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Methods of evacuation during combat deployment

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Summary:

Military conflicts, as well as peacekeeping and stabilization missions are characterized by the loss of own military personnel. The development of medical coverage procedures involves providing effective care in the field of battle and casualty evacuation to an appropriate aid station. This paper presents issues regarding the evacuation of casualties from the battlefield and the rules of applying MEDEVAC procedures.

Key words: evacuation, medical segregation, first aid, military operations.

Poland's entry into NATO forced standardization of command procedures to be applied in Polish uniformed services, especially Polish Armed Forces. Establishing uniform and coherent procedures among all member states, including procedures related to medical coverage, has undoubtedly raised the professional level of soldiers.

Of all medical activities undertaken in the theatre of operations, three main stages may be distinguished: actions taken under enemy fire, tactical medicine referring to the medical activities performed next to the battlefield, which precede evacuation, and finally the evacuation from the battlefield [1]. In this paper, the third stage – the evacuation – will be discussed.

Medical evacuation

Evacuation is a significant factor leading to a decrease in the amount of loss of own soldiers. Two terms related to this transport system may often be encountered: CASEVAC and MEDEVAC. The knowledge of those two procedures is an element of training in first aid, provided to the soldiers preparing for military missions abroad [2].

The acronym CASEVAC derives from the term Casualty Evacuation [3]. The procedure involves evacuation of soldiers from the combat operation area and transporting them using the available means of transport to aid stations. The means of transport may be of both ground and air type and are defined as not having specialist equipment for casualty transport. The CASEVAC procedure is highly dynamic and offers little time for preparations, which often limits the medical equipment available on board to that carried by the members of medical personnel assigned for the evacuation. Therefore the CASEVAC procedure is not meant to provide medical coverage of the casualty during transport. Applying this evacuation method in indicated when MEDEVAC is not available or when the number of casualties exceeds the capabilities of MEDEVAC [1,3].

Evacuation conditions in the case of the MEDEVAC (Medical Evacuation) procedure are significantly

different. The procedure is carried out by specialized means of transport, not any means, as in the case of CASEVAC. Appropriate medical equipment is employed in that case and the casualties may also be transported from stations of low-level medical care (brigade, battalion) to those of higher levels [2,4,5]. It is a step of casualty evacuation (both civilian and military) in which means of air transport (Fig. 1) and assistance by medical personnel is used, which significantly increases the survival rate.

Figure 1: Medical evacuation helicopter during evacuation procedures

The medical evacuation system, according to "Land Army Doctrine", should be organized following certain rules [5]. The first rule claims that premedical aid should be provided to a casualty as soon as possible, but no later than one hour after the event. The second rule refers to qualified medical aid, which should be introduced no later than two hours after the trauma. The last rule regards providing full, qualified medical aid. Such aid should be provided within four hours after wound occurrence. The six-hour-rule is currently in force according to the NATO guidelines and the directive AD 85-8: ACE Medical Support Principles, Policies, and Planning Parameters [6]. Following the Allied Joint Force Command doctrine, the rule claims that a wounded soldier should be provided with life-saving aid no more than six hours following the trauma.

Battlefield medical coverage system

Both the CASEVAC and MEDEVAC procedures are based on casualty transport through different levels of medical aid, generally denominated by the military nomenclature as Roles (or Levels of Care) [1,4,7]. According to documents standardizing the structure and functioning of medical coverage, both during peacekeeping and stabilization missions realized by land army, a four-level structure of medical coverage has been adopted. Each level differs in diagnostic and therapeutic capabilities (Fig. 2) [1,8,9].

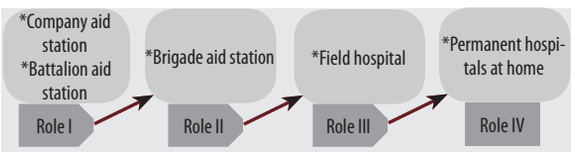

Figure 2: Scheme of the field medical coverage system divided into Roles

The CASEVAC and MEDEVAC procedures involve casualty evacuation from the battlefield to aid stations developed at the level of company or battalion (Role 1). Medical interventions at that level involve casualty segregation, providing life-saving aid and determining the precedence of evacuation to a higher-level aid station.

Another aid station is established at the level of brigade (Role 2), in which life-saving surgeries and short-term treatment are performed. Brigade aid stations are also responsible for supplying both company and battalion aid stations with medications and bandages.

Role 3 is established at the level of division. Medical coverage units created at that level are the field hospitals, in which surgical interventions and further treatment of wounded and ill patients are provided [9,10]. Similarly to the preceding level, field hospitals are responsible for providing supplies to lower-level aid stations (Roles 1 and 2).

Patients evacuated from field hospitals are transported to permanent hospital facilities. While Roles 1 to 3 constitute tactical levels, Role 4 constitutes a strategic level and encompasses both military and civilian hospitals. It is this level, at which the entire logistics is organized, including casualty treatment and rehabilitation, as well as medical device and medication distribution to lower-level aid stations.

Structure of MEDEVAC request

The essential element of the MEDEVAC notification system is a properly formulated and uniform request procedure [4,7]. Since the request form is composed of 9 items, it is commonly called the nineliner [1]. An example of MEDEVAC request form is presented in Table 1.

Table 1: Outline of a MEDEVAC request form.

MEDEVAC request items
I. Pick-up site and event site coordinates.
II. Radio frequency/Call sign.
III. No. of patients (by precedence): A. Urgent, B. Priority, C. Routine.
IV. Special equipment (e.g., extractor).
V. No. of patients (by type): L. Litter, A. Ambulatory.
VI. Security at pick-up site: N. No enemy, P. Possible enemy, E. Enemy in area, X. Armed escort required.
VII. Method of marking pick-up site.
VIII. Patient nationality: A. ISAF military, B. ISAF civilians, C.military/non-ISAF, D. civilian/non-ISAF, F. prisoners of war.
IX. NBC contamination.

Patient status description along with the determination of evacuation precedence (triage) are the most important components of the MEDEVAC notification system [7]. Item 3 of the MEDEVAC request form refers to the number of casualties listed by precedence. Priority is assigned based on triage, a system permitting medical aid services to segregate casualties according to the extent of sustained injuries and, therefore, their chance of survival. The system involves assigning levels of priority in providing medical aid and evacuation of patients in life-threatening condition, according to their current status and the degree of sustained trauma. In order to facilitate the identification of patients in life-threatening condition, the assigned priorities are marked with colour-coded tags attached during segregation (Fig. 3). The precedence is in a decreasing order, starting from urgent (immediate), through priority and routine. Patients marked as urgent require evacuation in the first place and the necessary surgical treatment should be provided no later than one hour after the event. The urgency of this category is reflected in the red colour of triage tag. The next category, marked with yellow tags, is priority. Such a casualty requires surgical intervention within six hours after the trauma. The routine category is used for marking patients who are neither in life-threatening condition nor at risk of loosing a limb. Green tags are used in this case.

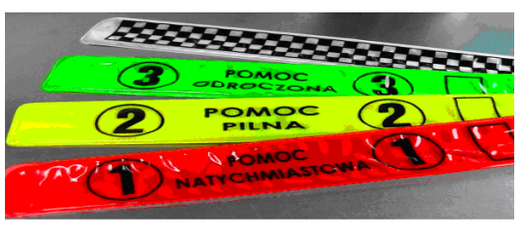

Figure 2: Samples of triage tags.

The knowledge of the rules of providing first aid, including issues of casualty evacuation from the field of battle, allows a maximum shortening of the time necessary to reach the casualties, effectively stabilize their basic vital functions, and quickly transport them to appropriate aid stations, thus to increase their chance of survival.

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