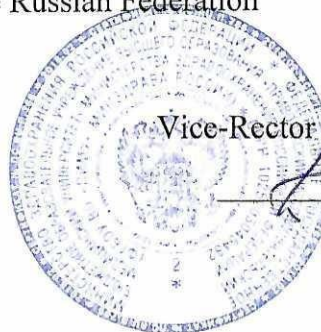


Federal State Budgetary Educational Institution of Higher Education
"Privolzhsky Research Medical University"
Ministry of Health of the Russian Federation



APPROVED

Vice-Rector for Academic Affairs

E.S. Bogomolova

31 August 2021

WORKING PROGRAM

Name of the academic discipline: **BASICS OF TRANSPLANTOLOGY**

Specialty: **31.05.01 GENERAL MEDICINE**

Qualification: **GENERAL PRACTITIONER**

Department: **FACULTY OF SURGERY AND TRANSPLANTOLOGY**

Mode of study: **FULL-TIME**

Labor intensity of the academic discipline: **36 academic hours**

Nizhny Novgorod
2021

The working program has been developed in accordance with the Federal State Educational Standard for the specialty 31.05.01 GENERAL MEDICINE, approved by Order of the Ministry of Science and Higher Education of the Russian Federation No. 988 of August 12, 2020.

Developers of the working program:

Zagainov Vladimir Evgenievich, Doctor of Medical Sciences, Professor, Head of the Department of Faculty Surgery and Transplantology

The program was reviewed and approved at the department meeting (protocol No. 10, June 1, 2021)

Head of the Department,
MD, Professor Zagainov V. E.

 (print name)
(signature)

June, 1 _____ 2021

AGREED

Deputy Head of EMA ph.d. of biology _____ Lovtsova L.V.

(signature)

June, 1 _____ 2021

1. The purpose and objectives of mastering the academic discipline acquisition of knowledge, skills and abilities in prevention, diagnosis and provision of first and qualified medical care to patients in need of organ and tissue transplantation.

1.1. The purpose of mastering the discipline: (*participation in forming the relevant competencies*).

- Able to carry out a critical analysis of problem situations based on a systematic approach, develop an action strategy (UC-1)

- Able to manage the project at all stages of its life cycle (UC-2)

- Able to organize and manage the work of the team, developing a team strategy to achieve the goal (UC-3)

- Able to use basic defectological knowledge in social and professional spheres (UC-9)

- Able to assess the condition of a patient requiring medical treatment in the emergency form (PC -1)

- Able to recognize conditions arising from sudden acute diseases, exacerbation of chronic diseases without obvious signs of a threat to the patient's life and requiring urgent medical care, recognize conditions that pose a threat to the patient's life including conditions of clinical death (stopping vital functions of the human body (blood circulation and/or respiration), requiring the provision of emergency medical care (PC-2)

- Able to use medicines and medical devices for providing medical care in emergency forms (PC-4)

- Able to collect complaints, anamnesis of the patient's life and illness, conduct a complete physical examination of the patient (examination, palpation, percussion, auscultation), formulate a preliminary diagnosis and draw up a plan for laboratory and instrumental examinations of the patient (PC-5)

- Able to send a patient to laboratory, instrumental examination, to a consultation with specialist doctors if there are medical indications in accordance with the current procedures for the provision of medical care, clinical recommendations (treatment protocols) on providing medical care taking into account the standards of medical care, and also refer the patient for providing specialized medical care in an inpatient setting or in a day hospital if there are medical indications in accordance with the current procedures for the medical care delivery, clinical recommendations (treatment protocols) on the medical care delivery taking into account the standards of medical care (PC-6)

- Able to: make a differential diagnosis with other diseases/conditions including emergencies, establish a diagnosis taking into account the current international statistical classification of diseases and related health problems (ICD) (PC-7)

- Able to: develop a treatment plan for a disease or condition and prescribe medicine, medical devices, therapeutic nutrition and non-drug treatment taking into account the diagnosis, age and clinical picture in accordance with current procedures for the medical care delivery, clinical recommendations (treatment protocols) on the provision of medical care taking into account the standards of medical care and to evaluate the effectiveness and safety of the use of medicines, medical devices, therapeutic nutrition and other methods of treatment (PC-8)

- Able to assess the effectiveness and safety of medical rehabilitation measures of the patient in accordance with the current procedures for providing medical care, clinical recommendations (treatment protocols) on the providing medical care taking into account the standards of medical care (PC-14)

1.2. Tasks of the discipline:

As a result of completing the discipline, the student should

Know:

- Basic concepts related to transplantation of organs and tissues,

- Basic legal acts regulating activities in the field of transplantation,

- Deontological and legal aspects of transplantation,
- History of transplantology, the contribution of domestic scientists to the development of transplantation,
- Organization of transplant care in the Russian Federation,
- Criteria for biological compatibility of organs and tissues during transplantation (typing),
- Problems of organ donation. Categories of donors (living related donors, donors with established brain death, donors with a non-beating heart),
- Indications for transplantation of vital organs (heart, liver, kidney, pancreas), contraindications. Principles for the formation of a "waiting list". Recipient examination. Features of preparing patients for organ transplantation,
- Methods of operations on a donor: organ sampling, vascular reconstruction and preparation of an organ for implantation,
- Technique of operations on a recipient for transplantation of vital organs (heart, lungs, liver, kidney, pancreas),
- Principles of management of patients after transplantation of vital organs. Standard protocols for postoperative treatment. Methods of modern immunosuppressive therapy,
- Pathological conditions of transplanted organs, accompanied by a deterioration in function. Clinical laboratory, instrumental and differential diagnostics of these conditions, their morphological characteristics.

Be able to:

- Carry out their activities taking into account the moral and legal norms accepted in society and the medical community,
- Comply with the rules of medical ethics, laws and regulations on working with confidential medical information, maintain medical secrecy,
- Determine indications and contraindications for transplantation of vital organs (heart, liver, kidney, pancreas),
- Take an anamnesis, conduct a general clinical examination of donors and recipients before transplantation. Analyze clinical data,
- Make a plan for the use of special laboratory and instrumental methods for studying the donor and recipient. Analyze the data of laboratory and instrumental research methods,
- Formulate the principles of managing patients after transplantation of vital organs. Standard protocols for postoperative appointments. Basic concepts of modern immunosuppressive therapy.

Possess:

- Issues of organizing specialized transplant care for patients in the Russian Federation,
- Proper maintenance of medical records of the donor and recipient in a hospital,
- Methods of general clinical examination with interpretation of the results of special laboratory and instrumental methods for diagnosing the donor and recipient.

2. Position of the academic discipline in the structure of the General Educational Program of Higher Education (GEP HE) of the organization.

2.1. The discipline Basics of transplantology refers to the core part of Block 1 of GEP HE, Specialty 31.05.01 General Medicine

The discipline is taught in _11___ semester/_6__ year of study.

2.2. The following knowledge, skills and abilities formed by previous academic

disciplines are required for mastering the discipline:

1. Pathological anatomy
2. Pathological physiology
3. Topographic anatomy and operative surgery
4. Propaedeutics of internal diseases
5. Radiation diagnostics, oncology
6. Faculty surgery
7. Hospital surgery
8. Anesthesiology and intensive care

2.3. Mastering the discipline is required for forming the following knowledge, skills and abilities for subsequent academic disciplines:

1. Hospital surgery
2. Anesthesiology and intensive care

3. Deliverables of mastering the academic discipline and metrics of competence acquisition

Mastering the discipline aims at acquiring the following universal (UC) and general professional (GPC) and professional (PC) competencies

№	Competence code	The content of the competence (or its part)	Code and name of the competence acquisition metric	As a result of mastering the discipline, the students should:		
				know	be able to	possess
1.	UC-1	Able to carry out a critical analysis of problem situations based on a systematic approach, develop an action strategy	IUC 1.1 Knows: methods of critical analysis and evaluation of modern scientific achievements; basic principles of critical analysis IUC 1.2 Able to: gain new knowledge based on analysis, synthesis, etc.; collect data on complex scientific problems related to the professional field; search for information and solutions based on action, experiment and experience IUC 1.3 Has practical experience: researching the problem of professional activity using analysis, synthesis and other methods of intellectual activity; developing an action strategy to solve professional problems	methods of critical analysis and evaluation of modern scientific achievements ; basic principles of critical analysis	gain new knowledge based on analysis, synthesis, etc.; collect data on complex scientific problems related to the professional field; search for information and solutions based on action, experiment and experience	Has practical experience: researching the problem of professional activity using analysis, synthesis and other methods of intellectual activity; developing an action strategy to solve professional problems
2.	UC-2	Able to manage the project at all stages of its life cycle	IUC 2.1 Knows: methods of presenting and describing the results of project activities; methods,	methods for presenting and describing the results of	prove practical and theoretical significance of the results	Has practical experience in: project management in the field

			<p>evaluation and evaluation of the results of the project; consideration of the issue of forming a project within the framework of the problem under consideration; basic requirements for project work and evaluation criteria</p> <p>consideration of the project within the framework of the designated problem, formulation of the goal, objectives, relevance, perception (scientific, practical, methodological skills in drawing up plans and schedules for the implementation of the project as a whole plan and monitoring its implementation; qualities of a constructive overcoming speed rationale, methods and requirements for project work</p> <p>IUC 2.2 Able to: substantiate the practical and theoretical significance of the results obtained; check and analyze project documentation; predict the development of processes in the design professional area; put forward innovative ideas and non-standard approaches to their implementation in order to implement the project; calculate the qualitative and quantitative results, the timing of the project work</p> <p>IUC 2.3 Has practical experience in: project management in the field, consistent with her professional activities; distributing tasks and encouraging others to achieve goals; managing the development of the</p>	<p>project activities; methods, criteria and parameters for evaluating the results of project implementation; principles, methods and requirements for the project work</p>	<p>obtained; check and analyze the design documentation; predict the development of processes in the project professional field; put forward innovative ideas and non-standard approaches to their implementation in order to implement the project; calculate qualitative and quantitative results, deadlines of project work execution</p>	<p>relevant to professional activity; distribution of tasks and encouraging others to achieve goals; management of development of technical specifications of the project, management implementation of profile project work; participation in the development technical specifications of the project and the project implementation program in the professional field</p>
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			<p>technical specifications of the project, managing the implementation of core design work. Has experience of participating in the development of project specifications and programs results of project activities.</p> <p>and others depending on the type of project), expected results and possible areas of their application; be able to see the image of the result of the activity and plan the follower!!</p> <p>number of steps to achieve this result; predict problem situations and risks in project activities. disagreements and conflicts.</p> <p>project implementation in the professional field</p>			
3.	UC-3	Able to organize and manage the work of the team, developing a team strategy to achieve the goal	<p>IUC 3.1 Knows: problems of selection of an effective team; basic conditions for effective teamwork; fundamentals of strategic human resource management, normative legal acts concerning the organization and implementation of professional activities; models of organizational behavior, factors in the formation of organizational relations, strategies and principles of teamwork, the main characteristics of the organizational climate and the interaction of people in the organization</p> <p>IUC 3.2 Able to: determine the management style for effective team work; develop a team strategy; apply the principles and methods of organizing team activities</p> <p>IUC 3.3 Has practical experience: participation in the</p>	the problems of selecting an effective team; basic conditions for effective teamwork; the basics of strategic human resource management, regulatory legal acts concerning the organization and implementation of professional activities; organizational behavior models, factors of formation of organizational relationships; strategies and principles of teamwork, the main	determine the management style for the effective team work; develop a team strategy; apply the principles and methods of organizing team activities	Has practical experience in: participation in the development of a team work strategy; participation in teamwork, role distribution in the team interaction

			development of a team work strategy; participation in team work, distribution of roles in the conditions of team interaction	characteristics of the organizational climate and interaction of people in the organization		
4.	UC-9	Able to use basic defectological knowledge in social and professional spheres	IUC 9.1 Knows: the basics of defectology IUC 9.2 Able to: establish effective communication and create a tolerant environment when working with people with disabilities and people with disabilities IUC 9.3 Имеет практический опыт: медико- социальной и организационной поддержки (сопровождения) лиц с ограниченными возможностями здоровья и инвалидов при получении ими медицинской помощи	the basics of defectology	the basics of defectology	Has practical experience in: medical, social and organizational support of people with disabilities when they receive medical care
5.	PC-1	Able to assess the condition of a patient requiring medical treatment in the emergency form	IPC 1.1 Knows: etiology, pathogenesis and pathomorphology, clinical picture, differential diagnosis, course features, complications and outcomes of diseases of internal organs; methodology for collecting complaints and anamnesis; physical examination technique (examination, palpation, percussion, auscultation); a list of laboratory and instrumental research methods for assessing the condition, the main medical indications for conducting research and interpreting the results in patients requiring medical care in emergency forms IPC 1.2 Able to: identify clinical signs of conditions requiring emergency or emergency medical care IPC 1.3 has methods for assessing the condition of a patient requiring medical care in	etiology, pathogenesis and pathomorphology, clinical aspect, differential diagnosis, clinical features, complications and outcomes of diseases of internal organs; methodology for collecting complaints and anamnesis; physical examination technique (examination, palpation, percussion, auscultation); a list of laboratory and instrumental research methods for assessing the	identify clinical signs of conditions requiring medical treatment in the emergency form	assessment of the patient's condition requiring medical care in emergency or emergency forms

			emergency or emergency forms	condition, the main medical indications for conducting research and interpreting the results of patients requiring medical care in the emergency form		
6.	PC-2	Able to recognize conditions arising from sudden acute diseases, exacerbation of chronic diseases without obvious signs of a threat to the patient's life and requiring urgent medical care, recognize conditions that pose a threat to the patient's life including conditions of clinical death (stopping vital functions of the human body (blood circulation and/or respiration), requiring the provision of emergency medical care	IPC 2.1 Knows: etiology, pathogenesis and pathomorphology, clinical picture, differential diagnosis, course features, complications and outcomes of diseases of internal organs; methodology for collecting complaints and anamnesis from patients (their legal representatives); method of physical examination of patients (examination, palpation, percussion, auscultation); a list of laboratory and instrumental research methods for assessing the patient's condition, the main medical indications for conducting research and interpreting the results: clinical signs of a sudden cessation of blood circulation and / or breathing IPC 2.2 Able to: identify clinical signs of conditions requiring emergency medical care; identify conditions requiring emergency medical care, including clinical signs of sudden cessation of blood circulation and breathing	etiology, pathogenesis and pathomorphology, clinical picture, differential diagnosis, features of the course, complications and outcomes of diseases of internal organs; methods of collecting complaints and anamnesis in patients (their legal representatives); methods of physical examination of patients (examination, palpation, percussion, auscultation); a list of methods of laboratory and instrumental investigations to assess the patient's condition, the main medical indications for conducting research and interpreting	identify clinical signs of conditions requiring emergency medical care; identify conditions requiring emergency medical care, including clinical signs of sudden cessation of blood circulation and respiration	provision of emergency medical care to patients with sudden acute diseases, conditions, exacerbation of chronic diseases without obvious signs of a threat to the patient's life; state recognition. posing a threat to the life of the patient, including conditions of clinical death (stopping the vital functions of the human body (blood circulation and / or respiration), requiring emergency medical care; providing emergency medical care to patients in conditions that pose a threat to the patient's life, including clinical death (stoppage of vital functions of the human body (blood circulation and/or respiration)

				the results; clinical signs of sudden cessation of blood circulation and/ or respiration		
7.	PC-4	Able to use medicines and medical devices for providing medical care in emergency forms	IPC 4.1 Knows: basic cardiopulmonary resuscitation rules; principles of operation of devices for external electropulse therapy (defibrillation); rules for performing external electropulse therapy (defibrillation) in case of sudden cessation of blood circulation and / or respiration IPC 4.2 Able to: perform measures to provide medical care in urgent and emergency forms; basic cardiopulmonary resuscitation in combination with electrical impulse therapy (defibrillation)	modern methods of using medicines, medical devices for diseases and conditions in accordance with the current procedures for providing medical care, clinical recommendations (treatment protocols) on the provision of medical care taking into account the standards of medical care in the provision of medical care in emergency or urgent forms; the mechanism of action of drugs, medical devices, medical indications and contraindications to their use; complications caused by their use; principles of operation of devices for external electric pulse therapy (defibrillation); rules for performing external	prescribe medicines, medical devices taking into account the diagnosis, age and clinical picture of the disease in accordance with the current procedures for providing medical care, clinical recommendations (treatment protocols) on the medical care delivery in emergency or urgent forms	provision of emergency medical care to patients in conditions that pose a threat to the patient's life, including clinical death (stopping vital functions of the human body (blood circulation and/or respiration)

				electric pulse therapy (defibrillation) in case of sudden cessation of blood circulation and / or respiration		
8.	PC-5	Able to collect complaints, anamnesis of the patient's life and illness, conduct a complete physical examination of the patient (examination, palpation, percussion, auscultation), formulate a preliminary diagnosis and draw up a plan for laboratory and instrumental examinations of the patient	IPC 5.1 Knows: Legislation of the Russian Federation in the field of health care, regulatory legal acts and other documents that determine the activities of medical organizations and medical workers; method of collecting complaints, anamnesis of life and disease of the patient; a technique for a complete physical examination of the patient (examination, palpation, percussion, auscultation); etiology, pathogenesis and pathomorphology, clinical picture, differential diagnosis, course features, complications and outcomes of diseases of internal organs; regularity and functioning of a healthy human body and mechanisms for ensuring health from the standpoint of the theory of functional systems; features of the regulation of the functional systems of the human body in pathological processes; methods of laboratory and instrumental studies for assessing the state of health, medical indications for research, rules for interpreting their results IPC 5.2 Able to: collect complaints, anamnesis of life and disease of the patient and analyze the information received; conduct a complete physical examination of	the legislation of the Russian Federation in the field of health care, regulations and other documents that determine the activities of medical organizations and healthcare workers; method of collecting complaints, anamnesis of life and disease of the patient; a technique for a complete physical examination of the patient (examination, palpation, percussion, auscultation); etiology, pathogenesis and pathomorphology, clinical aspect, differential diagnosis, clinical features, complications and outcomes of diseases of internal organs; patterns of functioning of a healthy human body	collect complaints, anamnesis of life and disease of the patient and analyze the information received; conduct a complete physical examination of the patient (examination, palpation, percussion, auscultation) and interpret its results; determine the sequence of volume, content and sequence of diagnostic measures incl. modern digital technologies	collection of complaints, anamnesis of life and disease of the patient; a complete physical examination of the patient (examination, palpation, percussion, auscultation); formulating a preliminary diagnosis and drawing up a plan for laboratory and instrumental examinations of the patient

			<p>the patient (examination, palpation, percussion, auscultation) and interpret its results; determine the sequence of volume, content and sequence of diagnostic measures</p>	<p>and mechanisms for ensuring health from the standpoint of the theory of functional systems; features of the regulation of the functional systems of the human body in pathological processes; methods of laboratory and instrumental examinations for assessing the state of health, medical indications for conducting investigations, rules for interpreting their results</p>		
9.	PC-6	<p>Able to send a patient to laboratory, instrumental examination, to a consultation with specialist doctors if there are medical indications in accordance with the current procedures for the provision of medical care, clinical recommendations (treatment protocols) on providing medical care taking into account the standards of medical care, and</p>	<p>IPC 6.1 Knows: general issues of organizing medical care for the population, methods of laboratory and instrumental studies to assess the state of health, medical indications for conducting studies, rules for interpreting their results; procedures for the provision of medical care, clinical recommendations (treatment protocols) on the provision of medical care, standards of medical care IPC 6.2 Able to: justify the need and scope of laboratory examination of the patient; justify the need and scope of instrumental examination of the patient; justify the need to refer the patient for</p>	<p>general issues of organizing medical care for the population, methods of laboratory and instrumental examinations to assess the state of health, medical indications for conducting examinations, rules for interpreting their results; procedures for the provision of medical care, clinical recommendat</p>	<p>justify the need and scope of laboratory examination of the patient; justify the need and scope of instrumental examination of the patient; justify the need to refer the patient for consultations with specialist doctors; determine medical indications for the provision of emergency,</p>	<p>referral of a patient for laboratory examination if there is a medical indication in accordance with the current procedures for the provision of medical care, clinical guidelines and (treatment protocols) on the provision of medical care, taking into account the standards of medical care; referral of a patient for an instrumental examination if there are medical</p>

		<p>also refer the patient for providing specialized medical care in an inpatient setting or in a day hospital if there are medical indications in accordance with the current procedures for the medical care delivery, clinical recommendations (treatment protocols) on the medical care delivery taking into account the standards of medical care</p>	<p>consultations to specialist doctors; determine medical indications for the provision of an ambulance, including other specialized ambulance, medical care</p>	<p>ions (treatment protocols) on the provision of medical care, standards of medical care</p>	<p>including emergency specialized, medical care</p>	<p>indications in accordance with the current procedures for the provision of medical care, clinical recommendations and (treatment protocols) on the provision of medical care, taking into account the standards of medical care; referral of a patient for a consultation with specialist doctors if there are medical indications in accordance with the current procedures for the provision of medical care, clinical guidelines and (treatment protocols) on the provision of medical care, taking into account the standards of medical care: referral of a patient for specialized other medical care in an inpatient setting or in a day hospital setting, if medically indicated, in accordance with the current procedures for the provision of medical care, clinical guidelines and (treatment protocols) on the provision of medical care, taking into account the standards of</p>
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						care
10.	PC-7	Able to: make a differential diagnosis with other diseases/conditions including emergencies, establish a diagnosis taking into account the current international statistical classification of diseases and related health problems (ICD)	IPC 7.1 Knows: etiology, pathogenesis and pathomorphology, clinical picture, differential diagnosis, course features, complications and outcomes of diseases of internal organs; methods of laboratory and instrumental studies for assessing the state of health, medical indications for conducting studies, rules for interpreting their results; ICD IPC 7.2 Able to: analyze the results of the patient's examination, if necessary, justify and plan the amount of additional research; interpret the results of collecting information about the patient's disease; interpret the data obtained during the laboratory examination of the patient; interpret the data obtained during the instrumental examination of the patient; interpret data obtained during consultations of the patient by medical specialists; to carry out differential diagnostics of diseases of internal organs from other diseases	etiology, pathogenesis and pathomorphology, clinical aspect, differential diagnosis, clinical features, complications and outcomes of diseases of internal organs; methods of laboratory and instrumental examinations for assessing the state of health, medical indications for conducting examinations, rules for interpreting their results; ICD	analyze the results of the patient's examination, if necessary, justify and plan the scope of additional examinations; interpret the results of collecting information about the patient's disease; interpret the data obtained during the laboratory examination of the patient; interpret the data obtained during the instrumental examination of the patient; interpret the data obtained during consultations of the patient by medical specialists; to carry out differential diagnostics of diseases of internal organs from other diseases	differential diagnosis with other diseases/conditions, including emergencies: diagnosis based on the current international statistical classification of diseases and related health problems (ICD)
11.	PC-8	Able to: develop a treatment plan for a disease or condition and prescribe medicine, medical devices, therapeutic nutrition and non-drug treatment taking into account the diagnosis, age and clinical picture in accordance with current procedures	IPC 8.1 Knows: modern methods of using medicines, medical devices and clinical nutrition for diseases and conditions in a patient in accordance with the current procedures for the provision of medical care, clinical recommendations and (treatment protocols) on the provision of medical care, taking into	modern methods of using medicines, medical devices and therapeutic nutrition in diseases and conditions of the patient in accordance with the current procedures	draw up a treatment plan for the disease and the patient's condition taking into account the diagnosis, the patient's age, the clinical picture of the disease in accordance	development of a treatment plan for a disease or condition, taking into account the diagnosis, age and clinical picture in accordance with the current procedures for the provision of medical care, clinical

		<p>for the medical care delivery, clinical recommendations (treatment protocols) on the provision of medical care taking into account the standards of medical care and to evaluate the effectiveness and safety of the use of medicines, medical devices, therapeutic nutrition and other methods of treatment</p>	<p>account the standards of medical care; mechanism of action of drugs medical products and medical nutrition, medical indications and contraindications to their use; complications caused by their use; modern methods of non-drug treatment of diseases and conditions in a patient in accordance with the current procedures for the provision of medical care, clinical guidelines (treatment protocols) on the provision of medical care, taking into account the standards of medical care; mechanism of action of non-drug treatment; medical indications and contraindications to its appointment; side effects, complications caused by its use IPC 8.2 Able to: draw up a treatment plan for the disease and the patient's condition, taking into account the diagnosis, the age of the patient, the clinical picture of the disease in accordance with the current procedures for the provision of medical care, clinical guidelines and (treatment protocols) on the provision of medical care, taking into account the standards of medical care; prescribe medicines, medical devices and therapeutic nutrition, taking into account the diagnosis, age and clinical picture of the disease in accordance with the current procedures for the provision of medical care clinical guidelines and (treatment protocols) on the provision of medical care, taking into account the standards of</p>	<p>for medical care, clinical recommendations (treatment protocols) on the provision of medical care taking into account the standards of medical care; the mechanism of action of medicines, medical devices and therapeutic nutrition, medical indications and contraindications to their use; complications caused by their use; modern methods of non-drug treatment of diseases and conditions of the patient in accordance with current medical care procedures, clinical recommendations (treatment protocols) on the provision of medical care taking into account the standards of medical care; action mechanism of non-drug treatment; medical indications and contraindications to its prescription; side effects, complication</p>	<p>with the current procedures for providing medical care, clinical recommendations (treatment protocols) on the provision of medical care, taking into account the standards of medical care; prescribe medications, medical devices and therapeutic nutrition taking into account the diagnosis, age and clinical picture of the disease in accordance with the current medical care procedures, clinical recommendations (treatment protocols) on the provision of medical care taking into account the standards of medical care; prescribe non-drug treatment taking into account the diagnosis, age and clinical picture of the disease in accordance with the current medical care procedures, clinical</p>	<p>guidelines and (treatment protocols) on the provision of medical care, taking into account the standards of medical care: prescribing drugs, medical devices and clinical nutrition considering the diagnosis, age and clinical presentation of the disease and in accordance with the current procedures for the provision of medical care. clinical guidelines and (treatment protocols) on the provision of medical care, taking into account the standards of care: prescribing non-drug treatment taking into account the diagnosis, age and clinical picture of the disease in accordance with the current procedures for the provision of medical care, clinical recommendations and (treatment protocols) on the provision of medical care, taking into account the standards of medical care; assessment of the effectiveness and safety of the use of</p>
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			<p>medical care; prescribe non-pharmacological treatment taking into account the diagnosis, age and clinical picture of the disease in accordance with the current procedures for the provision of medical care, clinical guidelines and (treatment protocols) on the provision of medical care, taking into account the standards of medical care; evaluate the effectiveness and safety of the use of medicines, medical devices and clinical nutrition</p>	<p>s caused by its use</p>	<p>recommendations (treatment protocols) on issues related to the provision of medical care taking into account the standards of medical care; evaluate the effectiveness and safety of the use of medicines, medical devices and therapeutic nutrition</p>	<p>medicines, medical devices, clinical nutrition and other methods of treatment</p>
12.	PC-14	<p>Able to assess the effectiveness and safety of medical rehabilitation measures of the patient in accordance with the current procedures for providing medical care, clinical recommendations (treatment protocols) on the providing medical care taking into account the standards of medical care</p>	<p>IPC 14.1 Knows: Measures for the medical rehabilitation of the patient, medical indications and contraindications for their implementation, taking into account the diagnosis in accordance with the current procedures for the provision of medical care, clinical recommendations and (treatment protocols) on the provision of medical care, taking into account the standards of medical care; medical indications and contraindications to the appointment of sanatorium-resort treatment as a stage of the patient's medical rehabilitation; features of medical rehabilitation of elderly and senile patients IPC 14.2 Can: monitor the implementation and evaluate the effectiveness and safety of rehabilitation measures, including the implementation of an individual rehabilitation or habilitation program for people with disabilities, taking into account the diagnosis in</p>	<p>measures for the medical rehabilitation of the patient, medical indications and contraindications for their implementation taking into account the diagnosis in accordance with the current procedures for the provision of medical care, clinical recommendations (treatment protocols) on the provision of medical care, taking into account the standards of medical care; medical indications and contraindications for sanatorium-spa treatment as a stage of</p>	<p>monitor the implementation and evaluate the effectiveness and safety of rehabilitation measures, including when implementing an individual rehabilitation program or habilitation of disabled people taking into account the diagnosis in accordance with the current procedures for medical care, clinical recommendations (treatment protocols) on the medical care delivery taking into account the standards of medical care</p>	<p>implementation of measures for the medical rehabilitation of the patient, including the implementation of an individual rehabilitation or habilitation program for disabled people, in accordance with the current procedures for the provision of medical care, clinical recommendations and (treatment protocols) on the provision of medical care, taking into account the standards of medical care</p>

			accordance with the current procedures for the provision of medical care, clinical guidelines and (treatment protocols) on the provision of medical care, taking into account the standards of medical care	medical rehabilitation of the patient; features of medical rehabilitation of elderly and senile patients		
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4. Sections of the academic discipline and competencies that are formed when mastering them

№	Competence code	Section name of the discipline	The content of the section in teaching units
1	UC-1,2,3,9 GPC-1,4,5,7 PC-1,2,4,5,6,7,8,14	Introduction to the subject. History of transplantation. Legal framework and organization of transplant care. Organ donation.	<ul style="list-style-type: none"> -the concept of transplantation and its place in medicine. - the history of the development of transplantology. The contribution of Russian surgeons to the development of transplantation. -legal, technical and medical aspects of organ transplantation. - organ donation. Basic concepts. Lifetime and posthumous donation. <ul style="list-style-type: none"> - diagnosis of brain death of a potential organ donor. -regulatory documents. -organizational matters. Protocols for diagnostics and conditioning of organs. - explantation of organs. The procedure for the removal, conservation, transportation of organs. Multiorgan explantation of organs.
2	UC-1,2,3,9 GPC-1,4,5,7 PC-1,2,4,5,6,7,8,14	Liver transplant. Kidney transplant. Basic concepts and schemes of immunosuppressive therapy.	<ul style="list-style-type: none"> - kidney transplantation. Indications for transplantation. - questions of the organization of transplantation and legal aspects of the issue. <ul style="list-style-type: none"> -examination of a related donor. - kidney removal technique and organ conservation. -implantation. Operation technique. - Management in the postoperative period. Medical therapy. - liver transplantation. Indications for transplantation. -technique of removal of a fragment of the liver and preservation of the organ. -implantation of a fragment of the liver and the whole organ. Operation technique. <ul style="list-style-type: none"> - Management in the postoperative period. Medical immunosuppressive therapy.
3	UC-1,2,3,9 GPC-1,4,5,7 PC-1,2,4,5,6,7,8,14	Transplantation of the pancreas, heart, lungs. Cell technologies and perspectives of transplantation	<ul style="list-style-type: none"> -transplantation of the pancreas. Indications for transplantation. transplant technique. Management in the postoperative period. - Heart transplant. Indications for transplantation. transplant technique. Management in the postoperative period. - lung transplantation. Transplantation of the heart-lung complex. Indications for transplantation. transplant technique. Management in the postoperative period. <ul style="list-style-type: none"> - results of organ transplantation. Complications. The concepts of graft survival, recipient survival. - prospects for organ transplantation. Increase in donor activity. - cellular technologies in transplantology. Goals and objectives, achievements at the present stage of development.

5. Volume of the academic discipline and types of academic work

Type of educational work	Labor intensity		Labor intensity (AH) in semesters			
	volume in credit units (CU)	volume in academic hours (AH)	11			
Classroom work, including						
Lectures (L)	0,4	4	4			
Laboratory practicum (LP)*						
Practicals (P)	0,5	18	18			
Seminars (S)						
Student's individual work (SIW)	0,4	14	14			
Mid-term assessment credit						
TOTAL LABOR INTENSITY	1	36	36			

6. Content of the academic discipline

6.1. Sections of the discipline and types of academic work

№	Name of the section of the academic discipline	Types of academic work* (in AH)					
		L	LP	P	S	SIW	total
1	Introduction to the subject. History of transplantation. Legal framework and organization of transplant care. Organ donation.	1		6		2	3
2	Liver transplant. Kidney transplant. Basic concepts and schemes of immunosuppressive therapy.	2		6		6	14
3	Transplantation of the pancreas, heart, lungs. Cell technologies and perspectives of transplantation	1		6		6	13
	TOTAL	4		18		14	36

* - L – lectures; LP – laboratory practicum; P – practicals; S – seminars; SIW – student's individual work.

6.2. Thematic schedule of educational work types:

6.2.1 Thematic schedule of lectures

№	Name of lecture topics	Volume in AH	
		semester 11	
1	Introduction to the specialty. History of the development of transplantology. Types of transplant. Issues of organization of organ transplantation.	1	
2	Organ transplantation from a living related donor. Transplantation from a post-mortem donor.	2	
3	Pancreas transplant. Heart transplant. Lung transplant. Perspectives and development of transplantology.	1	
	TOTAL (total - AH) 4		

6.2.2. The thematic plan of laboratory practicums

Curriculum not included.

6.2.3. Thematic plan of practicals

№	Name of the topics of practicals	Volume in AH	
		semester 11	
1	Introduction to the subject. History of transplantation. Legal framework and organization of transplant care. Organ donation.	6	
2	Liver transplant. Kidney transplant. Basic concepts and schemes of immunosuppressive therapy.	6	
3	Transplantation of the pancreas, heart, lungs. Cell technologies and perspectives of transplantology.	6	
TOTAL (total - AH) 18 AH			

6.2.4. Thematic plan of seminars

Curriculum not included.

6.2.5. Types and topics of student's individual work (SIW)

№	Types and topics of SIW	Volume in AH	
		semester 11	
1	Introduction to the subject. History of transplantation. Legal framework and organization of transplant care. Organ donation. - note-taking of textbooks, work with additional literature	2	
2	Liver transplant. Kidney transplant. Basic concepts and schemes of immunosuppressive therapy. - note-taking of textbooks, work with additional literature	6	
3	Transplantation of the pancreas, heart, lungs. Cell technologies and perspectives of transplantology. - note-taking of textbooks, work with additional literature	6	
TOTAL (total - AH) 14			

7. Types of assessment formats for ongoing monitoring and mid-term assessment

№	Semester No.	Types of control	Name of section of academic discipline	Competence codes	Assessment formats		
					types	number of test questions	number of test task options

1.	7	Current monitoring	Control of mastering the topic	1. Introduction to the subject. History of transplantation Legal framework and organization of transplant care. Organ donation. 2. Liver transplant. Kidney transplant. Basic concepts and schemes of immunosuppressive therapy. 3. Transplantation of the pancreas, heart, lungs. Cell technologies and perspectives of transplantation	UC-1,2,3,9 GPC-1,4,5,7 PC-1,2,4,5,6,7,8,14	Tests	10	4
	8			Monitoring the student's individual work	1. Introduction to the subject. History of transplantation Legal framework and organization of transplant care. Organ donation. 2. Liver transplant. Kidney transplant. Basic concepts and schemes of immunosuppressive therapy. 3. Transplantation of the pancreas, heart, lungs. Cell technologies and perspectives of			

				transplantation				
2.	8	Mid-term assessment	Credit	1. Introduction to the subject. History of transplantation Legal framework and organization of transplant care. Organ donation. 2. Liver transplant. Kidney transplant. Basic concepts and schemes of immunosuppressive therapy. 3. Transplantation of the pancreas, heart, lungs. Cell technologies and perspectives of transplantation	UC-1,2,3,9 GPC-1,4,5,7 PC-1,2,4,5,6,7,8,14	Tests	10	4

8. Educational, methodological and informational support for mastering the academic discipline (printed, electronic publications, the Internet and other network resources)

8.1. Key literature references

№	Name according to bibliographic requirements	Number of copies	
		at the department	in the library
1	Introduction to clinical transplantology. / Ed. B.A. Konstantinov, S.L. Dzemeshevich. M, 1993. - 391 p.	1	1
2	Clinical transplantation. Babenko N. N.. M.: Air-Art, 2004. - 304 p.	1	1
3	Transplantology: textbook Khubutia M. Sh. GEOTAR-Media. 2016.	1	1

8.2. Further reading

№	Name according to bibliographic requirements	Number of copies	
		at the department	in the library
1	Humoral rejection in heart allotransplantation. Shumakov V.I., Khubutiya M.Sh., Beletskaya L.V. Tver: OOO Publishing House Triada. 2003.	1	

2	Artificial heart and assisted circulation. Shumakov V.I. Tolpekin V.E., Shumakov D.V. M.: Janus-K 2003.	1	
3	Heart transplant. Shumakov V.I. Moscow "MIA" 2006.	1	

8.3. Electronic educational resources for teaching academic subjects

8.3.1. Internal Electronic Library System of the University (IELSU)

<i>№</i>	<i>Name of the electronic resource</i>	<i>Brief description (content)</i>	<i>Access conditions</i>	<i>Number of users</i>
	Internal Electronic Library System of the University (IELSU)	Proceedings of PIMU staff (textbooks, manuals, collections of tasks, methodological manuals, laboratory work, monographs, etc.)	Access by individual login and password from any computer and mobile device	Not limited

8.3.2. Electronic educational resources acquired by the University

<i>№</i>	<i>Name of the electronic resource</i>	<i>Brief description (content)</i>	<i>Access conditions</i>	<i>Number of users</i>
1	Database "Medicine. Healthcare (VO) and "Medicine. Healthcare (SPO)" as part of the database "Electronic library of a technical university (ELS "Student Consultant"	Textbooks and teaching aids for higher medical and pharmaceutical education	Access by individual login and password from any computer and mobile device	Not limited
2	Database «Doctor's Consultant. Electronic Medical Library»	National guidelines, clinical guidelines, textbooks, monographs, atlases, reference books, etc.	Access by individual login and password from any computer and mobile device	Not limited
3	Database "Electronic Library System "Bukap"	Educational and scientific medical literature of Russian publishing houses, incl. translated editions. The collection of subscription publications is formed point by point.	Access by individual login and password from any computer and mobile device	Not limited
4	Electronic periodicals in the database "SCIENTIFIC ELECTRONIC LIBRARY eLIBRARY"	Electronic medical journals	Access - from the computers of the university	Not limited

8.3.3 Open access resources

<i>№</i>	<i>Name of the electronic resource</i>	<i>Brief description (content)</i>	<i>Access conditions</i>
1	EBS "Urayt". Access mode: http://biblio-online.ru .	Textbooks and teaching aids for higher medical and pharmaceutical education	Not limited
2	EBS "Student Advisor". Access	Textbooks and teaching aids for	Not limited

	mode: http://www.studentlibrary.ru.	higher medical and pharmaceutical education	
3	EBS "Lan". Access mode: http://e. www.lanbook.com/.	Textbooks and teaching aids for higher medical and pharmaceutical education	Not limited
4	EBS "Znanium.com". Access mode: www.znanium.com.	Textbooks and teaching aids for higher medical and pharmaceutical education	Not limited

9. Material and technical support for mastering an academic discipline

9.1. List of premises for classroom activities for the discipline

1. lecture hall equipped with presentation equipment: projector, screen, computer/laptop (1)
2. conference room equipped with presentation equipment: projector, screen, computer/laptop (1)
3. themed classrooms for practical classes (4)
4. treatment rooms of surgical departments (9)
5. operating dome (1)
6. dressing rooms of surgical departments (5)

9.2. List of equipment for classroom activities for the discipline

1. set of electronic presentations (slides),
2. presentation equipment: projector, screen, computer/laptop
3. negatoscopes (5)
4. training stands (6)

9.3. A set of licensed and freely distributed software, including domestic production

Item no.	Software	number of licenses	Type of software	Manufacturer	Number in the unified register of Russian software	Contract No. and date
1	Wtware	100	Thin Client Operating System	Kovalev Andrey Alexandrovich	1960	2471/05-18 from 28.05.2018
2	MyOffice is Standard. A corporate user license for educational organizations, with no expiration date, with the right to receive updates for 1 year.	220	Office Application	LLC "NEW CLOUD TECHNOLOGIES"	283	without limitation, with the right to receive updates for 1 year.
3	LibreOffice		Office Application	The Document Foundation	Freely distributed software	
4	Windows 10 Education	700	Operating systems	Microsoft	Azure Dev Tools for Teaching Subscription	
5	Yandex. Browser		Browser	«Yandex»	3722	
6	Subscription to MS Office Pro for 170 PCs for	170	Office Application	Microsoft		23618/HN100 30 LLC "Softline

FGBOU VO "PIMU" of the Ministry of Health of Russia					Trade" from 04.12.2020
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10. List of changes to the working program (to be filled out by the template)

Federal State Budgetary Educational Institution of Higher Education
"Privolzhsky Research Medical University"
Ministry of Health of the Russian Federation
(FSBEI HE "PRMU" of the Ministry of Health of Russia)

Department of faculty of surgery and transplantology

CHANGE REGISTRATION SHEET

working program for the academic discipline
BASICS OF TRANSPLANTOLOGY

Field of study / specialty / scientific specialty: 31.05.01 GENERAL MEDICINE _____
(code, name)

Training profile: _____
(name) - for master's degree programs

Mode of study: FULL-TIME
full-time/mixed attendance mode/extramural

Position	Number and name of the program section	Contents of the changes made	Effective date of the changes	Contributor's signature
1				

Approved at the department meeting
Protocol No. _____ of _____ 20__

Head of the Department faculty
of surgery and transplantology
MD, Professor Zagainov V. E.
department name, academic title

_____/_____
signature print name