

*Federal State Autonomous Educational Institution  
higher education "Peoples' Friendship University of Russia"*

*Medical Institute*

Recommended by ISSC

## **THE WORKING PROGRAM OF THE DISCIPLINE**

**Name of the discipline**

**Disaster Medicine**

**Recommended for direction of training/specialties**

**31.05.03 Dentistry**

**Focus of the program**

**Dentistry**

**1. Goals and objectives of the discipline:**

**Target** - preparation of students enrolled in the specialty Dentistry of higher professional medical education to work to provide medical care to the affected population in emergency situations

**The objectives of the discipline:**

- teaching students the principles of organization and work in specialized clinics in emergency situations of war and peacetime;
- preparation of students enrolled in the specialty Dentistry of higher professional medical education for the practical performance of functional duties in specialized clinics and general medical institutions;
- the formation of students' skills in providing medical care at the prehospital stage to victims of emergency situations of war and peacetime.

**2. Place of discipline in the structure of EP VO:**

The discipline "Disaster Medicine" belongs to the Basic part of Block 1 of the curriculum.

Table 1 shows the previous and subsequent disciplines aimed at the formation of discipline competencies in accordance with the competence matrix of EP HE.

Table No. 1

**Prior and subsequent disciplines aimed at the formation of competencies**

No. p / p	Code and name competence	Previous disciplines	Subsequent disciplines (discipline groups)
Universal competences			
1	UC-2		
General professional competencies			
1	OPK-7		Epidemiology General Surgery Surgical Diseases Maxillofacial and Orthognathic Surgery Head and Neck Diseases Implantology and Reconstructive Surgery
Professional competencies			
1	PC-3		Local Anesthesia and Anesthesiology in Dentistry Oral Surgery Maxillofacial and Orthognathic Surgery Head and Neck Diseases Implantology and Reconstructive Surgery

**3. Requirements for the results of mastering the discipline.**

The process of studying the discipline is aimed at the formation of the following competencies:

Table No. 2

**Formed competencies**

Competencies	Competency name	Competence achievement indicators
UC-2	Being able to manage a project at any stage of its life cycle.	UC-2.1. Based on the problem posed, formulating a project task and a method for solving it through project management implementation. UC-2.2. Developing a project concept within the outlined problem: laying down a goal, tasks; providing arguments for the relevance, significance, expected results and possible areas of their application. UC-2.3. Planning required resources, including taken their

		<p>replaceability.</p> <p>UC-2.4. Developing the project implementation plan using planning tools.</p> <p>UC-2.5. Monitoring the project implementation progress, making adjustments to deviations, additional changes to the project implementation plan, clarifying the areas of responsibility of the project participants.</p>
GPC-7	Being able to organize work and take professional decisions in case of emergency conditions, amid emergencies, epidemics, and in the foci of mass destruction	<p>GPC-7.1. Being able to use the algorithm for providing first aid in emergency conditions, including in extreme conditions and foci of mass destruction.</p> <p>GPC-7.2. Identifying conditions requiring emergency medical care, including clinical signs of sudden cessation of blood circulation and acute respiratory failure.</p> <p>GPC-7.3. Providing emergency medical care to patients with conditions that pose a threat to the patient's life, including clinical death (cessation of the vital bodily functions (blood circulation and (or) breathing).</p> <p>GPC-7.4. Using drugs and medical products when providing emergency medical care.</p>
PC-3	Being able to develop, implement and monitor the effectiveness of individual rehabilitation programmes	<p>PC-3.1. Providing qualified medical care in the specialty using modern rehabilitation methods approved for use in medical practice.</p> <p>PC-3.2. Drawing up an individual rehabilitation plan for a patient with diseases of the maxillofacial area.</p> <p>PC-3.3. Monitoring and selecting medicinal drugs for patient rehabilitation.</p>

As a result of studying the discipline, the student must:

**Know:**

- Causes, signs and consequences of hazards, methods of protection against emergencies;
- Fundamentals of life safety, emergency phone numbers...
- Algorithm for the provision of medical care in emergency conditions, including in extreme conditions and foci of mass destruction.

**Be able to:**

- Identify signs, causes and conditions of emergencies;
- Assess the likelihood of a potential hazard for a student and take measures to prevent it in an educational institution;
- Provide first aid in emergencies.
- Identify conditions requiring emergency medical care, including clinical signs of sudden cessation of blood circulation and respiration.
- Evaluate the condition of a patient requiring emergency or urgent medical care.
- Recognize conditions arising from sudden acute diseases, exacerbation of chronic diseases without obvious signs of a threat to the patient's life and requiring emergency medical care.
- Provide 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.
- Recognize conditions that pose a threat to the patient's life, including conditions of clinical death (cessation of vital functions of the human body (blood circulation and / or respiration), requiring emergency medical care.
- Provide emergency medical care to patients in conditions that pose a threat to the patient's life, including clinical death (stopping the vital functions of the human body (blood circulation and / or respiration).
- Use drugs and medical devices in the provision of medical care in emergency or urgent forms.

**Own:**

- Methods for predicting the occurrence of dangerous or emergency situations;
- Skills to maintain a safe living environment.
- Provide emergency medical care to patients in conditions that pose a threat to the life of patients,

including clinical death (stopping the vital functions of the human body (blood circulation and (or) breathing).

#### 4. The scope of the discipline and types of educational work

The total workload of the discipline is 4 credit units.

Type of educational work	Total hours	Semesters			
					8
<b>Classroom lessons (total)</b>	68				68
Including:	-				
<i>Lectures</i>					
<i>Practical lessons (PZ)</i>	68				68
<i>Seminars (C)</i>					
<i>Laboratory work (LR)</i>					
<b>Independent work (total)</b>	<b>40</b>				<b>40</b>
Total labor intensity	hour				
	credits units	<b>108</b>			<b>108</b>
		<b>3</b>			<b>3</b>

#### 5. Content of the discipline

##### 5.1. Contents of discipline sections

P / p No.	The name of the discipline section	Section Contents
1.	The current state of the development of purulent surgery in Russia and the world.	The history of purulent surgery and its relationship to the surgical and therapeutic specialties. The contribution of F.V. Voyno-Yasenetsky in the development of modern domestic pus surgery. The role of the school of the Institute of Surgery. A.V. Vishnevsky in the development and formation of the discipline. A method of active surgical treatment of purulent wounds. Features and principles of treatment of patients with wounds and surgical infections that have arisen during natural and man-made disasters
2.	Surgical treatment of a purulent focus during the provision of specialized care both in peacetime and in case of mass admission of victims.	The concept of surgical treatment of a purulent focus. Types of surgery: primary, secondary, repeated. Stages of the operation. Differences in the surgical treatment of a purulent focus from a PHO wound in traumatology. Preoperative management of patients.
3.	Local treatment of wounds. Burn wound	Stages of the course of the wound process. Types of modern wound dressings. Modern antiseptics. The choice of a drug for local treatment, depending on the phase of the course of the wound process. Features of local treatment of burn wounds
4.	Providing first aid, emergency and emergency medical care at the pre-hospital stage. Stopping blood circulation. Basic cardiopulmonary resuscitation.	Regulatory framework for first aid, emergency and emergency medical care. Professional standards and qualification requirements for doctors of various specialties in the provision of emergency and emergency medical care. Criteria for determining the moment of death of a person and carrying out resuscitation measures. Indications and contraindications for cardiopulmonary resuscitation (CPR). The regulatory framework of the Russian Federation. Basic cardiopulmonary resuscitation and automatic external defibrillation in adults. DBK algorithm with AED: Initial examination of the victim. Manual methods of ensuring

		<p>temporary patency of the upper respiratory tract. Artificial ventilation of the lungs with a breathing bag Ambu / face mask. Compression of the chest.</p> <p>Basic CPR technique by one specialist and in a team, DBC using the method of isolated chest compressions.</p> <p>Algorithm for basic cardiopulmonary resuscitation using an automatic external defibrillator.</p> <p>Laying the victim in a "stable lateral position".</p> <p>Causes of upper airway obstruction and methods of elimination of upper respiratory tract obstruction. Techniques for the removal of foreign bodies from the respiratory tract in various categories of victims.</p> <p>Laying the victim in a "recovery position".</p> <p>Algorithm of actions for anaphylactic shock.</p>
5.	Basic and advanced life support in adults and children. Simulation training.	<p>Sudden cardiac death. Types of circulatory arrest (asystole, electromechanical dissociation, ventricular fibrillation, pulseless ventricular tachycardia). Corrected causes of circulatory arrest (rule "4H and 4T". Immediate interventions. Circulatory arrest in special cases.</p> <p>The volume of the basic resuscitation complex for children for medical workers. Initial examination of the child.</p> <p>Recognition of circulatory arrest. Immediate intervention.</p> <p>Technique of chest compressions and artificial respiration in children of different ages.</p> <p>Methodology for basic and extended resuscitation by one and two providers (health workers) in adults and children.</p> <p>Algorithm for basic cardiopulmonary resuscitation using an automatic external defibrillator in children.</p> <p>Medical manipulations. Temporary management of upper airways.</p>
6.	MK. General concepts of disaster medicine. Medical triage. Desmurgy.	<p>Problems and prospects for the development of MC. Types of assistance, medical triage of victims, medical evacuation of victims. Medical and evacuation support for victims of emergencies. Desmurgy concept. Stopping bleeding, transport immobilization of the victims' extremities. Simulation of various emergency situations.</p>
7.	Reconstructive and plastic surgery in purulent surgery. Autodermoplasty. Wound plasty with local tissues.	<p>The value of reconstructive and plastic surgery in purulent surgery. Classification of reconstructive and plastic surgery.</p> <p>The choice of the method of plastic wound closure.</p> <p>Autodermoplasty: types, technique, indications for use.</p> <p>Wound plasty with local tissues: types, technique, indications for use.</p>
8.	Reconstructive and plastic surgery in purulent surgery. Wound plasty using flaps. The strategy for performing high amputations of the lower extremities.	<p>Classification of flaps. Indian plastic, Italian plastic.</p> <p>Reconstructive and plastic surgery in the surgical treatment of deep pressure ulcers.</p> <p>Microsurgical transplantation of tissue complexes: types, technique, indications for use.</p>
9.	Potent and toxic substances.	<p>Toxicology. Within the framework of the lesson, issues related to the causes, consequences and elimination of various emergencies as a result of the release of chemical hazardous substances are considered. The most common</p>

		hazardous chemicals are discussed in detail: their state of aggregation, chemical properties and human exposure. Organization of medical care for those affected by hazardous chemicals (in the outbreak, outside the outbreak of chemical damage).
10.	Prehospital trauma emergency care	<p>Secondary in-depth examination of the victim (ABCDE - approach).</p> <p>Immobilization of the cervical spine in the victim by manual methods, the use of a cervical collar, cervical blocks.</p> <p>Immobilization and splinting of long bones and joints.</p> <p>Immobilization on a long and short spinal board.</p> <p>Technique for planned and emergency movement of the victim:</p> <p>Demonstration of various methods of transferring the victim from the surface to various types of stretchers, spinal shields, vacuum means of immobilization, the technique of transferring and carrying the victim by one or more specialists.</p> <p>Demonstration of techniques for temporarily stopping external bleeding.</p> <p>The imposition of the main types of fixing bandages.</p>
11.	Mass defeat. Medical triage. Practical skills. Simulation game.	A simulation game is conducted to learn practical triage skills. Work in a playful way in a simulation environment according to clinical scenarios using standard medical equipment and improvised means for immobilizing and transporting victims. Methodological support: to fulfill a situational task, students are divided into small subgroups: into intellectual models of injuries of victims and a group of "rescuers".

## 5.2 Sections of disciplines and types of classes

P / p No.	Section name	Lekts.	Practice. busy	Lab. busy	Seminary	CPC	Just an hour.
1.	The current state of the development of purulent surgery in Russia and the world.		6			3	9
2.	Surgical treatment of a purulent focus during the provision of specialized care both in peacetime and in case of mass admission of victims.		6			3	9
3	Local treatment of wounds. Burn wound		6			3	9
4	Providing first aid, emergency and emergency medical care at the pre-hospital stage. Stopping blood circulation. Basic cardiopulmonary		5			4	9

	resuscitation.						
5	Basic and advanced life support in adults and children. Simulation training.		5			4	9
6	MK. General concepts of disaster medicine. Medical triage. Desmurgy.		5			3	8
7	Reconstructive and plastic surgery in purulent surgery. Autodermoplasty. Wound plasty with local tissues.		7			4	11
8.	Reconstructive and plastic surgery in purulent surgery. Wound plasty using flaps. The strategy for performing high amputations of the lower extremities.		7			4	11
9.	Potent and toxic substances.		7			4	11
10.	Prehospital trauma emergency care		7			4	11
11.	Mass defeat. Medical triage. Practical skills. Simulation game.		7			4	11
	Total		<b>68</b>			<b>40</b>	<b>108</b>

## 6. Laboratory workshop *not provided*

## 7. Practical clinical practice

P / p No.	Namediscipline section	Practical training topics	Labor capacity (hours)
1.	The current state of the development of purulent surgery in Russia and the world.	<ul style="list-style-type: none"> <li>– The history of purulent surgery and its relationship to the surgical and therapeutic specialties. The contribution of F.V. Voino-Yasenetsky in the development of modern domestic pus surgery.</li> <li>– The role of the school of the Institute of Surgery. A.V. Vishnevsky in the development and formation of the discipline.</li> <li>– A method of active surgical treatment of purulent wounds. Features and principles of treatment of patients with wounds and surgical infections that have arisen during natural and man-made disasters</li> </ul>	6
2.	Surgical treatment of a purulent focus during the provision of specialized care both in peacetime and in case of mass admission of	<ul style="list-style-type: none"> <li>– The concept of surgical treatment of a purulent focus.</li> <li>– Types of surgery: primary, secondary, repeated.</li> <li>– Stages of the operation.</li> <li>– Differences in the surgical treatment of a purulent focus from a PHO wound in</li> </ul>	6

	victims.	traumatology. Preoperative management of patients.	
3.	Local treatment of wounds. Burn wound	<ul style="list-style-type: none"> <li>– Stages of the course of the wound process. Types of modern wound dressings.</li> <li>– Modern antiseptics. The choice of a drug for local treatment, depending on the phase of the course of the wound process.</li> <li>– Features of local treatment of burn wounds</li> </ul>	6
4.	Providing first aid, emergency and emergency medical care at the pre-hospital stage. Stopping blood circulation. Basic cardiopulmonary resuscitation.	<ul style="list-style-type: none"> <li>– Regulatory framework for first aid, emergency and emergency medical care.</li> <li>– Professional standards and qualification requirements for doctors of various specialties in the provision of emergency and emergency medical care.</li> <li>– Criteria for determining the moment of death of a person and carrying out resuscitation measures. Indications and contraindications for cardiopulmonary resuscitation (CPR). The regulatory framework of the Russian Federation.</li> <li>– Basic cardiopulmonary resuscitation and automatic external defibrillation in adults. DBK algorithm with AED:</li> <li>– Initial examination of the victim.</li> <li>– Algorithm for basic cardiopulmonary resuscitation using an automatic external defibrillator.</li> <li>– Laying the victim in a "stable lateral position".</li> <li>– Causes of upper airway obstruction and methods of elimination of upper respiratory tract obstruction. Algorithm of actions for anaphylactic shock.</li> </ul>	5
5.	Basic and advanced life support in adults and children. Simulation training.	<ul style="list-style-type: none"> <li>– Sudden cardiac death. Types of circulatory arrest (asystole, electromechanical dissociation, ventricular fibrillation, pulseless ventricular tachycardia). Corrected causes of circulatory arrest (rule "4H and 4T". Immediate interventions. Circulatory arrest in special cases.</li> <li>– The volume of the basic resuscitation complex for children for medical workers. Initial examination of the child. Recognition of circulatory arrest. Immediate intervention. Technique of chest compressions and artificial respiration in children of different ages.</li> <li>– Methodology for basic and extended resuscitation by one and two providers (health workers) in adults and children. Algorithm for basic cardiopulmonary resuscitation using an automatic external defibrillator in children.</li> <li>– Medical manipulations. Temporary management of upper airways.</li> </ul>	5
6.	MK. General concepts of disaster medicine.	<ul style="list-style-type: none"> <li>– Problems and prospects for the development of MC.</li> <li>– Types of assistance,</li> <li>– Medical triage of victims, medical evacuation</li> </ul>	5



	Medical triage. Desmurgy.	<ul style="list-style-type: none"> <li>of victims.</li> <li>– Medical and evacuation support for victims of emergencies.</li> <li>– Desmurgy concept...</li> <li>– Stopping bleeding, transport immobilization of the victims' extremities.</li> <li>– Simulation of various emergency situations.</li> </ul>	
7.	Reconstructive and plastic surgery in purulent surgery. Autodermoplasty. Wound plasty with local tissues.	<ul style="list-style-type: none"> <li>– The value of reconstructive and plastic surgery in purulent surgery.</li> <li>– Classification of reconstructive and plastic surgery. The choice of the method of plastic wound closure. Autodermoplasty: types, technique, indications for use.</li> <li>– Wound plasty with local tissues: types, technique, indications for use.</li> </ul>	7
8.	Reconstructive and plastic surgery in purulent surgery. Wound plasty using flaps. The strategy for performing high amputations of the lower extremities.	<ul style="list-style-type: none"> <li>– Classification of flaps. Indian plastic, Italian plastic.</li> <li>– Reconstructive and plastic surgery in the surgical treatment of deep pressure ulcers.</li> <li>– Microsurgical transplantation of tissue complexes: types, technique, indications for use.</li> </ul>	7
9.	Potent and toxic substances.	<ul style="list-style-type: none"> <li>– Toxicology. Within the framework of the lesson, issues related to the causes, consequences and elimination of various emergencies as a result of the release of chemical hazardous substances are considered.</li> <li>– The most common hazardous chemicals are discussed in detail: their state of aggregation, chemical properties and human exposure.</li> <li>– Organization of medical care for those affected by hazardous chemicals (in the outbreak, outside the outbreak of chemical damage).</li> </ul>	7
10.	Prehospital trauma emergency care	<ul style="list-style-type: none"> <li>– Secondary in-depth examination of the victim (ABCDE - approach).</li> <li>– Immobilization of the cervical spine in the victim by manual methods, the use of a cervical collar, cervical blocks.</li> <li>– Immobilization and splinting of long bones and joints.</li> <li>– Immobilization on a long and short spinal board.</li> <li>– Technique for planned and emergency movement of the victim:</li> <li>– Demonstration of various methods of transferring the victim from the surface to various types of stretchers, spinal shields, vacuum means of immobilization, the</li> </ul>	7

		<p>technique of transferring and carrying the victim by one or more specialists.</p> <ul style="list-style-type: none"> <li>- Demonstration of techniques for temporarily stopping external bleeding.</li> </ul>	
11.	<p>Mass defeat. Medical triage. Practical skills. Simulation game.</p>	<ul style="list-style-type: none"> <li>- A simulation game is conducted to learn practical triage skills.</li> <li>- Work in a playful way in a simulation environment according to clinical scenarios using standard medical equipment and improvised means for immobilizing and transporting victims.</li> <li>- Methodological support: to fulfill a situational task, students are divided into small subgroups: into intellectual models of injuries of victims and a group of "rescuers".</li> </ul>	7

### 8. Material and technical support of the discipline:

1. Classrooms equipped with multimedia projectors.
2. Computer classes at MI, Research Institute of Emergency Pediatric Surgery and Traumatology, RUDN University Information Library Center with access to the RUDN University electronic library system, the Internet.
3. First aid simulators.
4. Tourniquets, elastic bandages, kerchiefs.
5. Educational and laboratory simulator "Security and fire alarm".
6. Mobile automated examination complex.

### 9. Information support of the discipline:

a) software - Testing program "Mentor"

b) databases, information and reference and search systems:

Educational portal of RUDN University: <http://web-local.rudn.ru/web-local/kaf/rj/index.php?id=86>

US National Library of Medicine National Institutes of Health:

<http://www.ncbi.nlm.nih.gov/pubmed/>

Scientific electronic library: <http://elibrary.ru/defaultx.asp>

c) electronic library systems (ELS):

Electronic library system RUDN - EBS

RUDN <http://lib.rudn.ru/MegaPro/Web>

EBS "University Library

Online" <http://www.biblioclub.ru>

EBS Yurayt <http://www.biblio-online.ru>

EBS "Student Consultant" [www.studentlibrary.ru](http://www.studentlibrary.ru)

EBS "Lan" <http://e.lanbook.com/>

EBS Znanium.com <http://znanium.com/>

### 10. Educational and methodological support of the discipline:

#### a) main literature

1. A.A. Koshelev Emergency Medicine. Theory and Practice: Textbook / A.A. Koshelev. - 3rd ed., Stereotype. - SPb. : Lan, 2016. -- 320 p. - (Textbooks for universities. Special literature). - ISBN 978-5-8114-2091-9: 550.00.54.5-K 76.50 pcs.
2. Emergency Medicine. Textbook for students of the specialty "Pharmacy" / Ibragimova A.N., Sokov S.L., in 2 parts, 2020, Part 1. - 48 p. ; Part 2. - 42 p. : with ill.
3. Kavalsky G.M. Emergency medicine. Disaster surgery [Text] Textbook / G.M. Kavalsky, A.V. Harkavi. - M. : Medical Information Agency, 2015. -- 376 p. : ill. - ISBN 978-5-9986-0235: 840.00.54.58 - K 12 - 60 pcs.

## **b) additional literature**

1. Sidorov P.I. Disaster medicine Textbook for universities / P.I. Sidorov, I.G. Mosyagin. - M.: Academy, 2010. -- 320 p. - (Higher professional education. Medicine). - Application: CD-ROM. - ISBN 978-5-7695-6883-1 390.58. 54.58 - C34 - 34 pcs.

## **11. Guidelines for students on the development of the discipline "Disaster Medicine"**

The student is required to attend classes, complete the assignments of the discipline teacher, familiarize himself with the recommended literature, etc. During the certification of the student, the quality of work in the classroom, the level of preparation for independent activity in the chosen field, the quality of the assignments of the discipline teacher, the ability to independently study the educational material are assessed.

During practical classes and lectures in classrooms, the relevant topics are analyzed using multimedia technology (computer, projector).

Independent work outside the classroom can take place both in the classrooms of the department and in the computer class, where students can study material on the presentations prepared by the teachers of the department, as well as on computer tests.

Presentations on the topics of classes can be recorded on a flash card for independent work of students on a home computer.

Textbooks in electronic form on a number of topics studied are posted on the pages of the staff of the Disaster Medicine Department of the Medical Institute on the RUDN University Educational Portal, as well as on the local resources of the RUDN University electronic library system.

As one of the forms of independent work, preparation of abstracts for various sections of the course is provided.

Extracurricular independent work includes:

study of material from a textbook, teaching aids on paper and electronic media; preparation of an abstract message on a selected topic; preparation for the performance of tests, test items and practical skills.

Each practical lesson includes:

- topic and questions for study;
- a specific list of skills and abilities that the student must master;
- at the end of each lesson, control questions and tasks are given that allow you to independently determine the success of mastering the material being studied.

## **12. Fund of assessment tools for intermediate certification of students in the discipline "Disaster Medicine"**

Materials for assessing the level of mastering the educational material of the discipline "Emergency Medicine", which include a list of competencies with an indication of the stages of their formation, a description of indicators and criteria for assessing competencies at various stages of their formation, a description of the assessment scales, typical control tasks or other materials necessary to assess knowledge, skills, skills and (or) experience characterizing the stages of the formation of competencies in the process of mastering the educational program, the methodological materials defining the procedures for assessing knowledge, skills, skills and (or) experience of the activity, characterizing the stages of the formation of competencies, are developed in full and are available for students on the discipline page in the TUIS RUDN University.

The program was drawn up in accordance with the requirements of the Federal State Educational Standard of Higher Education.

**Developers:**

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