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 K.V. Shepitko

.

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

Academic discipline	**Training of reserve officers**
Module № 1	Pre medical care in extreme situations
Topic of the lesson	Medical evacuation. Medical care for the wounded at the CABCDE evacuation stage
Course	2
Faculty	foreign students training specialty "Medicine", "Stomatology"

Poltava-2020

1. TOPIC 13. MEDICAL EVACUATION. MEDICAL CARE FOR THE INJURED AT THE CABCDE EVACUATION STAGE

Actuality of theme:

Evacuation measures are planned for a special period for the organized evacuation of employees of the facilities and members of their families: from areas of possible hostilities (if any); from areas of dangerous radioactive contamination around the NPP (for NPPs up to 4 GW within a radius of 30 km of the zone and for NPPs more than 4 GW within a radius of 50 km of the zone); from areas of possible catastrophic flooding of the area (with a 4-hour catch-up wave).

2. Specific objectives:

As a result of studying the topic the student must be able to:

to carry out medical sorting in case of mass sanitary losses;

to prepare the wounded (injured) for evacuation;

to organize the provision of home medical care during transportation in combat (shelter and evacuation sector) and non-combat conditions.

Deepen and consolidate knowledge about the tactical evacuation area and the amount of assistance in it. The concept of types of tactical evacuation. Methods and means of evacuation. Rules of tactical evacuation. Monitoring the vital signs and condition of the wounded at the stage of tactical evacuation. Evacuation request rules.

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).

According to 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.

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

Names of previous disciplines	Acquired skills

1. Human anatomy	Analyze information about the topographic and anatomical relationships of human organs and systems.
2. Medical and biological physics	Have knowledge of the physical basis and biophysical mechanisms of action of external factors on the systems of the human body.
3. Medical chemistry	Identify the types of chemical equilibrium for the formation of a holistic physico-chemical approach to the study of vital processes of the organism. Apply chemical methods of quantitative and qualitative analysis
4. Physiology	Analyze human health under different conditions.

Tasks for independent work in preparation for class and in class.

The list of the basic terms, parameters, characteristics which the student should master at preparation for employment:

Term	Definition
1. Medical evacuation	a set of measures for the delivery of the wounded and sick to medical centers and medical institutions in order to provide them with timely and complete medical care and treatment
2. The way of medical evacuation	the way in which the victims were taken out and transported to the rear
3. Evacuation direction	a set of evacuation routes, deployed stages of medical evacuation and ambulances that provide a certain group of troops received

Theoretical questions for the lesson:

1. Medical evacuation of the concept, purpose and procedure.
2. Sanitary vehicles for evacuation of the wounded and sick.
3. What is the evacuation direction.
4. What is evacuation on purpose.
5. What are the features of the organization and conduct of medical and evacuation measures to eliminate the consequences of the use of mass destruction.
6. What requirements must be met by emergency medical evacuation at the place of deployment.

Practical work (tasks) performed in class:

1. Work in the injury team.
2. Preparation of the wounded for evacuation by various methods
3. Providing assistance during transportation in combat conditions.

TOPIC CONTENT:

In the event of massive sanitary losses, it is impossible to help everyone at the same time. For such cases, MI Pirogov (1853) proposed medical sorting. He wrote: “At first, desperate and hopeless cases stand out… and at that moment they turn to the wounded, who hope for a cure, and focus on them. The principle of medical sorting is the choice of the two lesser evils**.**

"Medical sorting - begins in the center of a catastrophe or accident and continues in the subsequent stages of evacuation, as well as on admission to a medical institution. Sorting is based on a general examination, survey, review of medical records. The purpose of medical sorting - reducing the consequences of injuries (diseases) endanger the lives of victims, prevent complications, reduce their severity, prepare and carry out evacuation.It is especially important in situations where the number of victims in need of medical care (or evacuation) exceeds the capacity of local (object, territorial) health care Medical care is considered timely only if it saves the life of the victim and prevents the development of dangerous complications.Medical sorting is specific, continuous (urgency categories may vary), which is repeated and the subsequent process of providing victims with all types of medical care. moment on provision of pre-medical, first aid on the spot (in the area) of the catastrophe, during the entire pre-hospital period, outside the affected area, when the affected to the territorial, medical institutions to receive full medical care and treatment until complete recovery (certain consequences). Medical sorting is carried out on the basis of diagnosis and prognosis and by nature is diagnostic and prognostic, as well as determines the amount and type of medical care.

In the center of the lesion, in the interests of providing pre-medical, first aid, the simplest of the elements of medical sorting are performed. Upon arrival in the disaster area of medical personnel (emergency (ambulance) crews), medical sorting continues and deepens.

Experience gained in the military, as well as in areas of peacetime disasters, shows that the medical sorting of victims varies depending on the type and amount of medical care. The amount of medical care, in turn, is determined not only by medical indications and qualifications of medical staff, but also, mainly, the conditions of the situation.

Depending on the tasks performed at the stages of medical evacuation, it is customary to distinguish two types of medical sorting: intra-point and evacuation-transport.

Intra-point medical sorting of victims at the stages of medical evacuation is carried out in order to divide them into groups depending on the degree of danger to others, the nature and severity of the lesion, to determine the need for medical care and its priority, and to determine the functional unit of the medical evacuation stage. who should be provided with medical care.

When conducting intra-point medical sorting are determined:

- the nature of the lesion and the required amount of medical care;
- the need and place of medical care at this stage;
- priority (first or second turn).

Evacuation-transport medical sorting is carried out in order to divide the victims into homogeneous groups according to the order of evacuation, by type of transport (road, air, etc.); determining the location of the victims on the means of evacuation (lying, sitting, on the first, second, third tier), determining the point of passage - the evacuation purpose. The condition, severity of the victim, location, nature and consequences of the injury are taken into account. The decision of these questions is carried out on the basis of the diagnosis, the forecast of a condition and consequence of defeat; without them, proper medical sorting is impossible.

When carrying out evacuation and transport medical sorting it is determined:

- evacuation destination (where to send);
- type of transport;
- method of evacuation (lying, sitting);
- place on evacuation transport (on the first or on the second tier);
- order of evacuation (first or second).

Often both types of sorting are performed simultaneously, in parallel with the selection of the flow of victims who need to be provided with appropriate medical care at this stage. The

evacuation purpose, priority, method and means of evacuation of victims who do not require medical care at this stage are determined.

Illegal selection of other types of sorting. For example, prognostic or on the basis of its term ("primary", "repeated", "final", etc.), or on the qualifications of medical personnel who conduct medical sorting ("pre-medical, medical", etc.). This does not meet the purpose and objectives of medical sorting. Medical staff of any level of training and qualification are obliged to provide medical care primarily to those who need it most, if there is a need to choose (for example, when several severely affected at the same time). In a difficult situation of mass catastrophe, in contrast to the usual conditions of health care, especially bitter from a moral and ethical point of view in the actions of a doctor is a dire need.

Sorting features. Sorting is based on the following three main sorting features (according to MI Pirogov):

1. Danger to others (require special sanitation; temporary isolation):

a) those that require special (sanitary) treatment (partial or complete): victims who are contaminated with radioactive substances above acceptable levels and toxic substances; they are sent to a site of partial sanitation or a site of decontamination of clothing and footwear;

b) those subject to temporary isolation (in an infectious or psychoneurological isolator): infectious patients and patients affected by bacteriological agents and suspected of contracting infectious diseases; affected with an acute disorder of psycho-nervous activity, which by their inappropriate behavior pose a danger to others;

c) those that do not require special (sanitary) treatment.

2. Therapeutic sign - the degree of need for medical care; priority and place of its provision.

According to the degree of need for medical care in the relevant units of the evacuation stage, victims are identified who need:

- immediate medical care;
- deferred assistance;
- assistance with minor damage to health;
- palliative care - terminal conditions, injuries, incompatible with life.

3. On the basis of evacuation, the necessity and sequence of evacuation, the type of transport, the method of transportation (lying, sitting), as well as the medical institution to which the evacuation should be carried out are determined. On this basis, victims are also divided into three groups:

the first - require further evacuation, taking into account the evacuation purpose, priority, method of evacuation, type of transport;

the second - need to leave at this stage of medical evacuation;

third - need to return to the place of settlement.

Carrying out medical sorting is a responsible moment, on which depends the timeliness of medical care for victims, the implementation of the required type and amount of medical care. It is most expedient to create sorting teams for medical sorting. Their number and composition are determined in each case depending on the size and structure of sanitary losses and the composition of medical forces and means.

Sorting teams for walking victims are formed of: a doctor, a nurse (paramedic), two registrars, a unit of porters.

It is advisable to have the most experienced clinicians of the relevant specialties in the sorting teams at the hospital stage, who are able to quickly assess the condition of the victim, determine the prognosis, priority and nature of the necessary medical care.

Due to the lack of time (time factor) at the pre-hospital stage of evacuation, work with one victim should not exceed 30-40 seconds. This is determined by the maximum reduction in the time spent at the collection point (the possibility of 1 sorting team - 20-25 victims in 1 hour).

In case of mass admission to the receiving department of victims, it is advisable to temporarily send reserve sorting teams for medical sorting, consisting of doctors of surgical dressing and hospital departments of mobile formations, not engaged in their deployment, because these personnel are the most qualified in diagnostics and forecasting.

Given the presence of panic, chaos, confusion and fuss in an emergency - the entire system of medical sorting, to achieve the greatest success, must be simple and clear at all stages of medical evacuation. Medical sorting should be the tool by which a situation that initially seems unmanageable and insurmountable can be adequately controlled, should be a dynamic process, at all levels of the EMD system.

The place where the victims are delivered after the inspection by the sorting team and where the necessary type of medical care is provided and the victims are prepared for evacuation in accordance with the selected queue is called the sorting site.

Medical sorting creates a number of problems, one of which is well known to medical staff and persons involved in rescue operations - the ethical problem. Traditionally, medical staff have difficulty identifying victims of group IV due to the fact that normal work involves all available methods of modern medicine and takes all necessary measures to save their lives. However, in emergencies, when medical resources are limited, decisions may be made that a large number of medications are sent to a limited number of victims who have a real chance of survival, and some victims receive only palliative care for non-life-threatening injuries. This approach may run counter to the day-to-day practice of providing EMD, in which one severely injured (sometimes hopeless) person receives the necessary medical care for a long time.

The moral responsibility of the doctor who manages the sorting is huge, so the decision to transfer the victim to group IV should be made only collectively by a team of the most experienced doctors.

After selective sorting, the doctor proceeds to a sequential (conveyor) examination of the victim according to diagnostic algorithms:

- localization of the lesion (head, spine, chest, abdomen, limbs);
- nature of the lesion: mechanical trauma (local, multiple injuries, combined, combined), the presence of bleeding or fractures, burn injury, poisoning SDOR, radiation damage, etc .;
- the main lesion that currently threatens the life of the victim;
- the severity of the condition: the presence (absence) of consciousness, the reaction of the pupils to light, pulse, respiration, bleeding, blood pressure, skin color;
- the ability to move independently.

Intra-point and evacuation-transport sorting is carried out in medical institutions before the hospital stage of medical evacuation. Sorting at the hospital stage is diagnostic and prognostic. The most qualified doctors are involved in the sorting. As well as at a pre-hospital stage, sorting crews as a part of the doctor, two nurses, two registrars, nurses-carriers are created. The results of sorting are noted in medical documents (medical card of an inpatient). Completion of evacuation sorting is the implementation of measures for medical evacuation.

Upon arrival at the medical institution, first of all, the victims are selectively sorted by superficial examination to identify those who are dangerous to others and those in need of medical care. The doctor spends up to 40 seconds on the initial examination. for each victim, for which the appropriate algorithm of the initial examination is used.

When performing sorting, the sanitary instructor must perform the following algorithm.

Sorting is a constant and dynamic process that lasts over time

- revision and mechanical cleaning of the oral cavity, fixation of the head and tongue to ensure maximum airway patency;
- assessment of the nature and frequency of respiratory movements (superficial, fluctuating) to address the issue of resuscitation (mouth-to-mouth breathing, indirect heart massage);
- determination of the integrity of blood vessels and simultaneous cessation of external bleeding, primarily arterial;
- assessment of the cardiovascular system by pulse: the absence of pulse in the radial arteries indicates that blood pressure is below 80 mm Hg, and on the elbow - less than 60 mm Hg. Lack of pulse indicates the need for emergency medical care;
- assessment of the state of the senses, especially the organs of vision (opening the eyes on their own or on command of a word or for painful irritation);
- assessment of speech reaction (speaks, speaks hard, does not speak);

- assessment of consciousness: orients in space, motor reactions (bends or unbends the limbs as a team).

The algorithm of the initial examination by the method of ABC (airways, respiratory function, blood vessels, cardiovascular system, sense organs) includes:

The results of medical sorting are recorded by sorting marks, on the basis of which the paramedics implement the doctor's sorting decision and marks in medical documents (primary medical card, evacuation envelope, information about the evacuee - evacuation passport).

For the convenience of medical sorting of victims and their subsequent evacuation to the hospital with the least regrouping by vehicles, it is advisable to group the victims in the evacuation rooms of the stage according to the location and nature of the lesion. This makes it possible to ensure the subsequent loading of vehicles, railway cars and other means by homogeneous groups of victims.

Dragging, as a rule, is carried out on small (10-20 m) distances by one person on itself or with use of both improvised, and regular means. On the battlefield more often dragged on in a position on the side or on the back, depending on the nature of the wound. Thus, wounded in the head, upper extremities, chest and abdomen is better to pull on the side, and with injuries of the spine, back of the body and lower extremities - on the back. The terrain and specific conditions of the combat situation are also taken into account when choosing the method of distraction.

To pull on his side, the paramedic lies on his side behind the wounded man, then places his head on his chest and his body on a leg that is pulled up and bent at the knee. The victim may lie on the paramedic face down, on his side or on his back (depending on the nature of the injury). With his free hand the paramedic holds the wounded, and with his other hand and free foot he pushes off the ground and crawls sideways, the weapon (his own and the victim's) is held on the forearm of the hand lying on the ground.

Fig. 1. Pulling the wounded to the side

To pull on his back, the paramedic should place the wounded person on his healthy side and lie with his back close to his chest, then gently push his leg, which is lying on the ground and slightly bent at the knee, under the victim's legs. If the paramedic is lying on his right side, he takes the left hand of the wounded with his right hand, and with his left hand he takes the pants from the back in the area of the buttocks. If he is lying on his left side, then with his left hand he takes the victim's right hand, and he puts his right hand behind the wounded man's back and also takes his pants in the buttocks. Then, with a strong but not abrupt movement, the paramedic, holding the victim near his back, turns on his stomach, the victim's legs should be between his legs. The paramedic moves, pushing off the ground with only one foot until she gets tired, and then pushes off with the other foot. This avoids rocking and dropping the wounded from the back while moving. The paramedic holds the weapon (his own and the victim's) on his forearm with his free hand.

Fig.2. Pulling the wounded on his back

These methods of procrastination are available to a physically strong nurse because they require considerable effort. For distraction, you can use improvised (rope, overcoat, raincoat-tent, a sufficiently large piece of tarpaulin, tied together tree branches, skis and other improvised drags) and service (straps, drags, sanitary stretchers installed on skis) means.

Before you start pulling on the raincoat-tent, you need to make a loop on the strap (rope), which will be thrown on the shoulder of the paramedic, and the free end is tied to one of the corners of the raincoat-tent. For reliability, it is better to tie a simple sea knot (the free end of the strap is passed by a loop through the corner of the raincoat-tent, then the same end is thrown through the strap in the right-left direction and again the second loop is passed through the corner of the raincoat-tent). Then it is necessary to fold a raincoat-tent (from the corner which is closer to the tied) on a diagonal and to put it near the wounded lying on the healthy side so that at injuries of a breast and a stomach the folded part of a raincoat-tent settled down from a back, and at back wound. surface - in front, knot - near the victim's head. Afterwards, the paramedic, carefully holding the clothes, returns the wounded man with his back or stomach to the tent cloak, straightens the folded part and ties two free side corners of the tent cloak over it. After checking the reliability of the strap to the raincoat-tent, the paramedic throws its loop over the left or right shoulder and begins to crawl, pulling the victim or pulling after crawling to a distance allowed by the length of the strap. The paramedic holds his weapon and the victim's on the forearm of his right or left hand

Fig.3. Extraction of the wounded on a raincoat-tent by means of a strap of a sanitary stretcher

When pulled on the overcoat, its sleeves are turned inwards and the end of the strap is passed through them from the outside, which is firmly tied with a regular knot. The overcoat is then spread next to the wounded person, whom the paramedic gently turns on the healthy surface of the body so that the victim's head lies near the upper edge of the overcoat. Its lower edges should be wrapped and secured around the thighs to prevent the injured person from slipping while moving. It is not necessary to tie the straps to the sleeves of the overcoat, as they may come off, and it is not desirable to pass the sleeves turned inwards under the armpits of the victim, because while moving the victim will be further injured by pulling the strap.

In winter, you can use a few skis fastened together, sheets of plywood, twigs, tin, on which it is best to put a light litter, and already on it - the wounded. Drawbars made of wood or light metal alloys are used as regular means.

You can pull the wounded with the help of a winch sanitary conveyor (or other transport), which is available in the shelter. In this case, the paramedic pulls the drag to the victim by the strap, which is attached to the drag at one end. An unwound winch cable is attached to the other end. When he reaches the wounded man, the paramedic puts him in a drag and gives a conditional signal to the driver-paramedic of the conveyor about the readiness to pull, after which he turns on the winch and pulls the drag into the shelter with its cable.

It is strictly forbidden to turn and pull the victim by dislocated and broken limbs, as this will not only increase the pain, but also cause additional serious damage to muscles, blood vessels and nerves or even traumatic shock.

The sanitary instructor of the company, drivers-nurses of sanitary transporters or paramedics-carriers are taken from the shelter of the wounded, who, if necessary, supplement the first aid and transfer the wounded to the ambulance for evacuation to the rear.

During the movement of units, when evacuation is not possible, the wounded are transported in ambulances or combat vehicles to be transferred to medical units.

When the enemy uses weapons of mass destruction, there will be centers of mass casualties. The provision of first aid in them is carried out through self- and mutual assistance, as well as the personnel of rescue teams to eliminate the consequences of the use of the enemy's means of mass destruction, which include forces and means of medical service. Rescue teams carry out all medical and evacuation measures: search for the affected in the sectors (areas) by detour (bypass) and careful inspection of the area; retrieval of victims from blockages, damaged equipment and other places; providing them with first aid; removal (removal) of the affected outside the cell to the parking lots of motor vehicles. Here, as a rule, there is a paramedic and a sanitary instructor of the battalion's medical unit (BCH), who supplement the first aid measures and manage the loading of vehicles for the evacuation of the victims to the rear.

.

Medical information card: appointment, rules of filling

The medical information card is intended for registration of combat pathology and monitoring of the basic vital signs of the victim. The medical information card is not a document that has legal force and is implemented only to help the military doctor correctly assess the combat injury of the victim, adjust treatment and plan his evacuation. The completed card can also be used for statistical analysis.

The medical information card measures 18.5 X 13 cm and is stored in the individual first aid kit of the serviceman (Fig.

The passport part and the column on existing allergic reactions are filled in advance by the cardholder. The rest of the information is filled in immediately after the injury at a convenient time by another serviceman, even if he has no medical education. A senior in a designated military unit is responsible for a blank document.

The completed medical information card is handed over to the representative of the medical service together with the victim. If necessary, the card of tactical combat assistance to the wounded can be supplemented with another copy.

In case of loss or renewal of the card, blank forms should be kept by a health instructor.

The medical information card consists of front and back parts.

On the front part there is information about the name of the wounded, his combat unit. Data on existing allergic reactions are indicated. Indicate the date and time of receiving combat damage with an indication of its cause. Then there is an examination of the victim according to the protocol of the SAVS. In the central part of the card two silhouettes of the person on which it is necessary to note the revealed combat damages are drawn. To determine the area of the burn on the silhouettes marked the percentage of a particular part of the body. Also in the central part of the card is marked information about the imposed tourniquet, reperfusion and administration of tranexamic acid.

The right half of the central part of the card is set aside for a brief description of the injury. The lower part of the front side of the card contains information about the presence of consciousness in the wounded, the presence of an occlusive dressing, drainage tube, decompression puncture.

Preparing the wounded for evacuation.

The lightly wounded and the sick are placed separately on the platform for "walkers". They, in turn, regulated by a paramedic or other person selected from among the lightly wounded, who are treated in the WFP, go to the doctor. A registrar and a paramedic work alongside the doctor. Medicines and other means are used to provide medical care, located near them on one or two tables. After medical sorting, the lightly wounded and sick are also sent to the appropriate functional units.

The following groups of wounded and sick are distinguished in the reception and sorting department of the WFP:

1. Those who need medical care in a dressing room in the first or second place.

2. To be evacuated immediately to the next EME with the definition: first or second, in a sitting or lying position, by ambulance or freight transport, with or without an escort.

3. Which, after providing assistance in the reception and sorting department, are subject to return to their units or remain for treatment for up to 3-7 days.

4. Victims who have incompatible with life damage (agonist) and need only care. It is unacceptable to allocate them to this group in the slightest doubt, in which case they are considered victims who need medical care in a dressing room.

As already mentioned, medical sorting is performed in other functional units. The dressing room also has the following groups.

For fast and high-quality medical sorting, doctors and nurses must know the organization of EME, etiology, pathogenesis and course of damage from modern weapons, have the skills to provide medical care, as well as know the organization of medical evacuation, the clarity of which, as established by M. AND. Pirogov, largely depends on the proper conduct of medical sorting.

Organization of medical evacuation

Medical evacuation is a set of measures that include the collection and removal (removal) of the wounded and sick (injured) from the battlefield or centers of mass sanitary losses at the stages of medical evacuation in order to provide timely and complete medical care and treatment, as well as to release stages of medical evacuation from the victims, which will provide the opportunity to move the EME to a new deployment area.

Evacuation is a forced measure and has a negative impact on the health of the wounded and sick. Minimizing, as far as possible, the time spent on transporting the wounded and sick, using evacuation of various modes of transport, including ambulances and carrying out special medical measures for victims before and during the evacuation, allows this measure to be carried out with the least harm to the health of evacuees. .

The medical evacuation from the battlefield or the center of mass sanitary losses begins. It is organized by its commanders, respectively, in their units (units, formations), they also allocate forces and means to strengthen the regular units of the medical service, which directly search for the wounded and sick, provide them with first aid and take them out of the battlefield. to the BCH (WFP). In the company, these activities are supervised by a sanitary instructor, in the battalion - the chief of the BCH (paramedic), in the regiment - the chief of the medical service of the regiment. The BCH ambulance is used to evacuate from the battlefield to the BCH, but if there are a large number of wounded and sick or there is a threat of their capture by the enemy, any transport provided by the command is involved: trucks, tractors, and sometimes armored personnel carriers and tanks..

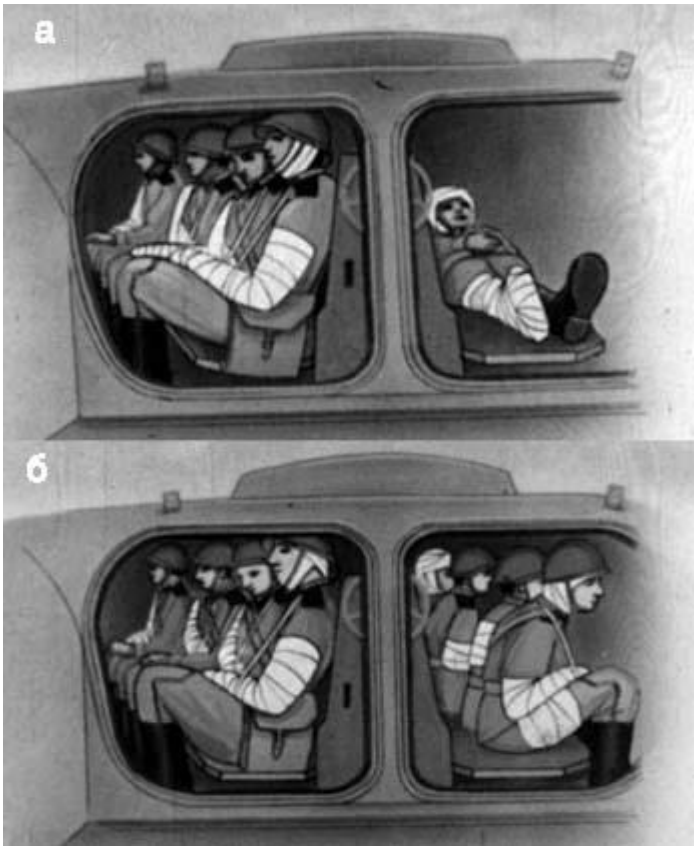

Fig. 1. Evacuation in an infantry fighting vehicle.

The U.S. Army Medical Service in Vietnam, as well as the medical service of the 40th Army of the former Soviet Union in Afghanistan, in some cases used transport and combat helicopters to evacuate the victims directly from the battlefield and take them directly to military hospitals.

The main principle of evacuation is the principle of "on your own", when the senior medical officer allocates his forces and means to remove the victims from medical units and units, although the options of evacuation "from himself" and "past" (for example, for evacuation from the mouth) the chief of the BCH is responsible, the transport of the WFP to the BCH is directed by the chief of the medical service of the regiment, and the chief of the medical service of the division carries out evacuation from the WFP by the transport of omedb, etc.). The method of evacuation "from oneself" is less often used, for example, when a small number of victims are evacuated by their transport to the next EME. Only in exceptional cases can the “by yourself” method be used, for example, the evacuation of victims by WFP transport from the WFP, bypassing the WFP, to Omedb. As a rule, sanitary and adapted WFP freight transport is used to transport the wounded and sick from the BCH to the WFP. In addition, according to the request of the chief of the medical service of the regiment, the command of the regiment allocates general-purpose transport, more often it happens when performing return flights to the rear. General-purpose vehicles include goods vehicles that carry ammunition and other military property. In order to reduce the negative impact on the health of the wounded and patients transported in them, it is necessary to carry out the following preparatory measures:

- install special devices in the body to secure the load, and in case of their absence, lay hay, straw, Christmas tree or other branches, haystacks, mattresses on the bottom of the body;
- cover the body with an awning and provide the victims with other means of protection against cold, heat, dust, etc .;
- put a canister or other utensils with drinking water;
- if necessary, reduce the tire pressure to reduce the damaging effects of shaking. In addition, during transportation it is necessary to choose the most gentle speed of transport.

The lightly wounded and the sick are mostly evacuated by truck, although the possibility of evacuating moderately wounded is not ruled out. Starting with the WFP, it is possible to use air transport more widely, for which a suitably prepared site for its reception and take-off should be

arranged alongside the deployed WFP (omedb). The use of air transport is the most appropriate, because almost all victims can be evacuated on it as soon as possible after medical care and in the most gentle conditions (Fig. 2).

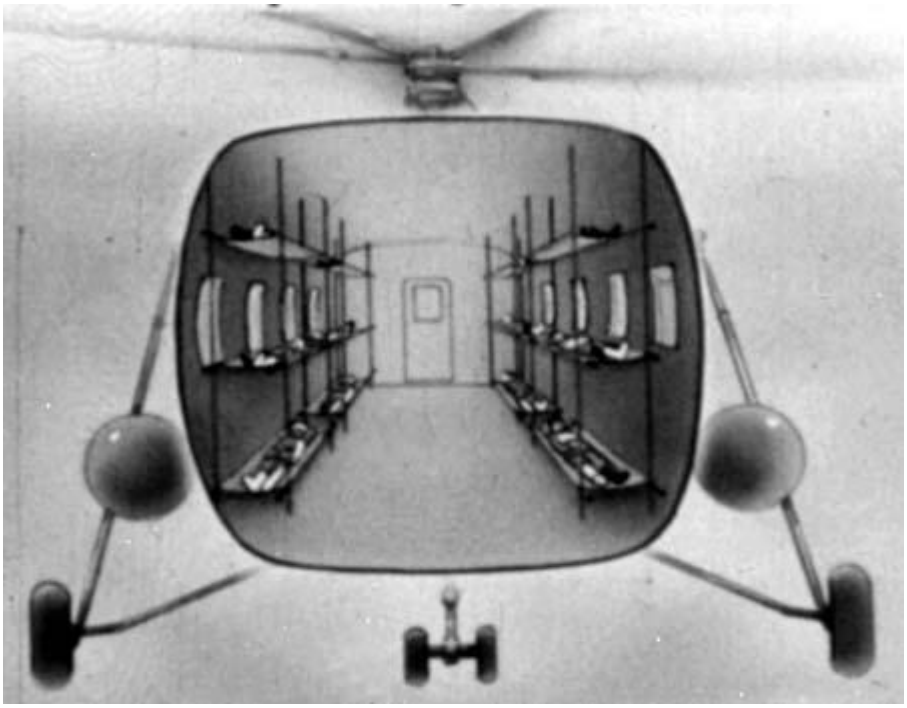

Fig. 2. Option of placement of the wounded in the sanitary helicopter "MI-8".

With the close location of the stages of medical evacuation from the battlefield or from each other, as well as in case of insufficient transport or inability to move due to various reasons, evacuation of lightly wounded and sick in BCH and WFP, and sometimes in Omeb, on foot. When referring the wounded (sick), the senior of each group is appointed among them, they are clearly indicated the direction and distance to the next EME and their arrival to it must be controlled.

In some cases, evacuation can be carried out by carrying on a stretcher, as well as transportation by cart (in the mountains, in swamps, etc.).

In most cases, evacuations are carried out by roads carrying ammunition and other material means, and which are equipped and maintained in a suitable condition by special units of the engineering troops. Accordingly, these roads are called evacuation routes, and sections of road between two adjacent EMEs deployed towards the rear are called medical evacuation sections. The set of medical evacuation routes with EMEs located on them and the transport used for evacuation is called the evacuation direction. It provides a certain group of troops. During the evacuation of the wounded and sick in these EMEs, appropriate medical care is provided and they are delivered to the omedb in a general flow, while for their evacuation the sanitary transport of omedb and vehicles provided by the division command are used.

As a result, evacuation is provided for the purpose, in other words, every wounded or sick person who needs to receive appropriate specialized medical care is included in a group that is purposefully sent to a specialized military hospital (for example, burns - to a hospital for burns, with combined lesions - in a multidisciplinary hospital, etc.) for comprehensive treatment until the final result is determined.

In order to monitor the condition of the wounded and sick and provide them with emergency medical care during evacuation on vehicles, medical workers should be assigned to accompany them, most likely, in most cases they will be appointed from among the paramedics. Before the start of the movement, the escort (escorts) is provided with medical equipment to provide the necessary medical care to the victims in case of possible life-threatening complications during the evacuation (blood pressure monitors, oxygen inhalation equipment, blood transfusion systems, syringes, blood substitutes, stimulators of cardiovascular activity, as well as care items). He is given all the medical records for the wounded and sick who are being evacuated. The place of the accompanying medical worker in the convoy of vehicles, as a rule, in the last transport. It

performs its functions at short stops and during traffic. Upon arrival at the medical institution, the attendant transfers, according to the list, the delivered wounded and sick together with the accompanying medical documentation and returns to his unit.

If appropriate conditions are available, rail and water (sea or river), sanitary or adapted vehicles may be used for evacuation.

Organization of assistance during transportation in combat and non-combat conditions.

Special requirements must be met when evacuating infectious patients. Infectious patients, as a rule, must remain in an infectious hospital until complete recovery, only special conditions can force their evacuation. Infectious patients are transported by ambulance or adapted for this purpose transport. It is not allowed to transport patients with various infections or together with wounded and somatic patients on one car.

Medical personnel accompanying infectious patients must carry the necessary emergency medication, underlying vessels and disinfectants. On the way to travel, patients are strictly forbidden to get out of the car, communicate with the population and personnel of units.

Transfer (overload) of the wounded and sick from one vehicle to another, as well as unloading at the stages of medical evacuation is carried out without removing them from the stretcher. Sanitary vehicles are equipped with stretchers from the exchange fund.

In a military field mobile hospital, an evacuation statement is drawn up in triplicate for each vehicle (car, helicopter, plane) that evacuates the wounded and sick (one copy signed by the column commander, escort or driver of the vehicle remains in the military vehicle). the second - is transferred to the medical institution where the wounded and sick were evacuated, the third - with the list of the head of the institution who received the wounded and sick, remains on the vehicle for the report).

Evacuation of the wounded and sick is organized by the senior chief of medical service and is carried out by the vehicles subordinated to him. For example, the senior chief of the medical service directs the medical transport of the corps' medical brigade to the medical companies of the brigades to evacuate the wounded and sick to the military field mobile hospital. This order of evacuation was called "self-evacuation". It is possible, however, the possibility or necessity of evacuation to the rear by their own vehicles, ie "from themselves". There is also the possibility of evacuation of the wounded according to the principles: "evacuation to a neighbor", "evacuation after oneself", "evacuation through oneself". The advantage of evacuation "over yourself" over other procedures of its organization is that the senior head of the medical service, which directs the vehicle forward, has the opportunity to use it more efficiently according to the situation, as well as better maneuver.

In the final part of the lesson, the unit commander summarizes the lesson, answers questions and checks how the subordinate personnel understood the above material.

Materials for self-control:

1. What is meant by medical evacuation?

a) medical evacuation is an organized collection of the wounded, sick and injured, their transportation from the place of hostilities, outbreaks of mass destruction to the stages of medical evacuation, where they will receive medical care and treatment;

b) medical evacuation is an 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 the wounded, sick and injured in places where they will receive quality treatment;

d) medical evacuation is an organized collection of the wounded, sick and injured with their subsequent transportation to the rehabilitation center, from where they will be sent to help the army;

e) medical evacuation is an organized presentation of medical care on the battlefield in the centers of mass destruction of the wounded and sick with their subsequent direction to the rear.

2.Name the requirements for the location of the stage of medical evacuation:

a) be located close to the main access and evacuation routes and have good access roads;
b) be located near objects that attract the attention of the enemy;
c) be located near the command posts;
d) be located at a distance of 10-15 km from the leading edge;
e) be located at a distance of 30 km from the leading edge.

3.Name the requirements for the location of the stage of medical evacuation:
a) have water sources;
b) have contaminated sources of drinking water;
c) have sources of drinking water;
d) have sources of quality drinking water and in sufficient quantities;
e) have sources of drinking water outside the front line.

4.Name the requirements for the place of deployment of the stage of medical evacuation:
a) be sufficient in area for the deployment of all functional units of the medical evacuation stage;
b) be sufficient in area for the deployment of dressing and hospital departments;
c) be sufficient in area for the deployment of special processing units in case the enemy uses WMD;
d) be sufficient in area for deployment
battalion and medical units;
e) be sufficient in area for deployment
at least half functional
units of the medical evacuation stage.

5. What is meant by the type of medical care?
a) understand the full range of treatment and prevention measures taken for lesions and
diseases by troops and medical service on the battlefield, in the centers of mass sanitary losses and at the stages of medical evacuation;
b) understand the full range of preventive measures carried out by troops on the battlefield;
c) understand the full range of treatment and prevention measures carried out by the personnel of the medical service on the battlefield and in the centers of mass sanitary losses;
d) understand the full range of organizational, economic, medical and preventive measures carried out by the veterinary service at the stages of medical evacuation;
e) understand the full range of treatment and prevention measures carried out by the medical service together with the veterinary service on the battlefield and in the centers of mass sanitary losses.

6. What is meant by the amount of medical care?
a) it is a set of therapeutic and preventive measures within a specific type of medical care performed at the stages of medical evacuation for a certain category of wounded and sick on medical grounds and in accordance with the combat and medical situation;
b) it is a set of evacuation measures that determine medical institutions and which are performed at the stages of medical evacuation for a certain category of wounded and sick in accordance with medical indications;
c) it is a set of medical measures within a specific type of medical care performed at the stages of medical evacuation for all categories of wounded and sick on medical grounds and in accordance with the combat and medical situation;
d) it is a set of sanitary and preventive measures within a specific type of medical care performed at the stages of medical evacuation for a certain category of wounded and sick on medical grounds in accordance with the combat and medical situation;
e) it is a set of measures that are performed depending on the stage of medical evacuation for a certain category of wounded and sick on medical grounds and in accordance with the combat and medical situation.

7.Name the type of medical care:
a) first aid;
b) emergency medical care;
c) intensive care;
d) general medical care;
e) resuscitation medical care.
8.Name the type of medical care:
a) surgical medical care;
b) pre-medical care;
c) therapeutic medical care;
d) resuscitation care;
e) general medical care.
9.Name the type of medical care:
a) first aid;
b) medical care;
c) medical care;
d) deferred medical care;
e) systematic medical care;
10.Name the type of medical care:
a) qualified medical care;
b) general medical care;
c) medical care;
d) general medical care;
e) deferred medical care;
11.Name the type of medical care:
a) symptomatic medical care;
b) resuscitation medical care;
c) specialized medical care;
d) hospital medical care;
e) emergency medical care;

Standards of answers to tests:
1.a, 2.a, 3.d, 4.a, 5.a, 6.a, 7.a, 8.b, 9.a, 10.a, 11.c

Literature

Basic references

1. Medicine of emergency situations: textbook for students of higher medical educational establishment of IV level of accreditation/ V.V. Chaplyk, P.V. Oliynyk, S.T. Omelchuk, V. V. Humenyuk. - Vinnytsia: Nova Khuna, 2012. – 343 p.

Additional references:

1. Accident and emergency medicine: study guide/ O. M. Pronina, V. V. Shevchenko, S. I. Danylchenko; Ministry of Public Health of Ukraine, Central Methodical Office, UMSA. – Poltava: ASMI, 2015. – 145 p.

2. Hospital surgery /Edited by L. Kovalchuk, V. Saenko, G. Knyshov et al. – Ternopil: Ukrmedkniga, 2004. – 472 p.

3. Bullok B. Pathophysiology and Alterations I Function. – Illinois Boston-London: Second EditionGlenviev, 1988. – 521 p.

4. The Washington Manual of Sugery/ Third Edition/ Gerard M. Doherty, M. D., 2002. – 777 p.

5. Short Practice of Surgery/ 24th Edition/ R. C. G. Russel., 2004. – 1552 p.

Guidelines prepared by
PhD in medical sciencesA. Levkov