

Under the Knife

By TERRY L. JONES

On Aug. 28, 1862, Maj. Gen. Richard S. Ewell's Confederate division was fighting desperately in the fields and pine thickets near Groveton, Va., during the Second Bull Run campaign. Heavy fire was coming from unidentified soldiers in a thicket 100 yards in front. To get a better look, Ewell knelt on his left knee to peer under the limbs. Suddenly a 500-grain (about 1.1 ounces) lead Minié ball skimmed the ground and struck him on the left kneecap. Some nearby Alabama soldiers lay down their muskets and hurried over to carry him from the field, but the fiery Ewell barked: "Put me down, and give them hell! I'm no better than any other wounded soldier, to stay on the field."

The general lay on a pile of rocks while two badly wounded soldiers nearby cried out for help until stretcher bearers finally arrived on the scene. Despite their own painful wounds, the two men insisted Ewell be carried off first, but he instructed the litter bearers to take them away. Hours after being wounded, Ewell was finally placed on a stretcher and taken to the rear. Dr. Hunter McGuire, Gen. Thomas J. "Stonewall" Jackson's medical director, amputated Ewell's leg the next day.

Campbell Brown, Ewell's aide and future stepson, witnessed the operation. McGuire and his assistants sedated Ewell with chloroform and used a scalpel to cut around his leg just above the knee. In his drug-induced fog, Ewell feverishly issued orders to troops, but he did not appear to feel any pain until McGuire applied the bone saw. According to Brown, the general then "stretched both arms upward & said: 'Oh! My God!'"

McGuire opened up the amputated limb to show the officers in the room that the operation had been necessary. The bullet had "pierced the joint & followed the leg down for some inches," Brown later wrote. "When the leg was opened, we found the knee-cap split half in two — the head of the tibia knocked into several pieces — & that the ball had followed the marrow of the bone for six inches breaking the bone itself into small splinters & finally had split into two pieces on a sharp edge of bone." Brown and a slave wrapped the bloody limb in an oilcloth, and the slave "decently buried" it in the garden. Brown kept the two pieces of bullet as souvenirs for his mother, who was engaged to Ewell, although he never told the general he had done so.

Rank was no protection from such brutal operations, and General Ewell was just one of many high-ranking officers to face the surgeon's knife. In fact, statistically speaking, a Confederate general was more likely to require medical treatment than a private. Almost one out of four died in the war, compared with 1 out of 10 Union generals. Of the 250 Confederate generals who were wounded, 24 underwent amputations. General Ewell was one of the lucky ones who survived and returned to duty many months later with an artificial leg.

Approximately two out of every three Civil War wounds treated by surgeons were to the extremities because few soldiers hit in the head, chest or stomach lived long enough to make it back to a field hospital. From a technical point of view, damaged limb bones presented the greatest challenge to surgeons. The war's most common projectile, the large, oblong Minié ball, often tumbled when it hit the body and caused much more damage to bone than smoothbore musket balls. One Confederate surgeon observed, "The shattering, splintering, and splitting of a long bone by the impact of a minié or Enfield ball were, in many instances, both remarkable and frightful." When bone was damaged, surgeons had to decide quickly on one of three possible treatments. If it was a simple fracture, a wooden or plaster splint was applied, but if the bone was shattered the surgeon performed either a resection or an amputation.

Resection involved cutting open the limb, sawing out the damaged bone, and then closing the incision. It was a time-consuming procedure and required considerable surgical skill, but some surgeons became quite proficient at it. After the Battle of Savage's Station in 1862, one Union surgeon completed 26 resections of the shoulder and elbow in a single day. He was said to be able to eat and drink coffee at the operating table while pieces of bone, muscle and ligaments piled up around him.

Besides being a difficult procedure, resection also carried a high risk of profuse bleeding, infection and postoperative necrosis of the flesh. Successful resections, however, allowed the patient to keep his limb, although it was limp, useful merely to “fill a sleeve.” Because of the time required, resections were not always practical when there were large numbers of patients to treat, but they were used more frequently after surgeons learned that amputations had a much higher mortality rate.

The amputation process was fairly simple. After a circular cut was made completely around the limb, the bone was sawed through, and the blood vessels and arteries sewn shut. To prevent future pain, nerves were then pulled out as far as possible with forceps, cut and released to retract away from the end of the stump. Finally, clippers and a rasp were used to smooth the end of the exposed bone. Sometimes the raw and bloody stump was left untreated to heal gradually, and sometimes excess skin was pulled down and sewn over the wound. Speed was essential in all amputations to lessen blood loss and prevent shock. An amputation at the knee was expected to take just three minutes.

Civil War surgeons almost always had chloroform to anesthetize patients before an amputation. The chloroform was dripped onto a piece of cloth held over the patient’s face until he was unconscious. Although not an exact science, the procedure worked well, and few patients died from overdose. Opium pills, opium dust and injections were also available to control postoperative pain.

The mistaken belief that amputations were routinely performed without anesthetics can be partially attributed to the fact that chloroform did not put patients into a deep unconscious state. Bystanders who saw moaning, writhing patients being held down on the table assumed no anesthetic was being used. As in the case of General Ewell, patients often reacted to the scalpel and bone saw as if in pain, but they did not remember it afterward. After his left arm was amputated (Dr. McGuire also performed that operation), Stonewall Jackson mentioned that he had heard the most beautiful music while under the chloroform. Upon reflection, he said, “I believe it was the sawing of the bone.”

Because surgeons preferred to operate outdoors where lighting and ventilation were better, thousands of soldiers witnessed amputations firsthand. Passers-by and even wounded men waiting their turn watched as surgeons sawed off arms and legs and tossed them onto ever growing piles. The poet Walt Whitman witnessed such a scene when he visited Fredericksburg in search of his wounded brother. “One of the first things that met my eyes in camp,” he wrote, “was a heap of feet, arms, legs, etc., under a tree in front of a hospital.” Indeed, after the December 1862 Battle of Fredericksburg, Union surgeons performed almost 500 amputations.

Early in the war surgeons earned the nickname “Saw-bones” because they seemed eager to amputate. This eagerness stemmed not from overzealousness but from the knowledge that infections developed quickly in mangled flesh, and amputation was the most effective way to prevent it. Those limbs removed within 48 hours of injury were called primary amputations, and those removed after 48 hours were called secondary amputations. The mortality rate for primary amputations was about 25 percent; that for secondary amputations was twice as high, thanks to the fact that most secondary amputations were performed after gangrene or blood poisoning developed in the wound. Surgeons learned that amputating the limb after it became infected actually caused the infection to spread, and patients frequently died. Thus, the patient was much more likely to survive if a primary amputation was performed before infection set in.

Primary amputations were also preferred because it was easier and less painful to transport an amputee than a soldier whose broken bones and inflamed tissue made the slightest jostle sheer torture. One surgeon admitted that an excessive number of amputations may have been performed during the war, but he added, “I have no hesitation in saying that far more lives were lost from refusal to amputate than by amputation.”

Where the amputation was made on the limb was as vital to survival as when it was done. Generally, the higher up the amputation was made, the higher the mortality rate. This was especially true for thigh wounds. More than half of all soldiers who suffered a femur wound died, and amputations at or near the hip joint had a 66 percent mortality rate in the Confederate Army.

Nonetheless, it is estimated that approximately three out of four soldiers survived amputations. Amazingly, some, like Confederate Brig. Gen. Francis T. Nicholls, endured more than one. His lower left arm was amputated after he was shot at the First Battle of Winchester and his left foot was taken off when he was wounded at Chancellorsville. After the war, Nicholls was a popular Louisiana governor who was said to ask people to vote for “all that’s left of General Nicholls” and to support him for governor because he was “too one sided to be a judge.”

Often, surviving an amputation seemed to be completely random. While some, like Ewell and Nicholls, seemed unhindered by the surgery, others died from what appeared to be rather minor wounds. Two members of Company B, 19th Michigan Infantry, were shot in the index finger in the same battle during the Atlanta campaign. One man treated himself by cutting off the mangled finger with his pocket knife. He wrapped the stub in a handkerchief and waited until the battle was over to have the wound dressed at the field hospital. The other soldier went immediately to the surgeon for a proper amputation. Gangrene set in within days, and the surgeon was later forced to amputate his arm at the shoulder. The soldier died soon afterward. The man who treated himself made a full recovery and lived to a ripe old age.

Taking care of amputees put a significant strain on both wartime governments. The Union provided its disabled soldiers with prosthetic limbs made from cork wood, metal or rubber and gave amputees \$8 a month as a pension. The Confederacy was unable to be so generous and by 1864 was providing just 10 percent of the needed prostheses. Incredibly, Mississippi’s single greatest state expenditure a year after the war ended was the purchase of artificial limbs for its veterans, which consumed 20 percent of the state’s budget. Some amputee veterans were forced to look after themselves and paired up to form “shoe exchanges” where they chipped in to buy a pair of shoes and each man took the one he needed.

Amputation was the most common Civil War surgical procedure. Union surgeons performed approximately 30,000 compared to just over 16,000 by American surgeons in World War II. One postwar British traveler noted that amputees were “everywhere in town and farm communities through the South.” The men who had survived the surgeon’s knife were a visible reminder of the Civil War for decades.

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