

MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
Petro Mohyla Black Sea National University
Medical institute

Department of Hygiene, Social Medicine and Public Health

“APPROVED”

The first vice-rector

N.M. Ishchenko



Course Description

Prehospital care in emergency situations

field of knowledge 22 «Health care»

in the specialty 222 «Medicine»

Developer	Alekseeva T.G.
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Mykolaiv – 2019

1. Description of the discipline

Characteristic	Characteristics of the discipline	
Name of discipline	Prehospital care in emergency situations	
Field of knowledge	22 «Health care»	
Specialty	222 “Medicine”	
Specialization (if any)		
Educational program	Medicine	
Level of higher education	Master	
Discipline status	Normative	
Curriculum	2nd	
Academic year	2019 - 2020	
Semester numbers:	Full-time	Correspondence form
	4th	
Total number of ECTS credits / hours	3 credits /90 hours	
Course structure: - lectures - practical classes - hours of independent work of students	Full-time	Correspondence form
	-	
	50 hours 40 hours 90 hours	
Percentage of classroom load	55,5%	
Language of instruction	English	
Form of intermediate control (if any)		
Form of final control	differentiated test	

2. Purpose, tasks and results of studying the discipline

The purpose of studying the discipline "Premedical care in extreme conditions" is for students to master the medical and psychological aspects of the consequences of human injuries in combat and non-combat conditions, as well as techniques of home care for victims of emergencies.

Learning objectives:

acquisition by the student of competencies, knowledge, skills and abilities from:

- 1) the consequences of the impact of mass destruction, natural and man-made disasters on the human body;
- 2) principles of organization of medical and evacuation measures in emergency situations;
- 3) principles of premedical care in extreme conditions.

Expected learning outcomes. As a result of studying the discipline, students have:
- understand the importance of home care in emergencies for medicine and the health care system, its place in the system of medical knowledges;

- be able to put into practice the skills of initial examination and premedical care techniques.

According to the requirements of the educational and professional program, students must:

know:

- basic concepts of premedical care in extreme situations: means of mass destruction, human-made disaster, natural disaster, combat and non-combat conditions, mass sanitary losses, initial examination of the victim, premedical care technique, debriefing;

- the role of damaging factors in emergencies (factors of mass destruction, natural and human-made nature);

- the role of medical evacuation measures, medical sorting, initial examination in providing assistance to victims;

- the role of psychological support for victims;

- types of lesions and techniques of premedical care;

be able to:

- to conduct an initial examination of the victim due to the state of emergency;

- to carry out transport immobilization at traumatic injuries;

- be able to apply a bandage for soft tissue damage;

- to carry out mechanical ventilation of respiratory tracts;

- be able to apply jute for stopping bleeding;

- be able to help the drowning person;

- provide assistance in case of poisoning;

have the competencies:

- on the application of knowledges on premedical care in extreme situations to reduce mass sanitary losses;

- on the relationship between the stages of medical evacuation measures.

The developed program corresponds to **the educational-professional program (EPP)** and is focused on the formation of **competences:**

general (GC) - GC1, GC2, GC3 EPP:

GC1. Ability to abstract thinking, analysis and synthesis, the ability to learn and master modern knowledge.

GC2. Ability to apply knowledge in practical situations.

GC3. Knowledge and understanding of the subject area and understanding of professional activity;

professional (PC) - PC1, PC2 EPP:

PC1. Patient interviewing skills.

PC2. Ability to determine the required list of laboratory and instrumental studies and evaluate their results.

According to the educational-professional program, the expected program learning outcomes (PLO) include the skills of **PLO19, PLO20 EPP:**

PLO19. Determine the tactics of emergency medical care, under any circumstances, using knowledges about the person, his organs and systems, adhering to the relevant ethical and legal norms, by making an informed decision, based on the diagnosis of emergency (according list 3) using standard schemes.

PLO20. Provide emergency medical care, under any circumstances, using knowledge of the person, his organs and systems, adhering to the relevant ethical and legal norms, by making an informed decision, based on a diagnosis of emergency (list 3) for a limited time according to the defined tactics using standard schemes.

3. Curriculum of the discipline

The educational process is organized according to the European Credit Transfer and Accumulation System (ECTS).

The curriculum consists of **two sections:**

Section 1. Premedical care in extreme conditions as an academic discipline. Carrying out medical and evacuation measures in combat and non-combat conditions.

Section 2. Premedical care for victims in extreme cases in combat and non-combat conditions.

Section 1.

Premedical care in extreme conditions as an academic discipline. Carrying out medical and evacuation measures in combat and non-combat conditions.

Topic 1. Premedical care in extreme conditions as an academic discipline.

Monitoring the condition of the wounded.

Definition of the term "Premedical care" and the legal basis for its implementation. Initial review algorithm. Monitoring the condition of the wounded.

Topic 2. Sorting in case of mass sanitary losses. Medical evacuation.

Organization and carrying out of medical sorting at occurrence of mass sanitary losses. Algorithm for medical sorting.

Organization and carrying out of movement (dragging, removal) of the wounded to shelter in combat and non-combat conditions. Methods of moving the wounded from the shelter sector to the place of collection of the wounded (by one, two persons, using regular and improvised means). Medical information card: appointment, rules of filling.

Topic 3. Behavior of people in emergencies and combat. Combat stress and fatigue: symptoms, home care, prevention.

Features of people's behavior in emergencies. Combat stress: symptoms, prevention and basic principles of premedical care in combat. Combat fatigue: signs, prevention and basic principles of premedical care in combat. Typical psychological reactions of medical workers to various traumatic events. Mechanisms of stress resistance formation in medical workers. Technologies for the prevention of post-traumatic stress disorders. Debriefing as a method of psychological correction of post-traumatic stress disorders.

Section 2.

Premedical care for victims in extreme cases in combat and non-combat conditions.

Topic 4. Bleeding and methods to stop it.

External and internal bleeding. Methods to stop bleeding. Jute overlay techniques.

Hemostatic agents. Indications and rules of application.

Topic 5. Damage to the respiratory tract. Premedical care.

Complete and partial airway obstruction. Causes of obstruction. Mechanical ventilation techniques: mouth to mouth, mouth to nose, mouth to mask, AMBU bag.

Topic 6. Traumatic injuries in combat and non-combat conditions. Immobilization. Soft tissue damage. Wounds. Algorithm of premedical care. Signs of defeat. Premedical care. Fractures, dislocations, sprains. Immobilization techniques. Injuries of the head, abdomen, pelvis. Premedical care. Traffic accidents. Combined injuries. Premedical care.

Topic 7. Providing premedical care for thermal and chemical burns.

Hyperthermia. Burns: classification, signs, premedical care. Features of defeat by a fighting fire mix.

Frostbite: symptoms, premedical care. "Trench foot". Electric shock.

Eye burns: classification, symptoms, home care.

Topic 8. Providing premedical care in the most common extreme cases.

Pain: pain control, premedical care. Fainting, coma of unknown etiology: signs, help. Poisoning by unknown toxic substances, unknown gas. Providing assistance. Help with insect bites, ticks, spiders, venomous snakes. Help on the water. Transportation of the drowning person on land, premedical care.

Topic 9. Means of mass destruction. Premedical care for victims.

Chemical weapons. Classification of hazardous chemicals. Signs of defeat. Premedical care. Means of individual and collective protection.

Biological weapons. Classification of hazardous biological agents. Signs of defeat. Premedical care. Means of individual and collective protection.

Nuclear weapons. Classification of levels of radiation damage. Signs of defeat. Premedical care. Means of individual and collective protection.

The structure of the discipline

Names of sections and topics	Number of hours	
	Including	
	Practical	Indep.
Section №1. Premedical care in extreme conditions as an academic discipline. Carrying out medical and evacuation measures in combat and non-combat conditions.		
Topic 1. Premedical care in extreme conditions as an academic discipline. Monitoring the condition of the wounded.	4	4
Topic 2. Sorting in case of mass sanitary losses. Medical evacuation.	4	4
Topic 3. Behavior of people in emergencies and combat. Combat stress and fatigue: symptoms, home care, prevention.	4	2
Section №2. Premedical care for victims in extreme cases in combat and non-combat conditions.		
Topic 4. Bleeding and methods to stop it.	4	4
Topic 5. Damage to the respiratory tract. Premedical care.	4	4
Topic 6. Traumatic injuries in combat and non-combat conditions. Immobilization.	8	6
Topic 7. Providing Premedical care for thermal and chemical burns.	6	4
Topic 8. Providing Premedical care in the most common extreme cases.	8	6
Topic 9. Means of mass destruction. Premedical care for victims	6	4
Final control	2	2
Total hours- 90 Credits ECTS – 3	50	40

4. The content of the discipline

The main types of classes in the discipline are practical classes and independent work of students on the subject of the program of the discipline.

4.1. Plan of practical classes

№	Name of topics	Number of hours
Section №1		
1.	Definition of the term "Premedical care" and the legal basis for its implementation.	2
2.	Initial review algorithm. Monitoring the condition of the wounded.	2
3.	Carrying out medical sorting in case of mass sanitary losses.	2
4.	Methods of moving the wounded to the shelter sector and to the place of collection of the wounded. Medical information card.	2
5.	Behavior of people in emergencies. Combat stress. Combat fatigue.	2
6.	Typical psychological reactions to traumatic events. Mechanisms of stress resistance formation.	2
Section №2		
7.	External and internal bleeding. Methods to stop bleeding. Techniques for applying tourniquets.	2
8.	Hemostatic agents. Indications and rules of application.	2
9.	Complete and partial airway obstruction. Causes of obstruction.	2
10.	Mechanical ventilation techniques.	2
11.	Soft tissue damage. Wounds. "Trench foot".	2
12.	Fractures, dislocations, sprains. Immobilization techniques.	2
13.	Injuries to the head, abdomen, pelvis. Premedical care.	2
14.	Traffic accidents. Premedical care.	2
15.	Hyperthermia. Burns. Features of defeat by a fighting fire mix.	2

	Premedical care.	
16.	Frostbite. Electric shock. Help.	2
17.	Eye burns: classification, symptoms, Premedical care.	2
18.	Pain. Fainting, coma. Help.	2
19.	Poisoning by unknown toxic substances, unknown gas. Providing assistance.	2
20.	Help with insect bites, mites, spiders, mites, venomous snakes.	2
21.	Help on the water. Premedical care to the drowning person. .	2
22.	Chemical weapons. Premedical care for victims. Means of individual and collective protection.	2
23.	Biological weapons. Premedical care for victims. Means of individual and collective protection.	2
24.	Nuclear weapons. Premedical care for victims. Means of individual and collective protection.	2
25.	Final control	2
Total hours		50

4.2. The independent work

№	Name of topics	Number of hours
1.	Premedical care in extreme conditions as an academic discipline. Monitoring the condition of the wounded.	4
2.	Bleeding and methods to stop it.	4
3.	Respiratory tract injuries. Premedical care.	4
4.	Types of damage in combat and non-combat conditions. Wounds, fractures, dislocations, sprains. Immobilization techniques.	6
5.	Providing premedical care for thermal and chemical burns.	4
6.	Home care for the most common medical conditions.	6
7.	Means of mass destruction. Home care for victims.	4
8.	Sorting in case of mass sanitary losses. Medical evacuation.	4

9.	Behavior of people in emergencies and combat. Combat stress and fatigue: symptoms, home care, prevention.	2
10.	Preparation for the final control	2
Total hours		40

Typical test tasks to be solved in practical classes

Task 1. Choose the correct answer.

The victim hit his head and lost consciousness for 2 minutes. He had: a squeezing headache, tinnitus, nausea, vomiting twice, pulse 76 beats per minute.

He had:

- Fracture of the skull base
- Concussion
- Compression of the brain

Task 2. Choose the correct answer.

A 3-year-old girl accidentally took a few ml of acetic acid in her mouth. Crying in pain. The mucous membrane of the oral cavity is hyperemic (red). Which of the following measures should be done first?

- Rinse your mouth thoroughly with cold water.
- Give to drink cold milk.
- Give to swallow pieces of ice.

Task 3. Choose the correct answer.

Worker K., 39, while working in the laboratory, accidentally spilled sulfuric acid on his leg. Worries about the burning pain.

Which of the following measures should be done first?

- Rinsing with a jet of cold water.
- Applying a bandage with furacillin.
- Referral to the burn center.

Task 4. What first of all the rescuer has to do at rendering the help to the victim with a strong bleeding:

- a) check blood pressure;
- b) impose a tourniquet;
- c) provide intravenous access;
- d) directly press the wound.

Task 5. Specify the main sign of circulatory arrest:

- a) loss of consciousness;
- b) lack of reflexes;
- c) lack of pulse in the carotid artery;
- d) pale color of the skin and mucous membranes.

4.3. Ensuring the educational process

Classes are provided with technical support:

- computer;
- projection screen;
- multimedia projector;
- presentation materials;
- mannequin;
- simulator "Maxim - 3";
- bag AMBU;
- dressings, fixing tires, harnesses.

5. Final control

List of final control issues

1. Definition of the concept of home care and legal aspects of the proceedings.
2. Basic principles of home care.
3. Sectors of medical care for the wounded.
4. Assistance in the bombing sector.
5. Algorithm of home medical care in the shelling sector.
6. Algorithm of home care in the shelter sector.
7. Algorithm of the initial inspection.
8. Examination of the head and neck.
9. Examination of the torso.
10. Examination of the perineum, groin, limbs.
11. Individual medical equipment.
12. Causes and signs of external bleeding.
13. The concept of critical external bleeding.
14. Hemostatic agents.
15. Applying bandages, tourniquets.
16. Causes and signs of internal bleeding. Premedical care.
17. Collapse and shock. Reasons. Signs. Help.
18. Causes and signs of airway obstruction.
19. Carrying out mechanical ventilation (mouth to mouth, mouth to nose).
20. Burns, classification, signs.
21. Help with thermal burns.
22. Features of the defeat of the combat fire mixture. Assistance to victims.
23. Chemical burns. Help.
24. Frostbite. Help. Prevention of frostbite.
25. Hyperthermia. Premedical care.
26. Electric shock. Help.
27. Burns of the eyes. Help.
28. Chemical lesions of the eyes. Help.
29. Pain. Premedical care.
30. Fainting, coma of unknown etiology. Premedical care.
31. Premedical care for poisoning by an unknown gas or substance.
32. Help with insect bites, mites, venomous snakes.

33. Assistance to the drowning person.
34. Traumatic injuries. Fractures, Fractures, dislocations, sprains.
35. Immobilization techniques.
36. Means of mass destruction. Classification.
36. Means of individual and collective protection.
37. Chemical weapons. Classification of chemical toxic substances. Premedical care for victims.
38. Biological weapons. Premedical care for victims.
39. Nuclear weapons. Home care for the victims.
40. Behavior of people in emergencies. Debriefing.

"0" version of the credit card

Petro Mohyla Black Sea National University

Level of higher education - master

Field of knowledge: 22 "Health"

Specialty 225 "Medicine"

Academic discipline **PREHOSPITAL CARE IN EMERGENCY SITUATIONS**

Option № 0

1. Initial examination of the victim. Conducting algorithm. - maximum number of points - 20.
2. Asphyxia by a foreign body. Clinic, premedical care. - maximum number of points - 20.
3. Bandages. Types of bandages. Overlay rules. - maximum number of points - 20.
4. Tasks. An ambulance crew took two victims to the hospital's emergency department with a suspected fracture of the radial bone in a typical place on the right of the first victim, and a cut wound on the right thigh, where a tourniquet was applied, in the second victim. The wound bleeds poorly. Overlay time is about 60 minutes ago. Your actions to provide medical care and the sequence of its provision. - maximum number of points – 20.

Approved at the meeting of the Department of Hygiene, Social Medicine and Public Health. Protocol № ____ from _____ 20__

Head of the Department, Doctor of Medicine, Prof. Zyuzin V.O.

Examiner teacher Alekseeva T.G.

6. Evaluation criteria and tools for diagnosing learning outcomes.

Control methods

- Survey (control of mastering theoretical material and practical skills).
- Solving situational епілї and testi.

Current control. Testing of theoretical knowledge in practical classes and the acquisition of practical skills, as well as the results of independent work of students. Supervised by teachers according to the specific purpose of the

curriculum. Assessment of the level of students' preparation is carried out by: interviewing students, solving and analyzing situational tasks and tests, monitoring the acquisition of practical skills.

Intermediate control. Checking the possibility of using students to provide premedical care theoretical knowledge and practical skills on all topics studied in the section, as well as the results of independent work of students. Carried out in the last lesson by section by passing practical skills, solving situational tasks and testing. The grade is included in the score for this lesson.

The final test is conducted upon completion of the study of all topics / sections in the last class of semester. It is evaluated according to the criteria and scores of the usual practical lesson.

Final control in the form of a **differentiated test** is carried out upon completion of the study of all topics / sections of the discipline.

Differentiated credit is made on credit cards.

Students who have attended all the classes provided by the curriculum, performed full independent work and scored the number of points in the learning process, not less than the minimum - 70 points are admitted to the test.

Distribution of points received by students

The maximum number of points that a student can score when studying the discipline is 200 points, the minimum - 120 points.

For practical classes - a maximum of 120 points, a minimum, as indicated - 70 points. Accordingly, the maximum score for each practical lesson (for each topic) can be 4.8 points (120 points: 25 lessons); minimum - 2.8 points (70 points: 25 classes). Practical skills are assessed: gauze dressing, bandaging, applying tourniquet, fixing splints, artificial respiration, etc.

In a differentiated test, a student can get a maximum of 80 points, a minimum of 50 points. The distribution of points on the test is given above in the example of the test ticket.

Assessment of student performance

Type of activity (task)	Maximum number of points
Section №1	
Topic 1	5
Topic 2	5
Topic 3	5
Topic 4	5
Topic 5	5
Topic 6	5
Section №2	

Topic 7	5
Topic 8	5
Topic 9	5
Topic 10	5
Topic 11	5
Topic 12	5
Topic 13	5
Topic 14	5
Topic 15	5
Topic 16	5
Topic 17	5
Topic 18	5
Topic 19	5
Topic 20	5
Topic 21	5
Topic 22	5
Topic 23	5
Topic 24	5
Topic 25	5
Together	120
Differentiated credit	80
Together	200

Criteria for assessing knowledge

A student's answer is evaluated with a score of 5 points per topic and 71-80 points on the test (A on the ECTS scale and 5 on the national scale) if student demonstrates deep knowledges of all theoretical principles and ability to apply theoretical material for practical analysis and has no inaccuracies.

A score of 4 points per topic and 61-70 points on the test (B and C on the ECTS scale and 4 on the national scale) the answer is evaluated if student shows knowledges of all theoretical principles, ability to apply them in practice, but some fundamental inaccuracies are allowed.

A score of 3 points per topic and 50-60 points on the test (D and E on the ECTS scale and 3 on the national scale) the student's answer is evaluated if student knows the main theoretical principles and can use them in practice.

7. Recommended sources of information

7.1. Basic:

1. Конституція України, 1996 (ст. 3, 16, 49, 50, 106, 138).
2. Закон України “Основи законодавства України про охорону здоров’я”, 1992 (ст.37).
3. Закон України “Про екстрену медичну допомогу”, від 05.07. 2012 р. №5081-VI.
4. Educational and methodical materials of the department on discipline for students.
5. Стандарт підготовки І-СТ-3: Підготовка військовослужбовця з тактичної медицини (видання 2). К: «МП Леся», 2015. – 148 с.
6. Стандарт підготовки «Фахова підготовка санітарного інструктора роти (батареї)» (видання 1) – Київ. – 2015 – 191 с.

7.2. Additional:

1. Екстрена медична допомога травмованим на догоспітальному етапі: навчальний посібник / [В.О. Крилюк, С.О. Гур’єв, А.А. Гудима та ін..] – Київ. – 2016 – 400 с.
2. Екстрена медична допомога (вибрані аспекти): навчальний посібник / Всеукраїнська громадська організація «Всеукраїнська рада реанімації (ресусцитації) та екстренної медичної допомоги». – Донецьк: Ландон-XXI, 2014. – 320 с.
3. Екстрена медична допомога (до госпітальні протоколи): посібник // за редакцією професора О.В. Богомолець, професора Г.Г. Рощина. – Київ. Юстон. – 2016. – 212 с.
4. Домедична допомога (алгоритми, маніпуляції): Методичний посібник / [В.О. Крилюк, С.О. Гур’єв, А.А. Гудима та ін.] – К.: НВП "Інтерсервіс", 2014. – 84 с.
5. Військово-медична підготовка / Під редакцією професора Бадюка М.І. – К.: „МП Леся“, 2007. – 482 с.
6. Основи виживання: заходи, що забезпечують життєдіяльність в умовах автономного існування при надзвичайних ситуаціях. Навчальний посібник. ІДУЦЗ УЦЗУ, УНПЦЕМД та МК МОЗ України. Національна медична академія післядипломної освіти ім. П.Л. Шупика. [Гур’єв С.О., Миронець С.М., Рошін Г.Г. та ін.] – К.: 2009 – 209 с.