

Lead bullets removed from victims show the distortion that occurred on impact.
(The Medical and Surgical History of the War of the Rebellion)

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Fort Negley

Visitors Center

CIVIL WAR SURGERY: AMPUTATIONS



Civil War Surgeon's Amputation Kit



MEDICAL TREATMENT

During the Civil War, Union soldiers received approximately 175,000 wounds to the extremities leading to about 30,000 amputations. Confederate soldiers experienced roughly the same numbers of wounds and amputations.

Undersupplied and understaffed medical departments often worked within the limitations of battlefield hospitals just beyond the hail of musket fire. Surgeons performed their delicate work with hands and clothing stained with the blood of multiple patients. Under these circumstances, surgeons developed procedures and practices considered crude by today's standards.

Although medical personnel made every effort to treat the wounded quickly and efficiently, severely injured men often received little or no treatment for one to two days after a major engagement.



Bone with Minié Ball Damage

Union medical records indicate that arms and legs sustained 71% of all gunshot wounds. The dreaded minié ball tore through the flesh, splintered bone and destroyed tissue beyond repair. Fragments of bone along with dirt, torn cloth and germs caused infections. Shattered bones and infections left surgeons with no other recourse but amputation.



Performing Surgery at a Field Hospital

AMPUTATION PROCEDURE

First, the surgeon cleaned out the wound with a cloth. Then, he probed it with his finger removing any foreign matter such as bits of bone, cloth and the bullet. Next, he tied a tourniquet above the injured area to staunch the flow of blood.



Surgeon Amputating a Wounded Man's Leg Below the Knee

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After rendering the patient unconscious with chloroform, the surgeon then made incisions through the muscle and skin down to the bone. These careful incisions made above and below the bone created two flaps of skin. After severing the bone with a bone saw, the surgeon tossed the appendage onto the growing pile of limbs.



Before closing the wound, the surgeon tied off the arteries with horsehair, silk or cotton threads and scraped the edges of the bone smooth to avoid puncture.

Finally, the surgeon overlapped the flaps of skin and sewed it closed leaving a small hole for drainage. With the surgeon well into his next case, medical personnel bandaged the stump and set the soldier aside to wake up. A skilled surgeon could amputate a limb in less than 10 minutes.



Pvt. Charles L. Sewell, 1st Florida Infantry, wounded in the Battle of Franklin in late 1864, survived into the 20th century. (Florida State Archives)

INFECTION

With little knowledge of bacteria and germs, Civil War era surgeons rarely sterilized their hands or their instruments leading to “surgical fevers” or infections.

Pyemia, *puss in the blood*, was the most deadly form of infection with a mortality rate of over 97%. Tetanus, characterized by painful muscle spasms, killed 89% of those infected.

Erysipelas, a severe and highly contagious skin infection, often spread below the skin and destroyed tissue. Osteomyelitis, an inflammation of the bone, plagued survivors including General Joshua Chamberlain for the rest of their lives.



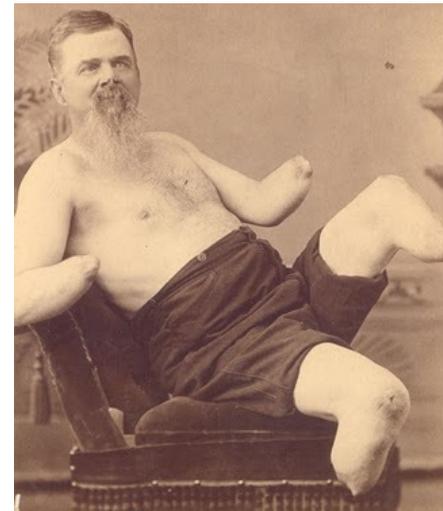
J.B. Shadle, Co. C 87th PA, wounded at Petersburg on April 2, 1865, developed erysipelas in his right hand and arm following amputation of his right thumb.

“Hospital Gangrene” wreaked havoc on wounded soldiers killing 46% and deforming survivors. In a crowded hospital, this highly contagious infection could develop in a healthy wound, spread as quickly as one inch per hour and kill the soldier within days.



Private Milton E. Wallen, 1st Kentucky Cavalry, suffered from “hospital gangrene” when a gunshot wound became infected resulting in the amputation of his right arm.

This painting by Edward Stauch was included in *The Medical and Surgical History of the War of the Rebellion* first published in 1870.



Pvt. Benjamin Franklin, Minnesota Cavalry, lost all four limbs to frostbite (1865).

ARTIFICIAL LIMBS

According to Union medical sources, surgeons performed 29,980 amputations resulting in a mortality rate of about 27%. With few Confederate sources to rely on, historians estimate that 25,000 amputations were performed within southern armies resulting in a similar mortality rate.



Private L. Coombs, 4th US Infantry Seated with his Prosthesis (Circa 1865)

Following the war, thousands of soldiers returned home amputees. By 1870, Union veterans received funds for artificial limbs from the Federal government every 5 years. North Carolina, South Carolina, Mississippi, Virginia and Arkansas established state-funded artificial limbs programs for Confederate veterans.

Although the startling number of amputees led to advancements in prosthetics, many soldiers chose not to wear the uncomfortable and cumbersome artificial limbs of the era supplementing their incomes with government entitlements.