

- carrying out specific and nonspecific prevention of tropical diseases;

- ensuring epidemiological safety in the provision of medical care;

- provision of medical care and organization of anti-epidemic measures in emergency situations related to the spread of tropical diseases.

Teaching and successful study of the discipline «Tropical and parasitic diseases» of the Sub-Residency «General Clinical Practice (for foreign citizens)» is carried out on the basis of the knowledge and skills acquired by the student in sections of the following academic disciplines:

Histology, Cytology, Embryology. Pathological changes observed in various infectious diseases and underlying their clinical manifestations.

Dermatovenereology. Differential diagnosis of skin symptoms observed in infectious diseases, with manifestations of dermatovenereological pathology.

Microbiology, Virology, Immunology. Properties of pathogens of infectious diseases (morphological, tinctorial, cultural, biochemical, toxigenicity, factors of invasion and aggression).

Pathological Physiology. Pathogenesis of infectious diseases, its effect on the clinical picture. Principles of pathogenetic treatment of infectious diseases and emergency conditions.

Clinical laboratory diagnostics. Interpretation of the results of biochemical studies of biological fluids.

Biological Chemistry. Interpretation of the results of biochemical studies of biological media. Molecular mechanisms of action of toxins, other factors of invasion and aggression, as well as antibiotics, antiviral, antifungal, antiprotozoal and anthelmintic drugs.

Clinical pharmacology. Mechanisms of action of antibacterial, antiviral, antifungal, antiprotozoal and anthelmintic drugs.

Propaedeutics of Internal Diseases. Principles and methods for the collection of anamnesis and physical examination of patients.

Otorhinolaryngology. Otorhinolaryngological manifestations of infectious diseases, diagnosis and treatment. Differential diagnosis of somatic lesions of otorhinolaryngological organs with infectious lesions.

Ophthalmology. Ophthalmological manifestations of infectious diseases, their diagnosis and treatment.

Internal Diseases. Differential diagnosis of clinical manifestations of infectious and somatic diseases.

Surgical Diseases. Differential diagnosis of clinical manifestations of infectious and surgical diseases (symptoms of intestinal infections, acute abdominal surgical pathology, etc.).

Infectious Diseases. Etiology, pathogenesis, clinical presentation, diagnosis, treatment and prevention of ubiquitous infectious diseases.

Epidemiology. Regularities and features of the epidemic process in infectious diseases, organization of anti-epidemic measures, immunoprophylaxis of infectious diseases, disinfection and sterilization.

Radiodiagnosis and Radiotherapy. Interpretation of the results of ultrasound, computed tomography, magnetic resonance imaging.

As a result of studying the academic discipline «Tropical and parasitic diseases» the student should

**know:**

general features of the regions, conditions (epidemiological, ethnic), contributing to the spread of tropical diseases;

links of the epidemic process in tropical diseases;

etiology, pathogenesis, clinical picture, features of the course, possible complications and outcomes of the most common tropical diseases;

features of the most common ubiquitous infections in countries with tropical climates;

methods for diagnosing infectious tropical diseases using a syndromic approach and taking into account epidemiological and clinical laboratory data;

principles of treatment of tropical diseases;

principles and methods of prevention of tropical diseases;

modern methods of providing emergency medical care to patients with severe and/or complicated course of tropical and ubiquitous diseases;

organization of urgent anti-epidemic measures for tropical infectious diseases;

principles of medical ethics and deontology when dealing with patients and their relatives;

**be able to:**

examine a patient with an infectious pathology (examination, percussion, palpation, auscultation);

identify the leading syndrome and establish the diagnosis of the most common and socially significant tropical diseases;

carry out differential diagnostics of tropical diseases with noncommunicable diseases according to the main syndrome;

determine and prescribe the laboratory and instrumental examinations necessary for making the diagnosis;

formulate a detailed clinical diagnosis of the disease in accordance with the international classification of diseases;

evaluate and interpret the results of the examination of the patient (clinical, biochemical, bacteriological, serological analyses, X-ray, etc.);

choose the optimal treatment tactics for a particular patient, prescribe an individual etiotropic therapy taking into account the spectrum of activity, natural and regional sensitivity to drugs;

prescribe pathogenetic therapy, adequate to the patient's condition;

identify and stop urgent conditions that complicate the course of tropical and ubiquitous infectious diseases;

carry out dynamic monitoring of patients with tropical infectious diseases in the recovery phase and in the chronic course of the disease;

organize anti-epidemic and preventive measures in the source of an infectious disease taking into account regional peculiarities;

**master:**

the skills of physical examination of a patient with a tropical infectious disease;

the skills to assess the results of clinical, laboratory and instrumental methods for the diagnosis of infectious diseases;

the skills of making a clinical diagnosis of an infectious tropical disease;

the skills to perform basic diagnostic and therapeutic measures in the provision of medical care on the prehospital stage with infectious-toxic, hypovolemic, anaphylactic shock; hepatic coma; acute renal failure, intestinal bleeding, pulmonary edema; swelling of the larynx; brain edema; bulbar disorders;

the skills to fill in medical records of the initial identification of a patient with a tropical infection;

the skills of organizing preventive and anti-epidemic measures in the focus of infection;

the skills of taking biological material for bacteriological, virological, serological, biochemical and other studies (sampling and culture analyzes of blood, vomit, wash water of the stomach, feces and mucus from the nose and throat, sampling and culturing feces for the diagnosis of cholera, preparation of thick drops and blood smears for malaria research);

the skills of gastric lavage;

the skills of digital examination of the rectum;

the skills of spinal puncture.

Total number of hours for the discipline study is 160 academic hours. Classroom hours according to the types of studies: practical classes – 105 hours; student independent work (self-study) – 55 hours.

Intermediate assessment is carried out according to the curriculum of the specialty in the form of credit.

Form of higher education – full-time.

## THEMATIC PLAN

Section (topic) name	Number of class hours
	practical
<b>1. Introduction to tropical diseases and medical parasitology. Neglected tropical diseases</b>	<b>3</b>
<b>2. Viral infections</b>	<b>11</b>
2.2. Viral hemorrhagic fevers	4
2.3. Arboviral diseases	7
<b>3. Bacterial infections</b>	<b>21</b>
3.1. Rickettsiosis	7
3.2. Spirochetosis	7
3.3. Bartonellosis. Buruli ulcer. Q fever	7
<b>4. Protozoan diseases</b>	<b>35</b>
4.1. Malaria	7
4.2. Leishmaniasis	7
4.3. Trypanosomiasis	7
4.4. Toxoplasmosis. Cryptosporidiosis	7
4.5. Amoebiasis. Giardiasis	7
<b>5. Helminthiasis</b>	<b>28</b>
5.1. Nematodoses	7
5.2. Filariases	7
5.3. Trematodoses	7
5.4. Cestodoses	7
<b>6. Snakebite and arthropods envenoming</b>	<b>7</b>
<b>Total hours</b>	<b>105</b>

### CONTENT OF EDUCATIONAL MATERIAL

#### **1. Introduction to tropical diseases and medical parasitology. Neglected tropical diseases**

Features of the general pathology in tropical countries. Tropical diseases, their relevance in countries with a tropical climate. The influence of natural and social factors on the course and spread of tropical diseases. Modern classification of tropical diseases. Features of the spread of infectious diseases in tropical countries. Natural and anthroponotic foci of infectious diseases. Preventive and anti-epidemic measures. Neglected tropical diseases, definition. Program of the World Health Organization (WHO) on Neglected Tropical Diseases, its goals and objectives.

#### **2. Viral infections**

##### **2.1. Viral hemorrhagic fevers**

General characteristics of viral hemorrhagic fevers, the main pathogenesis, clinical manifestations. Classification of viral hemorrhagic fevers by etiology.

Yellow fever, Crimean-Congo fever, Rift Valley fever, Lassa fever, Marburg and Ebola fevers, hemorrhagic fever with renal syndrome. Clinical and epidemiological features, diagnostic methods, differential diagnosis, treatment, vaccination of viral hemorrhagic fevers. Blood-sucking arthropods as vectors of viruses.

Examination of patients with infectious diseases accompanied by fever and hemorrhagic syndrome (collection of complaints and anamnesis of the disease, objective examination); drawing up a survey plan; interpretation of laboratory and instrumental examination results; making the diagnosis, determining the stage of the disease, differential diagnosis. Making up a treatment plan for infectious diseases.

## **2.2. Arboviral diseases**

General characteristics of human arbovirus diseases, etiology, pathogenesis, clinical manifestations. Classification according to the clinical and epidemiological principle. Dengue fever and hemorrhagic fever Dengue, Chikungunya, Zika, Japanese encephalitis, phlebotomus fever. Distribution zones, clinical features, diagnosis, differential diagnosis, treatment, prevention of major human arbovirus diseases. Vaccine prevention of Dengue fever. Features of modern antiviral vaccines.

Examination of patients with infectious diseases accompanied by fever and meningeal syndrome (collection of complaints and anamnesis of the disease, objective examination); drawing up a survey plan; interpretation of laboratory and instrumental examination results; making the diagnosis, determining the stage of the disease, differential diagnosis. Making up a treatment plan for infectious diseases.

## **3. Bacterial infections**

### **3.1. Rickettsiosis**

Etiology, epidemiology and features of the distribution of rickettsiosis in tropical countries. General characteristics of rickettsiosis, pathogenesis and clinical picture, principles and methods of treatment. Diagnosis and differential diagnosis of rickettsiosis with diseases occurring with fever syndrome. Endemic typhus, Marseille fever, smallpox rickettsiosis, Rocky Mountain spotted fever, tsutsugamushi fever. Distribution zones, clinical features, diagnosis, differential diagnosis, treatment, prevention of major rickettsiosis. Blood-sucking arthropods as vectors of bacteria.

Examination of patients with infectious diseases accompanied by fever and rash (collection of complaints and history of the disease, objective examination); drawing up a survey plan; interpretation of laboratory and instrumental examination results; making the diagnosis, determining the stage of the disease, differential diagnosis. Making up a treatment plan for infectious diseases.

### **3.2. Spirochetosis**

Non-venereal treponematoses: yaws, pinta, bejel. Etiology, epidemic situation, features of pathogens, sources of infection, mechanism and factors of infection transmission, pathogenesis, clinical picture, differential diagnosis, laboratory diagnostic methods, principles and methods of treatment, prevention. WHO yaws eradication program.

Relapsing fever (epidemic and endemic): etiology, epidemic situation, characteristics of pathogens, sources of infection, infection transmission mechanism, pathogenesis, clinical picture, differential diagnosis, laboratory diagnostic methods,

principles and methods of treatment, prevention. Jarisch-Herxheimer reaction: diagnosis, treatment.

Examination of patients with infectious diseases accompanied by fever and systemic syndrome (collection of complaints and history of the disease, objective examination); drawing up a survey plan; interpretation of laboratory and instrumental examination results; making the diagnosis, determining the stage of the disease, differential diagnosis. Making up a treatment plan for infectious diseases.

### **3.3. Bartonellosis. Buruli ulcer. Q fever**

Cat scratch disease: etiology, epidemic situation, characteristics of pathogens, sources of infection, infection transmission mechanism, pathogenesis, clinical picture, differential diagnosis, laboratory diagnostic methods, principles and methods of treatment, prevention.

Carrion's disease (Oroya fever and Peruvian wart): etiology, epidemic situation, characteristics of pathogens, sources of infection, infection transmission mechanism, pathogenesis, clinical picture, differential diagnosis, laboratory diagnostic methods, principles and methods of treatment, prevention.

Buruli ulcer: etiology, epidemic situation, characteristics of pathogens, sources of infection, infection transmission mechanism, pathogenesis, clinical picture, differential diagnosis, laboratory diagnostic methods, principles and methods of treatment, prevention. WHO Program for the Elimination of Buruli Ulcer.

Q fever: etiology, epidemic situation, characteristics of pathogens, sources of infection, infection transmission mechanism, pathogenesis, clinical picture, differential diagnosis, laboratory diagnostic methods, principles and methods of treatment, prevention.

Examination of patients with infectious diseases accompanied by fever and lymphadenopathy (collection of complaints and history of the disease, objective examination); drawing up a survey plan; interpretation of laboratory and instrumental examination results; making the diagnosis, determining the stage of the disease, differential diagnosis. Making up a treatment plan for infectious diseases.

## **4. Protozoan diseases**

### **4.1. Malaria**

Epidemiology of malaria. Types of causative agents of human malaria, their main characteristics, the life cycle of the pathogen. Sources of infection, mechanisms of infection and ways of transmission of malaria pathogens. Characteristics of mosquitoes as carriers of Plasmodium. Pathogenesis and clinical picture of malaria, features of the immune response. Parasitological and immunoserological methods for verifying the diagnosis of malaria. differential diagnosis. Treatment: principles of antimalarial therapy, main antimalarial chemotherapeutic agents, methods of treatment of various types of infection. Severe malaria: pathogenesis, complications, principles of clinical diagnosis, treatment features, emergency medical care in the treatment of complications. Malaria prevention, malaria vaccine. Complex of antimalarial measures, their planning; repellents, insecticides, methods of their application. Chemoprophylaxis of malaria. WHO malaria program.

Examination of patients with infectious diseases accompanied by fever (collection of complaints and history of the disease, objective examination); drawing up a survey

plan; interpretation of laboratory and instrumental examination results; making the diagnosis, determining the stage of the disease, differential diagnosis. Making up a treatment plan for infectious diseases.

#### **4.2. Leishmaniasis**

Cutaneous leishmaniasis: etiology, epidemic situation, characteristics of pathogens, sources of infection, infection transmission mechanism, pathogenesis, clinical picture, main clinical variants of the Old and New Worlds, rare clinical variants; differential diagnostics, laboratory methods of diagnostics, principles and methods of treatment, essential medicines and methods of their application in various geographical areas; prevention. Characteristics of mosquitoes as carriers of Leishmania. WHO skin leishmaniasis control program

Visceral leishmaniasis: etiology, epidemic situation, characteristics of pathogens, sources of infection, infection transmission mechanism, pathogenesis, clinical picture, main clinical variants of the Old and New Worlds; differential diagnostics, laboratory methods of diagnostics, principles and methods of treatment, essential medicines and methods of their application in various geographical areas; prevention. WHO program for the control of visceral leishmaniasis.

Examination of patients with infectious diseases accompanied by fever and lymphadenopathy (collection of complaints and history of the disease, objective examination); drawing up a survey plan; interpretation of laboratory and instrumental examination results; making the diagnosis, determining the stage of the disease, differential diagnosis. Making up a treatment plan for infectious diseases.

#### **4.3. Trypanosomiasis**

African trypanosomiasis (sleeping sickness): etiology, epidemic situation, characteristics of pathogens, sources of infection, mechanism of transmission of infection, pathogenesis, clinical picture, differential diagnosis, laboratory diagnostic methods, principles and methods of treatment, main drugs and methods of their use in various geographical areas ; prevention. WHO program to combat sleeping sickness.

American trypanosomiasis (Chagas disease): etiology, epidemic situation, characteristics of pathogens, sources of infection, mechanism of infection transmission, pathogenesis, clinical picture, differential diagnosis, laboratory diagnostic methods, principles and methods of treatment, main drugs; prevention. WHO Chagas Disease Program.

Examination of patients with infectious diseases accompanied by fever (collection of complaints and anamnesis of the disease, objective examination); drawing up a survey plan; interpretation of laboratory and instrumental examination results; making the diagnosis, determining the stage of the disease, differential diagnosis. Making up a treatment plan for infectious diseases.

#### **4.4. Toxoplasmosis. Cryptosporidiosis**

Toxoplasmosis: etiology, life cycle of the parasite, epidemiology, pathogenesis, classification, clinical picture. Congenital toxoplasmosis, prevention of vertical infection. Cerebral toxoplasmosis. Diagnosis of toxoplasmosis: parasitological, serological, genetic, radiological diagnostics. Differential diagnosis, treatment of toxoplasmosis. Primary and secondary prevention of cerebral toxoplasmosis in HIV-infected people.

Cryptosporidiosis: etiology, life cycle of the parasite, epidemiology, pathogenesis, clinical picture. Diagnosis of cryptosporidiosis: parasitological, serological, molecular genetic. Differential diagnosis and treatment of cryptosporidiosis.

Examination of patients with infectious diseases accompanied by fever and systemic syndrome (collection of complaints and history of the disease, objective examination); drawing up a survey plan; interpretation of laboratory and instrumental examination results; making the diagnosis, determining the stage of the disease, differential diagnosis. Making up a treatment plan for infectious diseases.

#### **4.5. Amoebiasis. Giardiasis**

Amoebiasis. Epidemiology. Etiology, biological characteristics of the pathogen, Amoebiasis: epidemiology, etiology, biological characteristics of the pathogen, stages of development. Pathogenesis of lesions of the colon, liver, brain and other organs. Clinical picture, classification, complications, outcomes, diagnosis, differential diagnosis and treatment of amoebiasis. Basic drugs, methods of their use in various forms and stages of the disease, pathogenetic therapy, surgical treatment, its effectiveness. Prevention of amoebiasis.

Giardiasis: epidemiology, etiology, biological characteristics of the pathogen, stages of development. High-risk populations. The pathogenesis of lesions of the small intestine. Clinical picture, classification, complications, outcomes, diagnosis, differential diagnosis and treatment of giardiasis. Prevention of giardiasis.

Examination of patients with infectious diseases accompanied by diarrhea (collection of complaints and history of the disease, objective examination); drawing up a survey plan; interpretation of laboratory and instrumental examination results; making the diagnosis, determining the stage of the disease, differential diagnosis. Making up a treatment plan for infectious diseases.

### **5. Helminthiasis**

#### **5.1. Nematodoses.**

General characteristics and classification of helminthiasis. Pathogenic effect of helminths on the human body, immune response, eosinophilia. Stages of development of nematodes.

Ubiquitous nematodosis (ascariasis, trichuriasis): etiology, life cycle features of roundworm and whipworm, epidemiology, pathogenesis features, clinical picture, complications; diagnostics, differential diagnostics, treatment, prevention.

Ankylostomiasis, necatoriasis: etiology, epidemiology, pathogenesis features, clinical picture, complications; diagnostics, differential diagnostics, treatment, prevention.

Strongyloidiasis: etiology, epidemiology, pathogenesis features, clinical picture, complications; diagnostics, differential diagnostics, treatment, prevention.

Dracunculiasis: etiology, epidemiology, pathogenesis features, clinical picture, complications; diagnostics, differential diagnostics, treatment, prevention. WHO dracunculiasis eradication program.

Examination of patients with infectious diseases accompanied by eosinophilia (collection of complaints and history of the disease, objective examination); drawing up a survey plan; interpretation of laboratory and instrumental examination results; making

the diagnosis, determining the stage of the disease, differential diagnosis. Making up a treatment plan for infectious diseases.

### **5.2. Filariasis**

General characteristics and classification of filariasis. WHO Filariasis Elimination Program.

Wuchereriosis, brugianis: etiology, epidemiology, pathogenesis features, clinical picture, complications; diagnostics, differential diagnostics, treatment, prevention.

Loiasis: etiology, epidemiology, pathogenesis features, clinical picture, complications; diagnostics, differential diagnostics, treatment, prevention.

Onchocerciasis: etiology, epidemiology, pathogenesis features, clinical picture, complications; diagnostics, differential diagnostics, treatment, prevention.

Larva migrans (cutaneous and visceral). Cutaneous migrating larvae: etiology, epidemiology, pathogenesis features, clinical picture, complications; diagnostics, differential diagnostics, treatment, prevention. Toxocariasis: etiology, epidemiology, pathogenesis features, clinical picture, complications; diagnostics, differential diagnostics, treatment, prevention.

Examination of patients with infectious diseases accompanied by lymphedema (collection of complaints and history of the disease, objective examination); drawing up a survey plan; interpretation of laboratory and instrumental examination results; making the diagnosis, determining the stage of the disease, differential diagnosis. Making up a treatment plan for infectious diseases.

### **5.3. Trematodoses**

General characteristics and classification of trematodosis. Stages of development of trematodes.

Schistosomiasis: etiology, epidemiology, pathogenesis features, clinical picture, complications; diagnostics, differential diagnostics, treatment, prevention.

Paragonimiasis: etiology, epidemiology, pathogenesis features, clinical picture, complications; diagnostics, differential diagnostics, treatment, prevention.

Clonorchiasis: etiology, epidemiology, pathogenesis features, clinical picture, complications; diagnostics, differential diagnostics, treatment, prevention.

Opisthorchiasis: etiology, epidemiology, pathogenesis features, clinical picture, complications; diagnostics, differential diagnostics, treatment, prevention.

Fascioliasis: etiology, epidemiology, pathogenesis features, clinical picture, complications; diagnostics, differential diagnostics, treatment, prevention.

Examination of patients with infectious diseases accompanied by systemic syndrome and jaundice (collection of complaints and history of the disease, objective examination); drawing up a survey plan; interpretation of laboratory and instrumental examination results; making the diagnosis, determining the stage of the disease, differential diagnosis. Making up a treatment plan for infectious diseases.

### **5.4. Cestodoses**

General characteristics and classification of cestodosis. Stages of development of cestodes.

Diphyllobothriasis: etiology, epidemiology, pathogenesis features, clinical picture, complications; diagnostics, differential diagnostics, treatment, prevention.

Teniarinhoz: etiology, epidemiology, features of pathogenesis, clinical picture, complications; diagnostics, differential diagnostics, treatment, prevention.

Teniasis and cysticercosis (neurocysticercosis): etiology, epidemiology, pathogenesis features, clinical picture, complications; diagnostics, radiation diagnostics of neurocysticercosis; differential diagnosis, treatment, prevention.

Hymenolepiasis: etiology, epidemiology, pathogenesis features, clinical picture, complications; diagnostics, differential diagnostics, treatment, prevention.

Echinococcosis, alveococcosis: etiology, epidemiology, pathogenesis features, clinical picture, complications; diagnostics, radiology; differential diagnosis, treatment, prevention.

Sparganosis: etiology, epidemiology, pathogenesis features, clinical picture, complications; diagnostics, differential diagnostics, treatment, prevention.

Examination of patients with infectious diseases accompanied by systemic syndrome (collection of complaints and history of the disease, objective examination); drawing up a survey plan; interpretation of laboratory and instrumental examination results; making the diagnosis, determining the stage of the disease, differential diagnosis. Making up a treatment plan for infectious diseases.

#### **6. Snakebite and arthropods envenoming**

General characteristics and classification of arthropods. Blood-sucking arthropods (ticks, mosquitoes, mosquitoes, bedbugs, fleas, lice), their role as carriers of infectious diseases. Control measures for arthropods of medical importance.

Classification of venomous animals. The main representatives of venomous snakes and arthropods. Clinical picture of envenomings by venoms of snakes and arthropods (scorpions and spiders). Principles and features of first aid and treatment of envenomings with venoms of snakes and arthropods; antitoxic serums, the rules of their appointment.

**EDUCATIONAL METHODOLOGICAL CARD OF EDUCATIONAL DISCIPLINE «TROPICAL AND PARASITIC DISEASES» FOR THE SUB-RESIDENCY «GENERAL CLINICAL PRACTICE»**

Section number, topics	Section name, topic	Number of hours		Self-studies	Means of training	Literature	The forms of knowledge control
		lectures	practical classes				
<b>1.</b>	<b>Introduction to tropical diseases and medical parasitology. Neglected tropical diseases</b>	-	3		1, 2, 3, 6	1 - 3	1, 4-6, 19-12
<b>2.</b>	<b>Viral infections</b>	-		3			
2.1.	Viral hemorrhagic fevers	-	4				
2.2.	Arboviral diseases	-	7	4	1-6	1 - 3	1, 2, 4-12
<b>3.</b>	<b>Bacterial infections</b>	-	<b>21</b>	<b>12</b>			
3.1.	Rickettsiosis	-	7	4	1-6	1 - 3	1, 2, 4-12
3.2.	Spirochetosis	-	7	4	1-6	1 - 3	1, 2, 4-12
3.3.	Bartonellosis. Buruli ulcer. Q fever	-	7	4	1-6	1 - 3	1, 2, 4-12
<b>4.</b>	<b>Protozoan diseases</b>	-	<b>35</b>	<b>16</b>			
4.1.	Malaria	-	7	4	1-6	1 - 3	1, 2, 4-12
4.2.	Leishmaniasis	-	7	3	1-6	1 - 3	1, 2, 4-12
4.3.	Trypanosomiasis	-	7	3	1-6	1 - 3	1, 2, 4-12
4.4.	Toxoplasmosis. Cryptosporidiosis		7	3	1-6	1 - 3	1, 2, 4-12
4.5.	Amoebiasis. Giardiasis		7	3	1-6	1 - 3	1, 2, 4-12
<b>5.</b>	<b>Helminthiasis</b>	-	<b>28</b>	<b>16</b>			
5.1.	Nematodoses	-	7	4	1-6	1 - 3	1, 2, 4-12
5.2.	Filariases	-	7	4	1-6	1 - 3	1, 2, 4-12
5.3.	Trematodoses	-	7	4	1-6	1 - 3	1, 2, 4-12
5.4.	Cestodoses	-	7	4	1-6	1 - 3	1, 2, 4-12
<b>6.</b>	<b>Snakebite and arthropods envenomings</b>	-	7	4	1-6	1 - 3	1, 2, 4-12
	<b>Total hours</b>	-	<b>105</b>	<b>55</b>			

## INFORMATION AND INSTRUCTIONAL UNIT

### LITERATURE

#### **Basic (relevant):**

1. Инфекционные болезни = Infectious diseases : пособие / И. А. Карпов и др. – Минск : БГМУ, 2020. – 199 с.

#### **Additional:**

2. The travel and tropical medicine manual / Christopher A. Sanford, Paul S.Pottinger, Elaine C. Jong/ – 5 th ed. : Elsevier, 2017. – 646 p.

3. Infectious diseases : textbook / ed. by O.A. Holubovska. – Kyiv : AUS Medicine Publishing, 2018. – 664 p.

### CHARACTERISTICS OF THE USED TRAINING METHODS

When organizing the educational process, traditional methods of teaching the academic discipline are used: lectures, practical exercises, as well as elements of students' self-dependent work.

The educational process is recommended to be organized using traditional and modern educational technologies («standardized patient» techniques, various forms of communication, variable models of independent work, modular and rating training systems, tests and other competence assessment systems, etc.)

Practical classes are held at infectious departments of health organizations.

At practical classes under the supervision of a teacher, students independently collect patient's complaints and history of the disease, make a physical examination, draw up a plan for laboratory and instrumental examination, interpret the results of laboratory and instrumental methods of examination, formulate a diagnosis, draw up a treatment plan, draw up medical records.

Practical training is provided by solving situational problems, test tasks, practicing patient examination skills, diagnosing and differential diagnosis of diseases.

Independent extracurricular work consists of studying the main and additional literature, monographs and periodical literature, preparing reports, abstracts, presentations and short reports on the most topical issues of tropical and parasitic diseases, working out topics (questions) submitted for independent study, preparing for practical exercises, credit.

Students learn about safe working conditions, international requirements, standards of medical ethics and deontology during practical training.

### LIST OF TRAINING MEANS

1. Electronic educational and methodical complex.
2. Multimedia presentations.
3. Video films.
4. Medical records of inpatient (outpatient) patient.
5. Radiology (xR, CT, MRI).
6. Results of laboratory research methods (liquorograms, general clinical blood tests, biochemical blood tests, serological tests for viral hepatitis markers, bacteriological test results, antibiograms).

### LIST OF AVAILABLE DIAGNOSTIC TOOLS

The following forms of knowledge control are used to diagnose competencies:

#### Oral form:

1. interview;
2. reports on practical classes;
3. credit.

#### Written form:

4. tests;
5. quizzes;
6. clinical cases;
7. abstracts.

#### Oral-written form:

8. reports on classroom practical exercises with their oral defence;
9. independent solution of problems with their subsequent discussion.

#### Technical form:

10. electronic tests;
11. electronic clinical cases.

#### Simulation form:

12. evaluation using the standardized patient.

### LIST OF PRACTICAL SKILLS

1. Interpretation of serological results.
2. Interpretation of the results of general clinical studies of cerebrospinal fluid.
3. Interpretation of chest radiographs.
4. Drawing up a diagnostic plan for examining a patient with acute high fever.
5. Drawing up a diagnostic plan for examining a patient with a fever of unknown origin.
6. Interpretation of the results of bacteriological blood analysis, vomit, gastric lavage, feces.
7. Interpretation of antibiogram.
8. Drawing up a rehydration therapy plan.

9. The determination of the patient's main meningeal signs (neck stiffness, Kernig's symptom, upper and lower symptoms of Brudzinsky).

10. Drawing up a plan of laboratory and instrumental examination of the patient to verify the alleged infectious disease.

11. Providing emergency medical care for infectious and toxic shock, hypovolemic shock, anaphylactic shock, hepatic coma, acute renal failure, intestinal bleeding, pulmonary edema, brain edema.

12. Taking material from the patient for bacteriological, virological, serological, biochemical and other studies (sampling and culturing of blood, vomit, wash water of the stomach, feces, sampling and mucus from the nose and throat, sampling and culturing of feces to diagnose cholera) .

13. Preparation of a thick drop and blood smears for research on malaria.

14. Gastric lavage.

15. Finger examinations of the rectum.

16. Carrying out rectoromanoscopy research.

17. Lumbar puncture.

18. Carrying out urgent medical procedures: external cardiac massage artificial respiration, intubation, tracheostomy, artificial lung ventilation, gastric lavage, siphon enema, bladder catheterization.

**COMPILERS/AUTHORS:**

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M.A.Ivanova

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

Dean of the Medical Faculty for International Students of the educational institution «Belarusian State Medical University»

09.08. 2023

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