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## **MODERN APPROACHES TO PROVIDING MEDICAL AID IN MINE AND EXPLOSIVE INJURIES DURING MEDICAL EVACUATION STAGES**

**Hnidash Yana**

V year student  
speciality “General medicine”

**Vlasenko Viacheslav**

Associate Professor

**Vlasenko Dmytro**

Assistant

Department of emergency and urgent medical care,  
orthopedics, traumatology and prosthetics

The management of injuries caused by mines and explosives in battlefield medicine is highly complex due to the varied nature of trauma they induce. Generated deliberately or unintentionally, these devices results in severe harm affecting both physical health and posing significant logistical and medical obstacles. Such wounds often consists of intricate damage such as numerous fractures, burns, internal injuries, and occasionally fatal bleeding. The intensity of these wounds can differs greatly based on factors like the explosive type, victim's proximity to the blast, and injury characteristics. Nonetheless prompt action advanced surgical treatmentand thorough rehabilitation are typically essential for dealing with these injuries effectively. The importance and intricacy of these wounds requires a well-coordinated medical reaction.

In current warfare, the extensive use of landmines and explosive devices – particularly in unconventional conflicts involving rebels and guerrilla fighters utilizing non-traditional tactics – necessitates efficient management of such injuries by medical teams. Landmines and explosives continue to be commonly employed tools to sow disorder and increase casualties in war zones. Consequently, battlefield medicine has undergone significant advancements to address these challenges, with a vital role played by the medical evacuation (MEDEVAC) process in minimizing casualties and improving recovery prospects. A successful MEDEVAC operation not only boosts the chances of wounded soldiers' survival but also establishes a controlled setting for timely delivery of advanced care, crucial for reducing long-term disability and ensuring successful recovery for the injured parties [1].

The steps involved in medical evacuation, from moment of injury to reaching healthcare facility play a crucial role in reducing sickness and death. Immediate care provided by combat medics or field surgeons prioritize controlling bleeding, stabilizing vital signs and preparing for transport. This initial phase takes place on battlefield or at injury site making quick intervention essential. The application of tourniquets, hemostatic agents and advanced trauma procedures like pressure dressingsnbspor blood product administration has notably enhanced survival rates for soldiers wounded

by explosive devices [2]. Rapid assessment of injuries is paramount for first responders - combat medics or field surgeons - given common occurrence of blast injuries to chest, abdomen and limbs. The explosion shockwave can result in both immediate harms and additional damages from flying objects or burns caused by explosives.

Upon achieving stability, patient is moved to nearby surgical facility or field hospital. This step plays crucial role since transferring patient promptly to advanced medical center can greatly impact their outcome. Due to limitations of operating in combat area, casualties are usually transported via helicopters or fast transport vehicles during evacuations. Helicopters used for evacuation operations often navigating through hostile conditions require careful planning and precise execution to prevent additional harm during transit. Medical teams participating in these operations must excel in trauma care while handling unique challenges presented by battlefield situations such as heightened stress levels, scarce medical supplies, and continuous threats from enemy forces [3]. The medical staff should also receive instruction in trauma stabilization and transport guidelines to prevent worsening of injuries during transportation. When reaching the surgical center, urgent damage control surgery might be necessary for additional patient stabilization. Surgeons in frontline surgical teams are adept at conducting such procedures under challenging circumstances frequently with scarce resources and amidst potential enemy threats. They must promptly make vital decisions, prioritizing treatment for the most severe injuries while prepping patients for potential transfer to a higher-level facility.

Recent improvements in handling explosive injuries involve introducing recent medical tools like portable ultrasound devices and advanced hemostatic products. Such enhancements allow for more efficient treatment on-the-go by enabling medical staff to perform diagnostics and address issues promptly like managing bleeding or airway problems. Moreover, portable diagnostic tools aid in assessing internal injuries accurately, increasing chances of survival in challenging conditions. Integrating these technologies into the MEDEVAC procedure significantly boost survival rates and improve outcomes for injured individuals [4].

At the same time caring for wounded soldiers is just one part of battlefield medicine. Medical teams must also be ready to deal with the emotional impact of mine and explosive injuries on patients and medical staff. These types of injuries frequently result in considerable emotional and mental difficulties. Those who survive explosive injuries often develop post-traumatic stress disorder (PTSD) which can show up as flashbacks, nightmares, increased anxiety, and a lack of emotion. The psychological harm caused by these events can be equally harmful as the physical injuries significantly hindering the patient's recovery and return to both military and civilian life [1].

Survivor of blast injuries may encounter various mental health issues like depression anxiety feelings of guilt and isolation apart from PTSD. The sudden severity of these injuries along with the traumatic events leading up to them can worsen these issues. Uncertainty about future outcomes like physical limitations and social reintegration can add to feelings of hopelessness. These challenges also affect medical staff in high-stress environments who might experience secondary trauma or vicarious PTSD. Combat medical personnel and field doctors typically the initial aid providers

for serious injuries might face emotional strain from the extreme and common life-threatening events they come across. Handling severely wounded soldiers under challenging conditions with scarce resources can result in burnout, compassion fatigue, and psychological distress among healthcare workers.

Dealing with these mental problems at an early stage as a component of a complete treatment plan are crucial for the full recovery of wounded soldiers. Psychological assistance should be included in medical care from the moment of injury and throughout the entire recuperation period. Having available trained experts in mental health focusing on trauma and emergency interventions is important. Early actions like psychological first aid (PFA) can assist soldiers in coping with their distressing experiences and start the healing process, lowering chances of lasting mental problems.

Creating supportive setting is essential for taking care of injured soldiers and medical teams dealing with psychological effects. Programs that offer peer support enable injured soldiers to connect with those who have gone through similar experiences, while debriefing sessions help medical staff discuss the emotional challenges they encounter in treating traumatic injuries. Routine psychological evaluations, counseling services, and promoting mental health awareness are crucial elements of all-encompassing strategy for trauma care. By tending to both physical and emotional well-being of injured soldiers, military medical teams can enhance long-term recovery results. This comprehensive approach facilitates physical healing among soldiers by providing necessary mental and emotional backing essential for rebuilding their lives [3].

The development of battlefield medicine has resulted in notable advancements in treating soldiers hurt by mines and explosives. Through the entire process from when injuries happen to later stages of medevac, incorporate up-to-date medical methods, new technologies, and well-prepared staff have significantly boosted survival rates and recovery results. Nonetheless, ongoing studies and consistent adjustment of medical procedures are vital to address the constantly evolving demands brought on by present-day warfare. By enhancing battlefield medicine and refining organization of medevac systems, survival and recovery rates for injured individuals will keep getting better, guaranteeing that soldiers get optimal care even in tough conditions.

In conclusion, managing injuries from explosives and mines involves a complex and multifaceted process that requires seamless teamwork and collaboration at every stage, particularly during medical evacuation. Such injuries lead to severe trauma, necessitating swift and accurate responses from the medical staff to stabilize the patient for survival. Efficient management entails advanced medical treatment along with precise coordination among field medics, surgeons, and evacuation teams operating under difficult conditions. As warfare strategies advance, treatment and evacuation methods must also progress to provide optimal care for soldiers.

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## **РІВЕНЬ ОБІЗНАНОСТІ СТУДЕНТІВ-МЕДИКІВ ЩОДО ІМУНОПРОФІЛАКТИКИ ВІРУСУ ПАПІЛОМИ ЛЮДИНИ**

**Демічева Вікторія Євгенівна**  
здобувачка вищої освіти

**Калашнікова Анастасія Миколаївна**  
здобувачка вищої освіти

**Макарова Вікторія Іванівна**  
асистент

кафедра епідеміології

Харківський національний медичний університет

**Актуальність.** В умовах сучасного світу, де рівень інфекційної захворюваності постійно зростає під впливом глобалізації, міграції, соціальних та гуманітарних катастроф, а також зниження імунного захисту населення через прогалини в обізнаності медичних працівників та громадян, що, в свою чергу, призводить до коливань при прийнятті рішень щодо як рутинної, так і рекомендованої вакцинації, особливої актуальності набуває питання профілактики зараження вірусом папіломи людини (ВПЛ).

Вірус папіломи людини – це безоболонковий ДНК-вірус з кільцевою дволанцюговою структурою, який спричиняє різноманітні епітеліальні ураження і онкологічні захворювання [1].

На сьогодні відомо близько 170 генотипів цього вірусу, серед яких щонайменше 12 мають високий онкогенний потенціал [2]. Серед них найнебезпечнішими є типи 16 і 18, які основною причиною злякисних новоутворень, зокрема ранніми формами раку шийки матки та іншими ускладненнями. До типів із низьким онкогенним ризиком належать 6 і 11 – вони здатні викликати гострокінцеві кондиломи і та папіломатоз гортані [1].

Передача ВПЛ відбувається переважно статевим шляхом, через контакт «шкіра до шкіри» або «шкіра до слизової оболонки» [3]. Рідше спостерігається