Combat Medicine in the VIETNAM WAR

Part 1 of 3

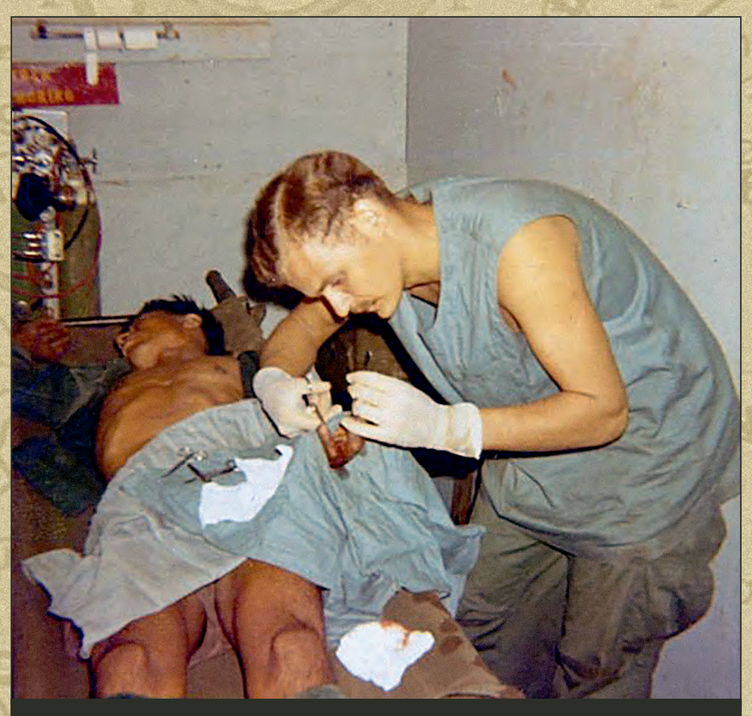
Soldiers carry a wounded comrade through a swampy area in 1969. (National Archives)

U.S. Army medics give first aid to a soldier after his hand was injured by a booby trap in Tan Tru Province in April 1967. (National Archives)

A U.S. Navy corpsman administers first aid to a wounded Marine during Operation SALINE II in Quang Tri Province on 12 March 1968. (Department of Defense)

Combat Medicine in Vietnam

It is a tragic consequence of war that advances in combat medicine often come as the result of personal sacrifices made by those who intimately engage in battle. With each new conflict, medical professionals build upon previous knowledge to improve care for the wounded on the battlefield and in the hospital. The American Civil War (1861-1865) saw military physicians establish a triage and evacuation system that made use of horse-drawn "flying ambulances," an innovation first developed by French surgeons during the Napoleonic Wars (1792-1815). During World War I (1914-1918), American physicians imitated British and French militaries by constructing mobile surgical hospitals near the trenches to reduce the time between injury and the reception of care. Toward the end of World War II (1939-1945), the U.S. military developed a comprehensive blood transfusion system that expanded on the experiences of transfusionists during the Spanish Civil War (1936-39) and British physicians in both world wars.



Richard Anthony, an Army combat medic, sutures the hand of an ARVN soldier at a Battalion Aid Station in Quan Loi, South Vietnam, April 1970. (Photo courtesy of Richard Anthony)

The Vietnam War presented medical units with new obstacles. Unlike previous conflicts, frontlines became blurred in Vietnam: Combat operations were conducted in the country's diverse terrain of jungles, mountains, rice paddies, and coastal waters. The unconventional nature of the fighting left the roads unsecured, making evacuation of the wounded problematic. Inconsistent contact with the enemy meant medical teams had to admit influxes of wounded servicepeople at a moment's notice. The foreign environment forced medical personnel to confront diseases that did not exist in the United States. Despite these challenges, medical teams provided exceptional care during the Vietnam War, and military medical practitioners revolutionized crucial aspects of combat and civilian medicine.

Point of Injury/Illness

And it was just constant: trying to get somebody through that time and making sure that they weren't alone; that they had somebody there; that we were talking with them—each other—and working through the nightmare that they'd just experienced.

— Mike Clark, Army Combat Medic

After sustaining an injury or suffering an illness, a servicemember received initial care from an Army or Air Force medic or a Navy corpsman, who were attached to Marine units. The medics and corpsmen, or "docs" as they were affectionately called, provided the initial evaluation of the patient, often treating victims while under fire. The "docs" administered first aid, such as securing the airway, stopping bleeding, dressing wounds, and splinting fractures. They stabilized servicemembers who suffered serious wounds for evacuation to hospitals in the rear.

Small arms, artillery and mortars, mines, and booby traps (such as punji sticks, or sharpened pieces of wood or bamboo that were capable of penetrating combat boots) inflicted the majority of wounds in the Vietnam War. Early in the conflict, gunshot wounds were extremely common; later in the war, the Communists acquired more sophisticated weaponry, so wounds caused by shrapnel from rockets and artillery became just as common. Wounds were predominantly located in the lower and upper extremities; however, some weapons, such as mines and artillery, caused wounds in multiple locations at the same time. Medics also treated maladies produced by the hot and wet environment, such as heat exhaustion and heat stroke, leech and snake bites, and jungle rot. Illness also accounted for a large proportion of hospital admissions. The most common diseases were malaria (*Plasmodium vivax* and *Plasmodium falciparum*), hepatitis, diarrhea, respiratory and skin infections, and fevers of unknown origin.

More than 1,100 medics and 680 corpsmen were killed in action and many more were wounded during the Vietnam War. Fifteen Army medics and four Navy corpsmen received the Congressional Medal of Honor for heroic actions they performed in this conflict. Ten of these citations were awarded posthumously.

A soldier is medically evacuated after being wounded during Operation WAHIAWA in Xa Ba Phuoc Province on 21 May 1966. (National Archives)

Combat Medicine in the Vietnam War

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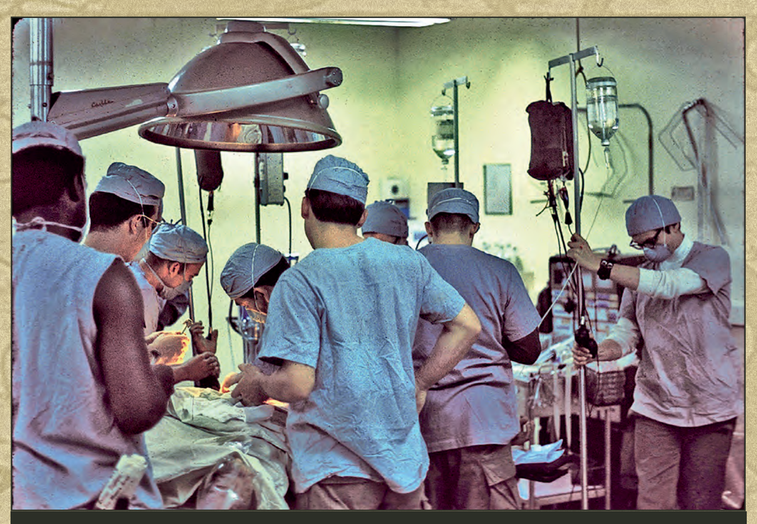
A wounded soldier is lifted into a UH-1D helicopter by means of the forest penetration seat attached to the rescue hoist in Long Binh, South Vietnam, in October 1967. (National Archives)

Doctors and nurses transport a patient from a Huey helicopter to the 85th Evacuation Hospital in Phu Bai, South Vietnam, 1970-1971. (Photo courtesy of Mike Clark)



Doctors and nurses working in a busy operating room at the 85th Evacuation Hospital in Phu Bai, South Vietnam, 1970-1971. (Photo courtesy of Gus Kappler)

Medical Evacuation

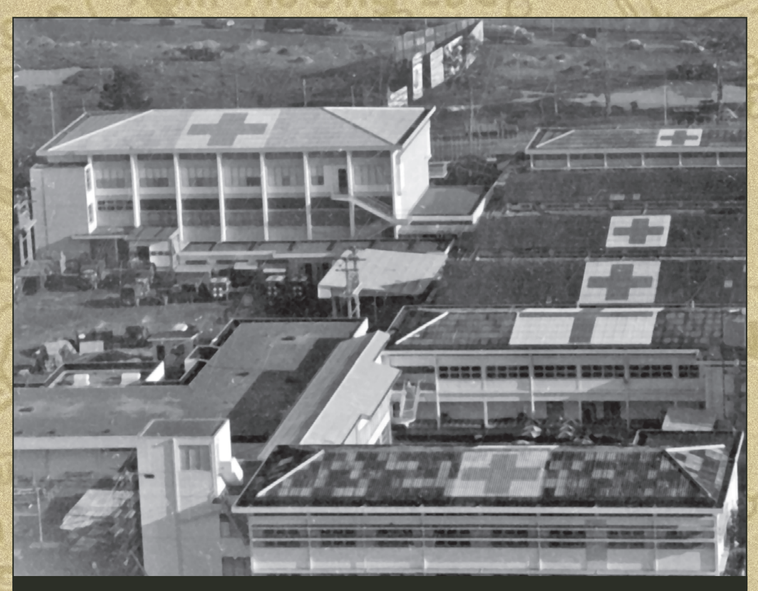
When servicemembers sustained injuries in the field, the military airlifted patients by helicopter directly from the battlefield to a theater hospital in the rear. Although the concept of air evacuation did not originate during the Vietnam War—the French used the Dorand II biplane to move patients during World War I—the U.S. military standardized helicopter evacuations during this conflict. The military commonly evacuated patients in the H-13 Sioux helicopter during the Korean War; however, this vehicle's effectiveness was limited because it could transport only 1-2 patients per flight and it required that the wounded lay on litters *outside* the aircraft, where they were exposed to enemy fire and extreme weather. In Vietnam, the military operated the iconic UH-1 Iroquois or "Huey," a faster and more maneuverable helicopter that could carry more patients inside the aircraft. As a result of this superior vehicle, the wounded in Vietnam received treatment faster than in any previous conflict. During World War II, patients usually were evacuated and treated within 12-18 hours; during the Korean War, this time compressed to 2-6 hours. During the Vietnam War, evacuation of patients frequently occurred within 30-35 minutes. According to emergency medical guidelines, patient survivability greatly increases when they receive definitive care less than two hours after injury.

When a soldier suffered a wound in the field, a medic, corpsman, or officer usually requested air evacuation over the radio. Protocol required the medic on the ground to give the air ambulance unit the number of patients, location of the landing zone, and information about area security. The medevac crew typically consisted of a pilot, copilot, crew chief, and medic on board the helicopter. These crews often flew into dangerous situations; if needed, gunships accompanied the medevac helicopters to clear hostiles from the area. If the terrain was too difficult to land, the helicopter crew would lower a bullet-shaped, metal device, commonly referred to as a forest or jungle penetrator, and troops on the ground would then strap the patient onto the mechanism. Once the patient was strapped to the gurney, an electric motor retracted the patient into the helicopter. Hoist missions were particularly dangerous because they exposed the helicopter and patient to ground fire.

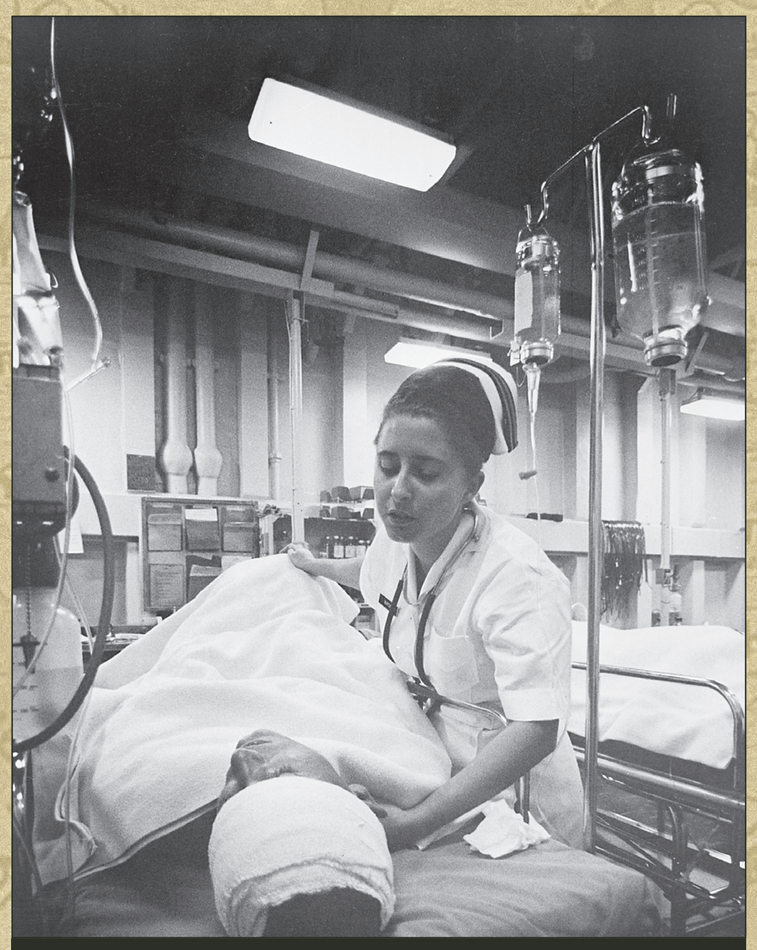
The U.S. Army advanced medical evacuation capabilities. The 57th Medical Detachment (Helicopter Ambulance), which famously adopted the call sign "Dust Off," arrived in Vietnam in April 1962 to support the 8th Field Hospital. This outfit was one of the first medical units to arrive in Vietnam, and it was one of the last to leave in March 1973. The final words uttered by one of its commanders, Major Charles L. Kelley, after being told to leave an area under heavy fire, epitomized the creed of Dust Off pilots and their crews: "When I have your wounded."

The U.S. Air Force also provided invaluable aeromedical support during the war. The Army and the Marines often evacuated casualties directly from the battlefield, while the Air Force transported patients between in-country hospitals, primarily in C-130s, C-123s, and C-118s, and it occasionally evacuated patients from forward operating bases. The 903d Aeromedical Evacuation Flight, which was the first Air Force tactical aeromedical unit used in a combat area, provided support during the battles of Dak To in 1967 and Khe Sanh in 1968.

According to the DUSTOFF Association, more than 200 air ambulance crewmembers were killed during the Vietnam War. Two Dust Off pilots received the Congressional Medal of Honor; as a result of these two individuals' heroism under intense enemy fire, at least 80 servicemembers were rescued.



Aerial view of 3d Field Hospital, Saigon, South Vietnam, (Darryl Henley Collection, The Vietnam Center and Archive, Texas Tech University)



A U.S. Navy Nurse Corps officer tends a patient following surgery in the intensive care unit of the hospital ship USS Repose*, off the coast of Vietnam in the South China Sea. (National Archives)*

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Combat Medicine in the Vietnam War

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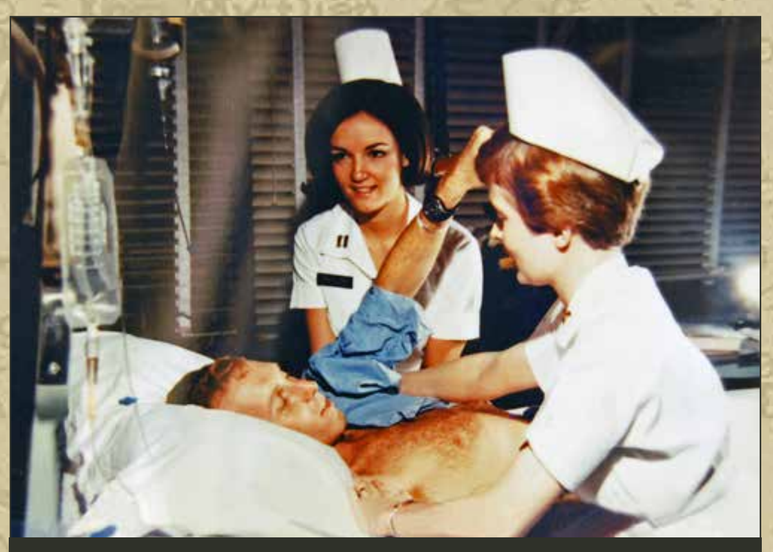
Patients being loaded onto an Air Force Casualty Bus at the 3d Field Hospital, Saigon, South Vietnam, (Darryl Henley Collection, The Vietnam Center and Archive, Texas Tech University)

A U.S. Air Force C-141 Starlifter aeromedical evacuation aircraft waits at Tan Son Nhut Air Base, South Vietnam, as American wounded are placed on board. The patients will be transported to hospitals in the United States. (National Archives)

Wounded servicemen are shown on board a U.S. Air Force C-141 Starlifter en route to the United States in September 1966. (National Archives)

Theater Hospitals

Once the flight crew retrieved the patient from the battlefield, they communicated with nearby hospitals to determine which facility was best equipped to treat the patient. The crew provided the hospital with the estimated time of arrival and type of injuries en route, allowing the hospital to prepare for the patients' admissions. Depending upon the severity of the wound or illness and the patient load at in-country hospitals, patients could be transported to a variety of Army, Air Force, and Naval facilities, including two hospital ships, the USS *Repose* and USS *Sanctuary*. While flying to the hospital, the flight medic continued to administer first aid and resuscitative interventions as needed.



A soldier who was wounded in Vietnam receives care in a military hospital in the United States in 1971. (National Archives)

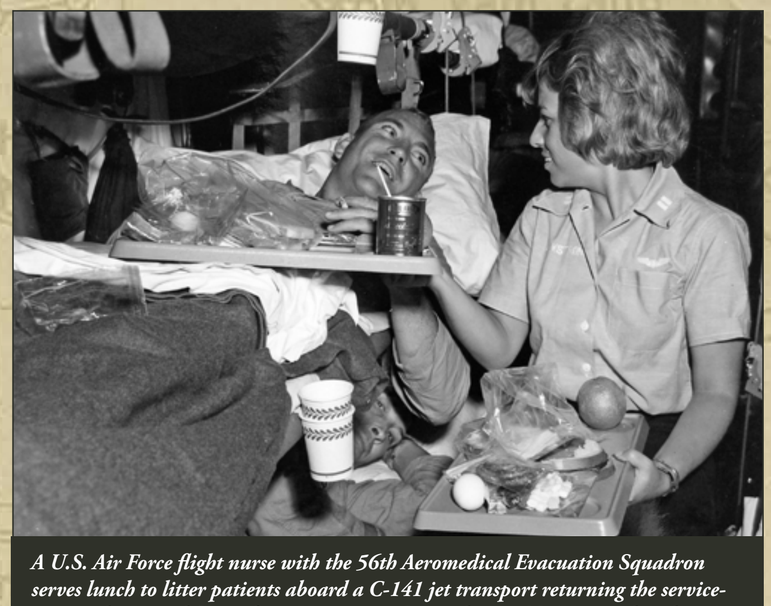
Once the patient arrived at the hospital, medical teams assessed the patient, treated life-threatening injuries, and provided urgent resuscitative measures. Common procedures included artificial respiration, the insertion of an intravenous catheter to administer fluids, and the administration of an electrocardiogram to monitor heart activity. The leading causes of death within the first 24 hours were hemorrhagic shock (or organ failure resulting from extreme blood loss) and sepsis, an infection of the bloodstream caused by an external agent. Sepsis is a serious concern for patients with gunshot or shrapnel wounds; if uncontrolled, it quickly can lead to tissue damage, organ failure, and even death. After 24 hours, teams continued to monitor for pulmonary insufficiency and sepsis. The medical teams also performed cutting-edge surgeries, such as repairing major vessels, and developed innovative treatments, such as using topical antimicrobials to prevent infections resulting from burns. Physicians and nurses also treated patients for venereal disease, neuropsychiatric conditions, including anxiety attacks, seizures, and encephalitis (i.e., an inflammation of the brain), and acute respiratory distress syndrome, an inflammation of the lungs commonly referred to as "Da Nang lung" or "shock lung."

During the Vietnam War, accidents, illnesses, and hostile fire claimed the lives of 20 military physicians and 10 military nurses.

Aeromedical Evacuation

If a medical team determined that a patient required hospitalization for more than 30 days, then they transported the patient to bases in Hawaii, Japan, Okinawa, and the Philippines. Prior to 1965, the Air Force flew smaller C-118s, C-130s, and C-124s to move patients to out-of-country hospitals, but, as the number of aeromedical evacuations increased, the Air Force switched transport to the larger C-141 Starlifter. Pacific Air Forces (PACAF, a regional command of the U.S. Air Force) typically coordinated aeromedical evacuation to hospitals in Asia, while Military Airlift Command managed all flights to the United States.

If medical teams in allied countries determined that patients required further care, then preparations were made to transport the patient to a facility in the United States. After 1966, patients often flew back to the United States in the C-141 Starlifter. The C-141 could transport patients from the Philippines to the West Coast of the United States in 13 hours with only one stop. The C-141 could be configured to carry over 100 ambulatory and supine patients. A paramedical crew traveled with the patients, and, if needed, a physician medical officer to administer care en route. The C-141 became known as the "Hanoi Taxi" after it transported prisoners of war from Gia Lam Airport in Hanoi, North Vietnam, to Clark Air Base, Philippines, on February 12, 1973, as part of Operation HOMECOMING.



A U.S. Air Force flight nurse with the 56th Aeromedical Evacuation Squadron serves lunch to litter patients aboard a C-141 jet transport returning the servicemen to the United States from Vietnam in September 1966. (National Archives)

Once the C-141 landed at an air base in the United States, patients were divided into groups. Those patients who could be treated and returned to duty were transported to military hospitals on active military bases. Those patients who would never return to active duty because of the severity of their wounds were transported to the Veterans Administration facility closest to their hometown and eventually medically discharged from the armed forces.

Conclusion

The medical professionals who served during the Vietnam War radically improved combat medicine. As a result of these daring accomplishments, servicemembers in Vietnam survived traumatic wounds and debilitating illnesses that would have incapacitated or mortally wounded them in previous conflicts. Advancements in prehospital care, medical evacuation, and surgical techniques and treatments also influenced civilian medicine in the decades following the war. Many military doctors, nurses, and medics transitioned into private practice and published their wartime discoveries in medical journals, both of which expanded the use of new techniques and procedures among civilian practitioners. These advancements in combat medicine, however, came at the expense of the United States servicemembers who lost their lives or suffered irrecoverable injuries during the Vietnam War.

References can be found on
The United States of America Vietnam War Commemoration website
http://www.vietnamwar50th.com/education/