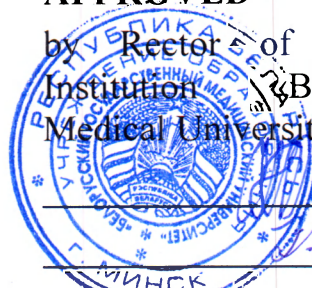


**MINISTRY OF HEALTH OF THE REPUBLIC OF BELARUS**  
Educational Institution  
**BELARUSIAN STATE MEDICAL UNIVERSITY**

**APPROVED**

by Rector of the Educational  
Institution «Belarusian State  
Medical University»

S.P.Rubnikovich



*7.06.2023*

Reg. # UB-091-030/2324/edu.

**Контрольный  
экземпляр**

**FIRST AID**

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

**7-07-0911-01 «General Medicine»;**

**7-07-0911-03 «Dentistry»**

Curriculum is based on the educational program «First Aid», approved 27.06.2023, registration # УД-091-030/2324/уч.; on the educational plan in the specialty 7-07-0911-01 «General Medicine», approved 17.05.2023, registration # 7-07-0911-01 /2324/mf., on the educational plan in the specialty 7-07-0911-02 «Dentistry», approved 17.05.2023, registration # 7-07-0911-02/2324/mf.

### **COMPILERS:**

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### **RECOMMENDED FOR APPROVAL:**

by the Simulation and Attestation Center of the educational institution «Belarusian State Medical University»  
(protocol # 11 of 16.06.2023);

by the Scientific and Methodological Council of the educational institution «Belarusian State Medical University»  
(protocol # 6 of 27.06.2023)

## EXPLANATORY NOTE

«First Aid» – the academic discipline of the modules «Medical Care»<sup>1</sup>, «Introduction to the Specialty»<sup>2</sup>, which contains systematized scientific knowledge about the principles and methods of providing first aid in case of accidents, injuries, poisoning and other conditions that pose a threat to human life and health.

The aim of the discipline «First Aid» is the formation of universal and basic professional competencies for providing first aid in case of accidents, injuries, bleeding, poisoning, and other conditions that threaten human life and health.

The objectives of the discipline «First Aid» are to form students' scientific knowledge about:

- the basic concepts of the basics of asepsis and antisepsis;
- the principles of first aid, legislative aspects of first aid;
- the causes and mechanisms of typical situations requiring first aid;
- the most important manifestations of situations requiring first aid;
- basic principles of first aid in case of accidents, injuries, bleeding, poisoning, other conditions that threaten human life and health
- the skills and abilities required for:
  - the survey of the patient and the casualty;
  - assessing the condition of the patient and the casualty;
  - providing first aid in case of accidents, injuries, bleeding, poisoning, other conditions that pose a threat to human life and health;
  - the preparation for transportation of patients and casualties with bleeding, injuries, fractures, other conditions that pose a threat to human life and health.

The knowledge, skills and abilities acquired during the study of the academic discipline «First Aid» are necessary for the successful mastering of the following academic modules:

for the specialty 7-07-0911-01 «General Medicine» - «Therapy Module # 1», «Therapy Module # 2», «Therapy Module # 3», «Surgical Module # 1», «Surgical Module # 2»;

for the specialty 7-07-0911-03 «Dentistry» - «General Clinical Therapy Module #1», «General Clinical Therapy Module # 2», «General Clinical Surgical Module».

Studying the educational discipline «First Aid» should ensure the formation of students' universal and basic professional competencies:

UC. Take the initiative and adapt to changes in professional activities, be able to predict the conditions for the implementation of professional activities and solve professional problems in conditions of uncertainty;

BPC. Provide first aid in accidents, injuries, bleeding, poisoning and other conditions threatening human life and health.

**As a result of studying the discipline «First Aid», the student should know:**

the types of bleeding, injuries, fractures, poisoning;

<sup>1</sup> For the specialty 1-79 01 01 «General Medicine».

<sup>2</sup> For the specialty 1-79 01 07 «Dentistry».

the signs of bleeding, injuries, poisoning, other conditions that pose a threat to human life and health;

the basics of asepsis and antisepsis;

first aid equipment;

the principles and sequence of first aid;

the rules for transporting patients and casualties with bleeding, injuries, fractures, other conditions that pose a threat to life and health;

**be able to:**

survey the patient and the casualty;

assess the condition of the patient and the casualty;

provide first aid in case of accidents, injuries, bleeding, poisoning, other conditions that pose a threat to human life and health;

prepare for the transportation of patients and casualties with bleeding, injuries, fractures, other conditions that pose a threat to life and health;

**master:**

the skills of applying bandages, transport immobilization in case of injuries;

the skills of cardiopulmonary resuscitation;

first aid skills in case of accidents, injuries, bleeding, poisoning, other conditions that pose a threat to human life and health.

**Total number** of hours for the study of the discipline

For the specialty 7-07-0911-01 «General Medicine» is 90 academic hours. Classroom hours according to the types of studies: lectures – 10 hours (including 3 hours of supervised student independent work), practical classes – 30 hours, student independent work (self-study) – 50 hours.

Intermediate assessment is carried out according to the syllabus of the specialties in the form of an examination (1 semester).

For the specialty 7-07-0911-06 «Dentistry» is 68 academic hours. Classroom hours according to the types of studies: lectures – 10 hours (including 3 hours of supervised student independent work), practical classes – 30 hours, student independent work (self-study) – 28 hours.

Intermediate assessment is carried out on the module «Introduction to the specialty» (study disciplines «Informatics in Medicine», «First Aid», «Biomedical Ethics») and on the academic discipline in the form of credit (4 semester).

Form of higher education – full-time.

**ALLOCATION OF ACADEMIC TIME  
ACCORDING TO SEMESTERS OF STUDY**

Code, name of the specialty	semester	Number of academic hours						Form of intermediate assessment
		total	in-class	including			out-of-class self-studies	
				lectures	supervised student independent work	practical classes		
7-07-0911-01 «General Medicine»	1	90	40	7	3	30	50	examination
1-79 01 07 «Dentistry»	4	68	40	7	3	30	28	credit

## THEMATIC PLAN

Section (topic) name	Number of class hours	
	lectures	practical
1. Basic of asepsis and antiseptics. Personal safety in first aid	2	2
2. General principles of first aid		2
3. Terminal states. Cardiopulmonary resuscitation	2	2
4. First aid for wounds	-	2
5. First aid for bleeding and blood loss	-	2
6. First aid for asphyxia	2	2
7. First aid for dislocations and fractures	-	2
8. First aid for head and chest injuries	-	2
9. First aid for abdominal injuries. Syndrome of prolonged compression	-	2
10. First aid for traumatic shock, anaphylaxis	-	2
11. First aid for burns and frostbite	2	2
12. First aid for electric shock, lightning strike, heat and sunstroke		2
13. First aid for poisoning, insect and animal bites	-	2
14. First aid for disorders of consciousness and convulsions	2	2
15. First aid for asthma attack, acute heart attack		2
<b>Total hours</b>	<b>10</b>	<b>30</b>

### CONTENT OF THE EDUCATIONAL MATERIAL

#### **1. Basics of asepsis and antiseptics. Personal safety in first aid**

Introduction to the discipline «First Aid». Types of medical aid. The concept of first aid. Legislative aspects of first aid.

General provisions of asepsis and antiseptics. Source of infection, ways and factors of transmission. Prevention of infections associated with first aid.

Types of modern antiseptics. General characteristics of antiseptics. Rules of the hygienic antiseptic skin of the hands. Personal protective equipment. Compliance with the rules of personal safety when providing first aid to casualties.

Ethics and deontology in first aid.

#### **2. General principles of first aid**

Rules and procedure for survey of the casualty. Primary survey. Secondary survey. The sequence of survey: head, neck and cervical spine, chest, abdomen, pelvis, limbs, thoracic and lumbar spine.

Assessing a casualty. The main criteria for assessing impaired consciousness, breathing, blood circulation. Characteristics of the pulse, research technique on the radial and carotid arteries. Blood pressure, indicators, characteristics, measurement technique. Types and frequency of breathing, counting the number of respiratory movements, the concept of pulse oximetry.

### **3. Terminal states. Cardiopulmonary resuscitation**

The concept of terminal states. Symptoms of clinical and biological death. Indications and contraindications for resuscitation.

The concept of cardiopulmonary resuscitation. Carrying out basic resuscitation (open airway, chest compressions, rescue breaths). Criteria for the effectiveness of cardiopulmonary resuscitation. Mistakes and complications arising from cardiopulmonary resuscitation. Indications for termination of cardiopulmonary resuscitation. Features of cardiopulmonary resuscitation in children of different ages.

### **4. First aid for wounds**

Wounds, general characteristics, classification. Principles of first aid for various types of wounds. The main types of dressing of soft bandages. Rules and techniques for dressing of soft bandages to various parts of the body. Bandages. Bandages from improvised materials.

### **5. First aid for bleeding and blood loss**

Bleeding: classification by nature, by reason, by the nature of communication with the external environment, by the time of occurrence. The concept of blood loss, the main signs of acute blood loss. Methods for stopping bleeding. Ways to temporarily stop bleeding. Rules and technique for applying a hemostatic tourniquet, pressure bandage. Stop bleeding with the help of improvised means. First aid for bleeding from the nose, ear.

### **6. First aid for asphyxia**

Asphyxia, types, main features. Classification of asphyxia. First aid for strangulation, obturation, compression asphyxia.

Drowning: types, causes of development. Providing first aid for drowning.

First aid for blocking airway object. Features of first aid in young children.

### **7. First aid for dislocations and fractures**

Dislocations: definition, signs, first aid.

Fractures: definition, signs, first aid. Rules for applying transport splints and splints made of an available hard material.

Features of transport immobilization in fractures of the femur, humerus, spine, collarbones, ribs, pelvic bones, lower leg, foot, forearm, hand, skull. Transportation of patients and casualties with bone fractures, features of shifting.

### **8. First aid for head and chest injuries**

Head injuries, general characteristics, types. Signs of traumatic brain injury. Providing first aid for head injuries. Features of first aid for injuries of the eye, nose, ear.

Chest injuries, general characteristics, types. The main signs of chest trauma. The concept of pneumothorax, hemothorax. Providing first aid for chest injuries. Applying dressing in case of open trauma of the chest, wound with a foreign body.

Transportation of patients and casualties with head and chest injuries.

### **9. First aid for abdominal injuries. Syndrome of prolonged compression**

Abdominal injuries: general characteristics. The main signs of abdominal trauma, closed abdominal trauma with signs of internal bleeding and organ damage. Providing first aid for abdominal injuries. Applying dressings for open trauma of the abdomen, a wound with a foreign body.

Transportation of patients and casualties with abdominal injuries.

Syndrome of prolonged compression («Crush syndrome»), concept, main features, first aid, features of transport immobilization.

### **10. First aid for traumatic shock, anaphylaxis**

Shock: definition, classification according to the type of circulatory disorders, according to the severity, according to the mechanism of development.

Traumatic shock: causes, signs, stages, first aid. Measures to prevent the development of traumatic shock.

Anaphylaxis. Anaphylactic shock: causes, signs, first aid.

### **11. First aid for burns and frostbite**

Burns: general characteristics, types, classification of thermal burns. Rules for determining the area of the burn. First aid for thermal and chemical burns. Features of first aid for burns of the upper respiratory tract.

Cold injury (hypothermia, frostbite): general characteristics, classification, main features, severity of frostbite, first aid.

### **12. First aid for electric shock, lightning strike, heat and sunstroke**

Electrical injury: local and general manifestations, first aid, safety precautions.

Lightning strike, heat stroke, sunstroke: general and local signs, first aid. Body temperature, the concept of thermometry.

### **13. First aid for poisoning, insect and animal bites**

Acute poisoning, types, signs. Providing first aid in case of poisons entering the human body through the respiratory tract, digestive tract, skin. Food poisoning. Poisoning by poisonous plants and mushrooms, first aid.

Bites of poisonous insects, snakes, first aid. Rabies. Providing first aid for bites (saliva) of animals suspected of rabies.

### **14. First aid for disorders of consciousness and convulsions**

Fainting, collapse: possible causes, main manifestations, first aid.

Hypoglycemia: manifestations, causes, first aid.

Signs of violation of acute cerebral circulation, the principles of first aid.

Convulsions: types, first aid.

### **15. First aid for asthma attack, acute heart attack**

Asphyxiation, other respiratory disorders: main signs, principles of first aid.

Rules and technique of using an inhaler.

Acute heart attack: main signs, first aid.



**EDUCATIONAL-METHODOLOGICAL TABLE OF ACADEMIC DISCIPLINE «FIRST AID»**

Section, topic #	Section (topic) name	number of hours			Self-studies	Form of control
		lectures	supervised student work	practical		
1.	Basic of asepsis and antiseptics. Personal safety in first aid	2	1	2	3 (2) <sup>3</sup>	Interviews
2.	General principles of first aid	2	0,5	2	3 (2)	Interviews. Reports at practical classes. Tests. Electronic tests. Abstracts
3.	Terminal states. Cardiopulmonary resuscitation	2	0,5	2	3 (1)	Interviews. Reports at practical classes. Tests. Electronic tests. Abstracts. Evaluation using electronic-mechanical simulators and robotic simulators
4.	First aid for wounds	-	-	2	4 (2)	Interviews. Reports at practical classes. Tests. Electronic tests. Abstracts
5.	First aid for bleeding and blood loss	-	-	2	4 (2)	Interviews. Reports at practical classes. Tests. Electronic tests. Abstracts
6.	First aid for asphyxia	2	0,5	2	3 (1)	Interviews. Reports at practical classes. Tests. Electronic tests. Abstracts. Evaluation using electronic-mechanical simulators and robotic simulators
7.	First aid for dislocations and fractures	-	-	2	4 (2)	Interviews. Reports at practical classes. Tests. Electronic tests. Abstracts

<sup>3</sup> The hours of self studies of students for the specialty 7-07-0911-03 «Dentistry» are indicated in parentheses.

8.	First aid for head and chest injuries	-	-	2	4 (2)	Interviews. Reports at practical classes. Tests. Electronic tests. Abstracts
9.	First aid for abdominal injuries. Syndrome of prolonged compression («Crush syndrome»)	-	-	2	3 (2)	Interviews. Reports at practical classes. Tests. Electronic tests. Abstracts
10.	First aid for traumatic shock, anaphylaxis	-	-	2	4 (2)	Interviews. Reports at practical classes. Tests. Electronic tests. Abstracts
11.	First aid for burns and frostbite	-	-	2	3 (2)	Interviews. Reports at practical classes. Tests. Electronic tests. Abstracts
12.	First aid for electric shock, lightning strike, heat and sunstroke	2	0,5	2	3 (2)	Interviews. Reports at practical classes. Tests. Electronic tests. Abstracts
13.	First aid for poisoning, insect and animal bites	-	-	2	3 (2)	Interviews. Reports at practical classes. Tests. Electronic tests. Abstracts
14.	First aid for disorders of consciousness and convulsions	-	-	2	3 (2)	Interviews. Reports at practical classes. Evaluation using electronic-mechanical simulators and robotic simulators. Tests. Electronic tests. Abstracts
15.	First aid for asthma attack, acute heart attack	2	0,5	2	3 (2)	Interviews. Reports at practical classes. Tests. Electronic tests. Abstracts. Credit <sup>4</sup> . Examination <sup>5</sup>
		<b>10</b>	<b>3</b>	<b>30</b>	<b>50 (28)</b>	

<sup>4</sup> For the specialty 7-07-0911-03 «Dentistry».

<sup>5</sup> For the specialty 7-07-0911-01 «General Medicine».

## INFORMATION AND INSTRUCTIONAL UNIT

### LITERATURE

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

1. Levchuk, I. P. First aid in case of accidents and disasters : tutorial guide. – Moscow : GEOTAR-Media, 2023. – 127 p.

#### **Additional:**

2. Levchuk, I. P. First aid in case of accidents and emergency situations : preparation questions for a modular assessment. – Moscow : GEOTAR-Media, 2015. – 28 p.

3. Emergency medicine (questions and answers) : study guide / ed. by M. Shved. – Ternopil : TSMU «Ukrmedknyha», 2018. – 344 p.

4. Medicine of emergency situations. – Vinnytsia : Nova Knyha, 2012. – 344 p.

5. Margaret, A. First Aid Manual : The Authorized Manual of St John Ambulance, St. Andrew's First Aid and the British Red Cross / Dr Margaret Austin, Mr Rudy Crawford, Dr Barry Klaassen. – London : Dorling Kindersley, 2021. – 296 p.

6. International first aid, resuscitation, and education guidelines 2020 [[https://www.ifrc.org/sites/default/files/2022-02/EN\\_GFARC\\_GUIDELINES\\_2020.pdf](https://www.ifrc.org/sites/default/files/2022-02/EN_GFARC_GUIDELINES_2020.pdf)].

7. ANZCOR Guidelines First Aid – April 2021 [<https://resus.org.au/the-arc-guidelines/>].

8. CPR AHA Guidelines [<https://professional.heart.org/en/science-news/2020-aha-guidelines-for-cpr-and-ecc>].

### **METHODOLOGICAL RECOMMENDATIONS FOR THE ORGANIZATION AND PERFORMANCE OF STUDENT'S INDEPENDENT WORK IN THE ACADEMIC DISCIPLINE**

The time of independent work can be used by students to:

- preparation for lectures, practical lessons;
- preparation for tests and exams in the academic discipline;
- study of topics (questions) submitted for independent study;
- solution of situational problems;
- performance of research and creative tasks;
- preparation of thematic reports, abstracts, presentations;
- implementation of practical tasks;
- note-taking of educational literature;
- compiling a review of scientific literature on a given topic;
- design of information and demonstration materials (stands, posters, graphics, tables, newspapers, etc.);
- production of layouts, laboratory teaching aids;
- compiling a thematic selection of literary sources, internet sources;
- compiling tests for organizing self-control.

**METHODOLOGICAL RECOMMENDATIONS FOR THE ORGANIZATION AND PERFORMANCE OF SUPERVISED STUDENT INDEPENDENT WORK IN THE ACADEMIC DISCIPLINE**

Main forms of supervised student independent work:  
 preparation and presentation of abstracts;  
 presentation of reports;  
 studying topics and problems that have not been discussed at the lectures and practical classes;  
 computer testing;  
 preparation and participation in active forms of education.

Control of supervised student independent work is carried out in the form of:  
 test paper;  
 final class, colloquium in the form of an oral interview, written work, testing;  
 discussion of abstracts;  
 defense of educational assignments;  
 assessment of an oral reply to a question, presentation, report or problem solving in practical classes;  
 checking up abstracts, written reports, accounts;  
 individual interview.

**LIST OF AVAILABLE DIAGNOSTIC TOOLS**

The following forms are used for competences assessment:

**Oral form:**

reports at practical classes.

**Written form:**

tests;

abstracts.

**Oral-written form:**

credit;

examination.

**Technical form:**

electronic tests.

**Simulation form:**

evaluation using electronic-mechanical simulators and robotic simulators.

**LIST OF AVAILABLE TEACHING METHODS**

Traditional method (lecture, practical classes);

Active (interactive) methods:

Problem-Based Learning (PBL);

Team-Based Learning (TBL);

Case-Based Learning (CBL);

Research-Based Learning (RBL);

training based on simulation technologies.

**LIST OF PRACTICAL SKILLS**

1. Demonstration of the hygienic hand antisepsis.
2. Putting on and removing non-sterile disposable gloves
3. Demonstration of the stages of assessing of the casualty.
4. Counting of the pulse rate on the radial and carotid arteries.
5. Counting the number of breaths.
6. Blood pressure measurement.
7. First aid for an adult in case of choking.
8. Removing a blocking airway object in a child under 1 year old.
9. Rescue breaths for an adult.
10. Rescue breaths for a child.
11. Chest compressions for an adult.
12. Chest compressions for a child over 1 year old.
13. Chest compressions for a child under 1 year old.
14. Applying a hemostatic tourniquet type Esmarch.
15. Applying a hemostatic tourniquet from available material.
16. Applying a pressure bandage to a bleeding wound.
17. Applying an occlusive dressing to the chest.
18. Applying a soft bandage «Chepec».
19. Applying a soft bandage «Uzdechka».
20. Applying a soft bandage to the left eye.
21. Applying a soft bandage to the right eye.
22. Applying a soft binocular bandage.
23. Applying a spiral bandage to the chest.
24. Applying a soft bandage «Glove».
25. Applying a soft bandage «Knight's glove».
26. Applying a soft bandage «Mitten».
27. Applying a soft bandage Dezo in case of damage to the right clavicle.
28. Applying a soft bandage Dezo in case of damage to the left clavicle.
29. Applying a soft spike-shaped bandage to the right shoulder joint.
30. Applying a soft spike-shaped bandage to the left shoulder joint.
31. Applying a soft tortoise convergent bandage.
32. Applying a soft tortoise divergent bandage.
33. Applying a soft spike-shaped bandage.
34. Applying a triangular bandage in case of damage to the upper limb.
35. Applying transport splints or splints made of an available hard material for fractures of the bones of the hand.
36. Applying transport splints or splints made of an available hard material for fractures of the bones of the forearm.
37. Applying transport splints or splints made of an available hard material for fractures of shoulder.
38. Applying transport splints or splints made of an available hard material for fractures of the bones of the foot.
39. Applying transport splints or splints made of an available hard material for fractures of the bones of the shin.

40. Applying transport splints or splints made of an available hard material for hip fractures.
41. Applying transport splints or splints made of an available hard material for injuries of the cervical spine.
42. Carrying out transport immobilization for fractures of the spine.
43. Carrying out transport immobilization for fractures of the pelvic bones.

### **LIST OF EQUIPMENT USED**

1. Multimedia projector.
2. Mannequin «Mini Anne».
3. Mannequin for CPR for a child under 1 year.
4. Heimlich training mannequin.
5. Gymnastic mat.
6. Dispenser with antiseptic.
7. Anatomical pincette.
8. Dressing material (cotton wool, bandage, balls, napkins).
9. Hemostatic tourniquets.
10. Transport splints.
11. Hard material for transport immobilization.
12. Triangular bandage.

### **LIST OF LECTURES**

1. Basic of asepsis and antiseptics. Personal safety in first aid. General principles of first aid.
2. Terminal states. Cardiopulmonary resuscitation.
3. First aid for asphyxia.
4. First aid for burns and frostbite. First aid for electric shock, lightning strike, heat and sunstroke.
5. First aid for disorders of consciousness and convulsions. First aid for asthma attack, acute heart attack.

### **LIST OF PRACTICAL STUDIES**

1. Basics of asepsis and antiseptics. Personal safety in first aid.
2. General principles of first aid.
3. Terminal states. Cardiopulmonary resuscitation.
4. First aid for wounds.
5. First aid for bleeding and blood loss.
6. First aid for asphyxia.
7. First aid for dislocations and fractures.
8. First aid for head and chest injuries.
9. First aid for abdominal injuries. Syndrome of prolonged compression.
10. First aid for traumatic shock, anaphylaxis.
11. First aid for burns and frostbite.
12. First aid for electric shock, lightning strike, heat and sunstroke.
13. First aid for poisoning, insect and animal bites.
14. First aid for disorders of consciousness and convulsions.
15. First aid for asthma attack, acute heart attack.

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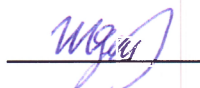
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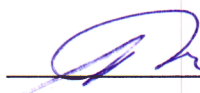
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Curriculum content, composition and the accompanying documents comply with the established requirements.

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

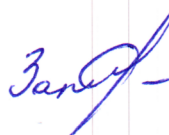
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