

MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE  
NATIONAL TECHNICAL UNIVERSITY  
"KHARKIV POLYTECHNIC INSTITUTE"

**METHODICAL INSTRUCTIONS  
FOR CONTROL WORK  
ON THE DISCIPLINE  
"FIRST EMERGENCY PREMEDICAL AID IN EMERGENCY  
SITUATIONS"**  
for students of specialty 263 "Civil Security"

Kharkiv 2024

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## INTRODUCTION

In the modern world, a knowledgeable person should have knowledge not only of their profession, especially when it comes to life. An increase in the number of technogenic, natural, social and military emergencies has become a characteristic feature of recent decades. Injuries sustained in accidents and disasters are characterized by a significant number of multiple and combined injuries and combined lesions. At the same time, the mortality rate from accidents in Ukraine remains high in modern conditions. It becomes clear that premedical care for victims is of paramount importance and that rescuers and other persons at the scene of an emergency are responsible. Timely provision and proper conduct of first aid will not only save the victim's life, but will also ensure further successful treatment of the disease or injury and prevent the development of serious complications.

The main measures of first aid include:

- 1) searching for victims, freeing them from the rubble, vehicles, etc., extinguishing burning clothes or substances that have come into contact with their bodies with thick cloth, throwing them with earth, etc;
- 2) cardiopulmonary resuscitation at the level of basic life support;
- 3) temporary cessation of external bleeding by the simplest means;
- 4) applying an aseptic dressing to the wound or burn surface, taking into account the following points: in case of abdominal injuries, internal organs that have fallen out do not need to be set, but fixed to the abdomen with an aseptic dressing; a dressing is applied to a chest wound with an open pneumothorax using a rubberized shell of an individual dressing package or a piece of airtight film; in case of bleeding from the neck

wound, a pressure dressing is applied by bandaging the shoulder to the neck on the opposite side of the wound; in case of facial burns, no dressing is applied;

5) immobilization of the injured limb by the simplest means;

6) taking victims to a collection point in a safe place in a gentle manner (especially if a spinal fracture is suspected).

Additionally, first aid includes: applying and correcting bandages; in winter, warming the victim, giving hot drinks (except for victims with abdominal injuries), and cooling in hot weather.

## 1. GENERAL INFORMATION

The discipline "First emergency premedical aid in emergency situations" is an integral part of the educational and professional program for bachelors in the specialty 263 - "Civil Security". The purpose of the discipline is theoretical and practical training of students to provide first aid to the affected population in emergency situations.

The **purpose** of teaching the discipline is to provide students with modern knowledge of the functioning of the system of premedical care in Ukraine, to develop skills and abilities to justify a set of measures aimed at providing premedical care to victims in emergency situations; to develop skills in implementing organizational measures that must be taken in accordance with their official duties to save and preserve the lives of people in emergency situations.

In order to deepen the study of the discipline "First Emergency Medical Aid in Emergency Situations" and to acquire the skills and abilities of independent qualified decisions, analysis and conclusions in the process of studying the discipline, correspondence training in Civil Security 263, educational program 263-1 Occupational Safety and Health perform control work. These guidelines determine the procedure, scope, content of the control work and the procedure for its defense.

## 2. FIRST AID - CONCEPT, GOALS, MEANING

**First premedical aid** - urgent actions and organizational measures aimed at saving and preserving the life of a person in an emergency and minimizing the consequences of the impact of such a condition on his health, carried out at the scene by persons who do not have medical education, but in their official duties must have basic practical skills to save and preserve the life of a person in an emergency, and in accordance with the law, are obliged to carry out such actions and measures.

The **main task** of first aid in an emergency is to save the victim's life until the arrival of rescuers and emergency medical services (EMS) and to effectively use any chance to save him or her.

Failure to provide first emergency medical care leads to serious consequences.

Timely assistance plays an important role in the further treatment of victims and patients, helps to reduce the time of their medical and occupational rehabilitation. The sooner it is provided, the more chances for a favorable prognosis of treatment.

When providing premedical care, one should be guided by the following principles: correctness, expediency, speed, thoughtfulness, determination, calmness, adhering, as a rule, to the following sequence:

- eliminate the impact on the body of factors that threaten the health and life of the person providing assistance and the victim (release from the effects of electric current, take out of the burning room, get out of the water, etc;) assess the victim's condition, determine the nature and severity of the injury that poses the greatest threat to the victim's life and the sequence of measures to provide assistance;

- perform the necessary actions in order of urgency (ensure airway patency, perform artificial respiration, external heart massage, stop bleeding, immobilize the fracture site, apply a bandage, etc;)

- call an ambulance or take measures to transport the victim to the nearest medical facility;

- maintain the basic vital functions of the victim until the arrival of a medical professional, remembering that only a doctor has the right to conclude that the victim is dead;

- call an ambulance or take measures to transport the victim to the nearest medical facility.

Before providing assistance to the victim, you need to take care of your own safety.

Prompt implementation of the necessary measures of first aid to the victim in an emergency is provided until it is possible to receive qualified medical care/

### 3. STRUCTURE OF CONTROL WORK

Control work is performed on A4 sheets of Times New Roman font, size 14 pt, line spacing – 1,5. Margins: left - 30 mm, right - 15 mm, top, bottom - 20 mm. Text alignment - by width.

The number of the variant coincides with the serial number of the student on the list in the academic journal of the group.

The structure of the control work contains the following elements:

- title page;
- table of contents (plan);
- introduction;
- main part:
  - theoretical question 1;
  - theoretical question 2;
  - practical task / situational exercise;
- conclusions;
- list of references;
- annex.

An example of the title page is given in Annex A.

The table of contents includes all the names of the components of the work: introduction, theoretical issues, practical task / case study, conclusions, list of references. An example of the table of contents is given in Annex B.

The introduction contains information about the relevance of the discipline (1 page).

The content of theoretical issues can be an analytical review of certain problematic issues, their current state.

The practical task / situational exercise is aimed at the ability to use the acquired theoretical knowledge, to master the methodology and practical experience.

The content of the control work should correspond to the curriculum of the discipline, consistently disclose all the issues provided, justify, explain the main



provisions, supporting them with specific examples, facts, using the legislative framework, regulatory documents, scientific literature. Introduction, sections, conclusions, list of references should be placed on a new page. When writing a work on the text, it is necessary to indicate references to sources of information in square brackets.

In the Conclusions (1-2 pages) it is necessary to summarize the analysis of theoretical issues and the results of the practical task.

The scope of the control work: theoretical part 8 - 10 pages, practical task 1-2 pages. The total amount of work is 10-15 pages. The completed work is an admission to the exam. Control works checked by the teacher are allowed for defense. The student is given up to 5 minutes to make a report. After the report, the student answers the teacher's questions. The quality of the control work and the level of its defense in points are evaluated by the teacher in accordance with the Regulations on the rating system of evaluation. The defended control work is submitted to the Department of Occupational and Environmental Safety for storage.

#### **4. CONTROL TASKS FROM THE COURSE "FIRST EMERGENCY PREMEDICAL AID IN EMERGENCY SITUATIONS"**

##### **Option 1.**

1. Premedical care - definition, main goals and objectives.
2. Emergency first aid for frostbite 1, 2, 3 degrees.
3. Practical task. Development of temperature sheet, heart rate, respiratory rate and blood pressure.

##### **Option 2.**

1. Regulatory and legal justification for the implementation of premedical care for victims in emergency situations.
2. Rules for the application of transport tires.
3. Situational exercise. During the production process in the workshop of the

enterprise, a heavy object fell on the worker. The victim complains of nausea, headache, severe pain in the shoulder joint. Objectively: pallor of the skin, hemorrhage in the shoulder joint, swelling, pain during palpation of the shoulder, crepitation of fragments. Sequence of first aid actions.

**Option 3.**

1. Equipment used to provide first aid to victims in emergency situations.
2. The rule of "golden 30 minutes".
3. Practical task. Disclose in the form of a scheme algorithm for the examination and provision of medical care to victims (ABC).

**Option 4.**

1. Organization of sanitary and epidemiological control in emergency mode.
2. Technique of cardiopulmonary resuscitation.
3. Practical task. Draw and mark the sorting marks used in the medical triage of victims in the event of an emergency.

**Option 5.**

1. Organization of provision of medicines and medical devices in emergency situations.
2. Bleeding: emergency first aid for different types.
3. Practical task. Describe the sequence of rescue of victims from the rubble and damaged protective structures.

**Option 6.**

1. Functional units of the deployed mobile hospital and their tasks. Medical triage and evacuation of victims.
2. Myocardial infarction: causes, symptoms, first aid.
3. Practical task. Draw up algorithms for emergency first aid to the victim with a foreign body in the respiratory tract.

**Option 7.**

1. Decontamination, decontamination and disinfection of medicines and medical supplies.
2. Gastrointestinal bleeding: conditions that cause, symptoms, first aid.
3. Situational exercise. A 28-year-old man fell from a height at work. The victim is conscious, complains of pain in the hip joint. Objectively: shortening of the right lower limb, swelling, hematoma in the area of injury. During the conversation, the victim lost consciousness. Sequence of first aid actions.

**Option 8.**

1. Tasks of the staff of temporary medical stations.
2. Emergency first aid in case of electric shock, lightning.
3. Practical task. Describe the stages of premedical care for victims of methyl alcohol poisoning (methanol):
  - a) actions of the first premedical aid in the focus of the lesion, carried out in the order of self and mutual aid;
  - b) first premedical aid in the center of the lesion, carried out by rescuers.

**Option 9.**

1. Stroke: symptoms, first aid.
2. Emergency care for thermal burns.
3. Situational exercise. During the destruction of the building a person was under the rubble. The victim, a 20-year-old man, complains of pain in the left shoulder joint. Objectively: deformation of the humerus, open wound, hematoma. Sequence of actions of first aid.

**Option 10.**

1. Emergency first aid to victims in the rubble.
2. The procedure for providing premedical care in the presence of several victims.
3. Practical task. Describe the stages of premedical care for victims of nitric acid

poisoning:

- a) actions of first aid in the focus of the lesion, carried out in the order of self and mutual aid;
- b) the first premedical aid in the center of the lesion, carried out by rescuers.

**Option 11.**

1. Premedical assistance to victims of hypothermia / frostbite.
2. The procedure for providing premedical care to victims with suspected fractures of limbs.
3. Situational exercise. During the transportation of production equipment there was a transport accident. The car overturned into a ditch. The driver is conscious, complains of sharp pain in the neck, feels numbness and tingling in the right arm. Sequence of first aid actions.

**Option 12.**

1. Dosage forms and their characteristics.
2. Hyperthermia: concept, periods, types, features of patient care.
3. Practical task. Make a first aid kit for travel, for the teacher's office, for an elderly person, for small children.

**Option 13.**

1. The concept of injections. Complications after their implementation and prevention.
2. Blood pressure: definition, evaluation of indicators.
3. Situational exercise. During the production process, a 29-year-old worker fell on a slippery floor. The victim is bleeding from the nose and mouth, unconscious. The sequence of actions of first aid.

**Option 14.**

1. Degrees of radiation sickness. Preventive measures.
2. Determination of pulse rate: norm and deviation. Respiratory rate: characteristics of indicators.
3. Practical task. The basic composition of the first aid kit at home.

**Option 15.**

1. Blood circulation: concepts, measures of influence. General requirements and rules when applying a medical tourniquet.
2. Premedical assistance to the victim in case of food poisoning.
3. Situational exercise. After a fall from a height, the victim has the following symptoms: general weakness, dizziness, pale skin and mucous membranes, marbling of the extremities, pulse 95 beats / min, blood pressure 100 / 70 mm Hg, hematomas and abrasions on the anterior abdominal wall, abdominal pain. Sequence of first aid actions.

## 5. CONTROL QUESTIONS

1. Definition of "first aid" in the event of an emergency.
2. World experience in the organization of medical protection of the population in emergencies.
3. Factors that impede the timely provision of all types of premedical and medical care to victims during disasters.
4. The main systems of medical and evacuation support of the population in emergency situations.
5. Individual dressing package (IDP). Rules of use.
6. Technical means of immobilization.
7. Features of clinical signs and diagnosis of burn shock.
8. Premedical care for pulmonary bleeding, gastrointestinal bleeding.
9. First aid in case of exposure to high temperatures in production conditions on the body of workers.
10. First aid in case of exposure to low temperatures in production conditions on the body of workers.
11. Medical assistance in case of epileptic seizure.
12. Medical assistance in case of intoxication with chemicals at work.
13. Self- and mutual aid in case of an accident at a nuclear power plant.
14. Procedure for transportation of victims from the hazardous area to the areas of deployment of collection points for victims.
15. Technical means of transporting victims from the emergency site.
16. Providing emergency first aid to victims of dangerous hydrological phenomena.
17. Providing emergency first aid to victims of dangerous geological phenomena.
18. Providing emergency medical care to victims in areas of biological contamination.
19. Sanitary and epidemiological reconnaissance.
20. Regime-restrictive measures (quarantine, observation).

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Ministry of Education and Science of Ukraine  
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Department of occupational safety and environment

CONTROL WORK  
on the discipline  
"First emergency premedical aid in emergency situations"

Option

executed:

student of the group

last name first name patronymic

checked:

last name first name patronymic

Kharkiv 20\_\_

**Content**

Introduction .....  
Theoretical question 1.....  
Theoretical question 2.....  
Practical task / situational exercise .....  
Conclusion.....  
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Annex .....

**Educational edition****METHODICAL INSTRUCTIONS**

for control work

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