

Ministry of Health of Ukraine  
Ukrainian Medical Stomatological Academy

APPROVED  
at a meeting of the department  
disaster medicine  
and military medicine  
«\_\_\_\_» \_\_\_\_\_ 2020  
protocol № 2 from 28.08.2020



Head of Department

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**Methodical instructions  
for independent work of students  
during preparation for a practical (seminar) lesson  
and in class**

Academic discipline	<b>Training of reserve officers</b>
Module № 2	Essentials of Civil and Combat Medical Support
Topic of the lesson	Current System of Treatment –and – Evacuation Combat Support. The concept and content of medical and evacuation support
Course	2
Faculty	foreign students training specialty "Medicine", "Stomatology".

## 1. Relevance of the topic:

Medical and evacuation support is the most important section

medical support of troops in wartime. Its main goal is to save lives and restore combat readiness and efficiency as soon as possible and return to the ranks of as many wounded and sick servicemen as possible, which in modern warfare is the most effective way to replenish the active army.

Experience of medical support of troops in military conflicts

second half of XX century. and in recent years convincingly proves that properly and clearly organized medical and evacuation support is the main factor that determines the effectiveness of the medical service. This topic is the basic topic of the discipline. Without a quality study of the topic, the future specialist may not happen, so the study of the topic should be given much attention.

## 2. Specific objectives:

-Deepen and consolidate students' knowledge of the basics of medical and evacuation activities carried out by the medical service in peacetime, to form in them the ability to apply the basic principles of staged treatment with evacuation for the purpose of providing timely medical care to the wounded and sick and their evacuation.

-know: the organization and procedure for medical and evacuation measures.

-Be able to: organize medical and evacuation measures.

Competences and learning outcomes, the formation of which is facilitated by the discipline (the relationship with the normative content of training of higher education, formulated in terms of learning outcomes in the Standard).

In accordance with the requirements of the standard, the discipline provides students with the acquisition of competencies:

-integral: The ability to solve typical and complex specialized problems and practical problems in professional activities in the field of health care, or in the learning process, which involves research and / or innovation and is characterized by complexity and uncertainty of conditions and requirements. The ability of the individual to organize an integrated humanitarian educational space, the formation of a single image of culture or a holistic picture of the world.

-general: The ability to apply knowledge in practical situations. Ability to exercise self-regulation, lead a healthy lifestyle, ability to adapt and act in a new situation. Ability to choose a communication strategy; ability to work in a team; interpersonal skills. Ability to abstract thinking, analysis and synthesis, the ability

to learn and be modernly trained. Definiteness and perseverance in terms of tasks and responsibilities.

-special (professional, subject): Ability to carry out medical and evacuation measures. Ability to determine the tactics of emergency medical care. Emergency care skills. Skills to perform medical manipulations.

**3. Basic knowledge, abilities, skills necessary for studying the topic (interdisciplinary integration):**

Name of previous disciplines	Acquired skills
<p><b>1. The history of medicine.</b></p> <p><b>2. Civil protection.</b></p> <p><b>3. The basics of law.</b></p> <p><b>4. Human anatomy, normal physiology.</b></p> <p><b>5. General hygiene and ecology.</b></p> <p><b>6. Internal diseases.</b></p>	<p>1. Know the role of domestic scientists in the development and organization of emergency medicine.</p> <p>2. Basic measures to protect the population and territories in case of emergency.</p> <p>3. To be able to use general legal principles to explain the actions and actions of a doctor in the event of an emergency.</p> <p>4. The structure and physiological basis of the functioning of human organs and systems. Determine the severity and location of the lesion.</p> <p>5. To justify the need for optimal interaction between humans and the environment in order to maintain health.</p> <p>6. To be able to assess the general condition of the patient, to examine and sort the victims according to severity.</p>

**4. Tasks for independent work in preparation for the lesson and in the lesson.**

1. The concept and content of medical evacuation support.
2. The essence of the modern system of medical and evacuation support, its principles.
3. The concept of the stage of medical evacuation, tasks, circuit diagram and deployment requirements.
4. Types and volumes of medical care.

**4.1 The list of basic terms, parameters, characteristics that a student must learn in preparation for the lesson:**

Term	Definition
<b>Medical and evacuation support of the population</b>	<p>it is a system of interrelated measures for the provision of medical assistance to the wounded and sick (hereinafter referred to as victims), their evacuation, treatment and rehabilitation in order to preserve life and speedily restore working capacity.</p>
<b>Stage medical evacuation</b>	<p>These are the forces and means of the medical service deployed along the medical evacuation routes for receiving, medical sorting the victims, providing them with medical care, treatment and preparing them for further evacuation.</p>
<b>Type of medical care</b>	<p>The complex of treatment and preventive measures carried out in cases of lesions and diseases by paramedics in the affected area, in the centers of mass sanitary losses and at the stages of medical evacuation is called.</p>
<b>Scope of medical care</b>	<p>the totality of treatment and preventive measures for the victims of this.</p>
<b>Specialized Medical Assistance</b>	<p>the highest form of medical care. It is exhaustive in nature and is provided by specialist doctors in medical facilities of hospital bases, which have special medical diagnostic equipment on their equipment.</p>

#### **4.2. Theoretical questions to the lesson:**

- 1.The concept and content of medical-evacuation support.
- 2.The essence of the modern system of medical-evacuation support of its principles.
- 3.The concept about the stage of medical evacuation tasks, the concept and deployment requirements.
- 4.The types and amounts of medical care.

#### **4.3. Practical work (tasks) that run in class:**

- 1.The conduct of the stages of medical evacuation.
- 2.The types and extent of medical care.

The contents of the topic:

1.The concept and content of medical-evacuation actions. The main stages of development of system of medical-evacuation support. The essence of the modern system of medical-evacuation measures, its fundamental principles.

Medical-evacuation support (LAO) of the population is a system of interrelated measures to provide the wounded and sick (hereinafter the victim) medical care, their evacuation, treatment and rehabilitation with the goal of saving life and speedy recovery. The history of the development of a health service to highlight the diversity of forms and methods of organization of medical-evacuation support of the population in emergency situations. They have changed and improved with the change of the factors influencing the activities of the medical service.

These factors include:

- socio-economic and political structure of the state; organization of the armed forces, their technical equipment, especially weapons;
- the level of development of military art, medical science and health systems;
- the economic potential of the country.

Features of a medical evacuation system, depending on the conditions of war, are very diverse and are determined by two major trends in the organization of Leo.

The first is characterized by the desire to organize the treatment of victims in the combat zone ( "the practice"), the second - the desire to withdraw (evacuate) from the area the greater the number of victims out to the rear

("emergency" system). This "practice" has been widely used in the period of formation of military medicine, when limited in the size of the army used sedentary and hardly flexible battle formations of the troops and the outcome of the war was decided in the course of one or several pitched battles, carried out on a fairly limited area, when the evacuation routes and means of communication were not perfect, and methods of treatment wore primitive character.

The organization of Leo for the "evacuation" principle due to the inability to treat a significant number of casualties close to the front lines, as it increased the probability of their repeated defeats.Improving the evacuation trend had a significant impact on improving ways and means of communication (the

emergence of rail, road and air transport), improving the process of treating victims, due to the development of medical science and the technical equipment of the medical service. It should be emphasized that the "evacuation" system and the "on-site treatment" system were rarely encountered in practice of providing medical services in the "pure state". Depending on the specific conditions of the situation, on the one hand, the treatment of the injured "on the spot" prevailed - close to the combat zone, and on the other hand, evacuation to the rear.

It is especially clear that the combination of treatment and evacuation measures was manifested in the wars of the XX century. In 1916, Mr. Professor of the Military medical Academy (g. S.-Petersburg) Vladimir A. Opiel for the first time substantiated the need for close communication medical and evacuation measures in a single system and called the combination of medical and evacuation measures, which are interrelated - step treatment. On this occasion, he wrote: "Under the landmark treatment I understand that treatment, which is not affected by the evacuation and in which it is included as a mandatory part of the". A great contribution to the medical support of the troops made one of the first medical doctors in the field of medical support of troops, our compatriot Pavel Ilyich Timofeevsky. His scientific works have made a significant contribution to the development of the theory of organization and tactics of medical service. Worked on problems of medical support of troops, as well as in the creation of the Soviet medico-tactical school Professor of the Military medical Academy (St. Petersburg) Boris K. Leonards. In 1931, in his writings he emphasised the need to restructure the system of staged treatment on the principles of evacuation of victims to the destination. The theoretical framework of the system of staged treatment with evacuation to destination was developed before world war II, the organizational design of this progressive system of treatment of the injured in time of war occurred during the great Patriotic war (1941-1945).

A great contribution to the development of this progressive system did Efim Ivanovich Smirnov, who in the late 1940 wrote: "... the system of staged treatment with evacuation by appointment requires:

- a clear and unified military medical doctrine field;
- hospitalization of the wounded after operation; organized by the security head of the medical service of the army hospitals and transport for the implementation of the maneuver;
- specialization of hospital beds;
- compliance of hospital beds in the rear stages of medical evacuation needs of this stage.

Without these measures there can be no question of the system of staged treatment with evacuation to destination ". At the present stage of development of military

medicine of the new conditions of the medical service has led to the need of improving the system of LAO in the troops (forces).

The essence of the modern system of LAO is timely, consistent and hereditary holding of the affected necessary treatment and prevention measures on site (in the cells of mass sanitary losses) and at stages of medical evacuation in conjunction with their evacuation to hospitals, providing victims with comprehensive medical care and full treatment and rehabilitation.

The basis of medical-evacuation support is the system of staged treatment with evacuation them to their destination.

The successful implementation of medical-evacuation actions the following is achieved:

- the creation of groupings of forces and means of medical service that meets the particular situation and problems which are solved by the greatest possible approximation of them to the areas (cells) of the largest sanitary losses;
- investigation, collection and removal (removal) of the affected in the shortest time, timely provision of them with medical and pre-hospital (paramedic) care, timely evacuation of victims to the stages of medical evacuation;
- timely deployment stages of medical evacuation, clear their work, provides victims of medical aid in the prescribed amount and at the optimum time;
- active implementation in practice of effective methods of diagnosis, medical care and treatment;
- clear medical records.

In the modern system of LAO are of particular importance, the timeliness of medical care, continuity and consistency of therapeutic measures, the use of the common methods of treatment is affected with consistent growth of therapeutic interventions on the stages of medical evacuation. The timeliness of medical care is achieved by the continuous organization of export (removal) of the affected with the affected area (of the centers of mass destruction), quick delivery at the stages of medical evacuation and proper organization of work of the latter. Of great importance is also the approach of the stages of medical evacuation to the troops and their extension to the areas and boundaries of mass sanitary losses.

Continuity in the treatment of victims is achieved primarily common understanding of the pathological processes occurring in the body during injuries and diseases, the only methods of their prevention and treatment. A prerequisite for the continuity of medical care and treatment is a clear medical records.

2. The concept about the stage of medical evacuation. Objectives and concept deployment stages of medical evacuation.

Medical aid to the wounded and sick and their treatment is carried out at health centres and in hospitals, deployed, typically, in sequence from the front to the rear and called on the stages of medical evacuation.

Under the stage of medical evacuation (AIME) understand the forces and means of medical service, deployed on the routes of medical evacuation for admission, medical sorting of victims, providing them with medical care, treatment, and prepare them for further evacuation.

The main stages of medical evacuation is a medical company (Mer) brigade, military mobile hospital (HPAI) of the medical team of the army corps (AK), hospitals, mobile hospital bases (SGS) and regional hospital centers (ARGB). Stage of medical evacuation can be considered and a medical battalion (MPB) if it is deployed for on-site work (in defense).

Regardless of where in the system of medical support of troops on the stages of medical evacuation perform the following General for each of these tasks: - reception, registration, medical triage, incoming;

- conduct on the testimony of victims sanitization, disinfection, decontamination and degassing their uniforms and weapons;
- providing medical assistance to victims;
- hospital treatment of victims (starting with medr and APPG);
- preparation for evacuation of victims to be treated at later stages;
- isolation of infectious patients.

To address these objectives at each of EME want to deploy the respective functional departments. In MPP, Mer and HPAI takes place the sorting and recovery Department, where the reception and triage of casualties, as well as focus victims who are subject to evacuation in the next EME.

In hospitals of hospital bases for the reception and medical sorting of victims unfold receiving and sorting office. These offices deploy functional units, which sanitizes the victims, disinfection, deactivation and decontamination of their equipment and tools: platform special handling, WFP and the office of the special treatment met brigade and hospitals. To provide medical assistance to the victims takes place dressing in WFP operational-dressing Department, Department of anesthesiology and critical care (intensive care unit) Metz brigade, hospitals. Inpatient treatment of victims is carried out in the medra, HPAI and in medical institutions of hospital bases, for which various functional units are deployed (hospital department of medical, HPAI and medical departments in medical institutions of GB, dental surgeries, etc.). In addition, a pharmacy and insulators are being deployed (for temporary placement of infectious patients), and places are being equipped to accommodate personnel and business units. The stages of medical evacuation take place at such a distance from the existing troops



(forces) and move along them in such a way as to ensure timely provision of medical assistance to the victims. The optimal time for first aid is 4-5 hours, qualified - 8-12 hours from the moment of injury. According to NATO standards, the first medical assistance to victims should be provided in the first hour after being wounded, of a disease (Golden Hour rule), and emergency qualified surgical care should be provided during the first 6 hours after being wounded, of a disease (six-hour rule).

Areas for EME deployment are selected based on specific conditions of the situation (combat missions of troops and their combat and operational construction, rear organization, road marking, radiation and chemical conditions).

Deployment of the EME must meet the following requirements:

- be of sufficient area to deploy all units at each stage (MPP - 100x100 m, met - 200x300 m, APPG - 300h400 m);
- to stay close to the main routes of supply and evacuation, and have good access roads suitable for traffic;
- be at a sufficient distance from the objects for which the enemy is planning to strike (artillery positions, troops reserves, nuclear power station, chemical industry, railway station, etc.);
- to allow the use of the protective properties of the terrain (elevation, ravines, quarries) for the protection of EME from the action of weapons of mass destruction;
- have the sources of drinking water.
- sound sanitary epidemic status.

All the above requirements must contribute to the maintenance of constant readiness of EME to work in all conditions.

### 3. The type and amount of medical assistance.

Under the guise of medical aid understand certain complex therapeutic measures carried out with the lesions, and diseases of health workers to the affected areas, the centers of mass sanitary losses and the stages of medical evacuation. Specific type of medical care is determined by place of provision, training of persons and the availability of the necessary equipment.

The victims provided the following types of care:

- first aid (PMP) - at the point of injury (lesions) or in the nearest shelter by the same health workers right of self - and mutual help, as well as personnel units allocated for rescue operations in centers of mass destruction;
- pre-hospital (paramedic) care (PD) - at health centers are headed by medical assistants;
- first medical aid (PVP) on health centres headed by doctors;

- qualified medical care (ILC) - in health centres;
- specialized medical services (AMS) in hospitals.

The volume of medical care - a set of preventive measures performed by the victims at this EME. Volume of care and duration of treatment affected are dependent on medical situation and are given to chiefs of health centers. If you need urgent travel medical clinic, a sharp mismatch opportunities for timely medical assistance and the number of needy victims and under other conditions the volume of care may be reduced by decision of the chief medical center area. Medical assistance to the EME can be provided in full or reduced capacity. Reducing the volume of medical care depends on the medical situation and is carried out at the expense of measures whose implementation may be delayed.

First aid is aimed at temporarily eliminating the causes that threaten the life of the victim at the moment, preventing the development of serious complications. When providing PHD, first of all, medical means of prophylaxis and provision of PHC, which are located at the victim, are used.

The value of timely provided PMP is well illustrated by the following data: "The experience of the Second World War showed that about 20% of all those killed could have survived if they had been given PMP on the battlefield in a timely manner, at least in the form of mutual assistance. About 40% of all wounded who died on the battlefield, they died of shock and blood loss. Up to 13% of the wounded were admitted to the MPP in very serious condition with continued arterial bleeding without the application of tourniquets, and 50% with bone fractures without any immobilization. "

In the Great Patriotic War, PMP was provided in 53% of cases by orderlies and sanitary instructors, in 5.9% in self-help, in 32.3% in mutual aid, in 2.6% by feldshers of battalions, in 6.2% - doctors of units, in 84.4% of cases she was on the battlefield

Pre-medical (paramedic) assistance in order to deal with the consequences of injuries (diseases) that threaten life and prevent severe complications.

First medical aid is provided to eliminate or mitigate the consequences of injuries (diseases) that threaten the life of victims, the prevention of development of complications or reduce their severity, and preparation of victims requiring further evacuation.

Qualified medical assistance with the aim of complete elimination of the consequences of injuries, diseases and injuries that threaten the lives of victims, prevention of complications and preparation for further evacuation of those victims who need it. Specialist medical care is the highest form of medical care. It is

exhaustive and is provided by medical specialists in hospitals of hospital bases that have special equipment medical diagnostic equipment. Specialty medical care is one of the characteristics of the modern system of medical support of combat operations of troops (forces). It is achieved by the inclusion in the composition of the GB staff specialized hospitals.

Materials for self-control:

1. What determines the specific type of health care?

- a) a place of rendering of medical aid;
- b) localization of the wounds;
- C) the General condition of the wounded;
- d) time of year;
- d) a view of the battle.

2. What determines the specific type of health care?

- a) in the age of the wounded;
- b) training of persons who provide it;
- C) the meteorological conditions;
- g) the weight of the wounded;
- d) the availability of ambulance transport.

3. What determines the specific type of health care?

- a) the availability of the necessary equipment;
- b) time of day;
- C) climatic zone;
- d) terrain;
- d) a type of weapon which inflicted the wound.

4. Name the sequence of stages of medical evacuation from the front to the rear (the classic version):

- a) medical battalion;
- b) the medical company of the brigade;
- C) military mobile hospital medical teams of the army corps;
- g) mobile hospital and territorial base;

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#### 5. What is meant by sorting?

- a) triage is the sorting of the wounded and sick on the grounds of needs for a uniform medical evacuation, and prophylactic measures in accordance with medical indications, medical care and received the evacuation order;
- b) triage is the sorting of the wounded and sick on the grounds of the severity of injury in accordance with medical indications, medical care and accepted procedures for evacuation;
- C) triage is the sorting of the wounded and sick on the grounds of the localization of the injury in accordance with medical indications and the extent of medical assistance;
- d) triage is the sorting of the wounded and sick in the duration of exposure to the damaging factor.

#### 6. What podrazumevaetsya medical evacuation?

- a) medical evacuation is an organized collection of wounded, sick and injured, their transportation from the scene of hostilities, the centers of mass of destruction on the stages of medical evacuation, where they will be presented to the medical care and treatment;
- b) medical evacuation is the organized removal of the wounded from the battlefield to military hospitals, bypassing the stages of medical evacuation;
- C) medical evacuation is an organized collection of wounded, sick struck in places where they will be held quality treatment;

g) medical evacuation is an organized collection of wounded, sick and injured and subsequent transport them to a rehabilitation center where they will be sent to help the army;

d) medical evacuation is the organized provision of medical care on the battlefield in centers of mass destruction, the wounded and sick and their subsequent direction to the rear.

## Literature

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