



Army Heritage Center
Foundation
*Telling the Army Story...
one Soldier at a time*

Voices of the Past

CIVIL WAR

Highlights:

- Early battlefield experiences required immediate changes to transportation and care of wounded Soldiers.
- Anesthesia provided injured men relief during medical procedures.
- Thousands of Veterans survived the war as amputees or permanently disabled.
- Although some believe the amputation rate was excessive, Soldiers had a 25% greater chance of survival if their damaged limbs were amputated quickly.

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Part of the Army Heritage Center Foundation's Educational Series

Caught in the Line of Fire: Civil War Medicine

(United States, 1861-1865) Prior to the Civil War, American medicine was still in a dark age. For students preparing to enter the field, medical training focused largely on book knowledge. Some students took the extra step of apprenticing with a practicing physician, but the vast majority of doctors had little to no hands on experience before encountering their first patient.

Doctors also had to deal with competing theories of disease. Some doctors believed older theories that disease was caused by an imbalance in the body, and that corrective action was required to restore balance. This was the theory behind the practice of bleeding, in which a doctor would attempt to cure a patient by draining blood. Other doctors searched for other causes of disease. As medicine advanced into mid-nineteenth century the devastating effect of the Civil War contributed to advances in medical practices that lead to the birth of

modern medicine.

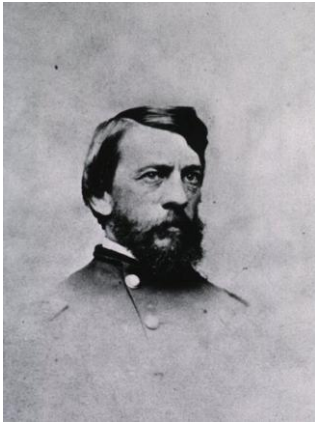
The ideas that replaced the theory of balance and imbalance are similar to what we know today about contagious diseases. Doctors began to believe that disease was caused by something outside of the body that spread from person to person. This new theory was the cornerstone of a new understanding of disease and infection.

During the Civil War, two innovations helped to ensure proper medical care for wounded soldiers. The first was an efficient Ambulance Corps to quickly evacuate wounded Soldiers. Based on prototypes created in 1859, massive numbers of ambulances were constructed. Some designs had four wheels for stability, others had two for maneuverability.

On the eve of the Battle of Bull Run in July of 1861, the leaders of the Union Army believed that preparations for treatment of the wounded were



Ambulance removing wounded. Photo Credit: U.S. Army Military History Institute, MOLLUS-MASS Collection



Dr. Jonathan Letterman.
Photo courtesy of the
National Library of
Medicine

Nearly two thirds of deaths during the war resulted from the various diseases that plagued the Soldiers.



Crawford W. Long, credited for being first to use ether during surgery. Photo courtesy of the National Library of Medicine

complete and hired civilian drivers were on hand to transport the wounded from the battlefield. But the unexpected violence of the battle soon sent all of these drivers retreating back to Washington D.C. without any patients. Many of the wounded men were forced to walk the 30 miles back to the capital city.

In early 1862, Dr. Jonathan Letterman was appointed Medical Director of the Army of the Potomac. He immediately revised the structure of the Ambulance Corps. He organized the ambulances at the divisional level, trained enlisted men as drivers, and created an early version of the modern triage and transportation system. By September 1862, the transformation from chaos to order was complete. During the Battle of Antietam, the Ambulance Corps moved all 10,000 wounded Union Soldiers from the battlefield to field hospitals in twenty-four hours. For this success Letterman earned the title of "Father of Battlefield Medicine."

The second crucial innovation was the development of efficient medical treatment. The first stop for a wounded Soldier was the "primary" or "dressing" station, a small tent just out of rifle range from the front line, where a Soldier's injuries were examined, bleeding stopped, and his wounds bandaged. If possible he would be sent back to the front. If not, the Soldier would be moved to a field hospital for further treatment or surgery at a field hospital. Located 1.5 to 2 miles away from the fighting, field hospitals were established in churches, schools, private homes, or, if necessary, in large tents. After the battle, as the Army prepared to march, the sick and wounded were moved to general hospitals in larger cities such as Richmond and Chicago.

The discovery of anesthesia in the 1840's gave Civil War doctors new options for the treatment of sick and injured in the form of ether and chloroform. Both came in liquid form and were given to the patient through a soaked rag. Ether was highly flammable, foul smelling, and slow to

work, but did not cause vomiting, prostrations, or excitement as did chloroform. As a general rule, however fast-acting chloroform was used on the battlefield while slower acting ether was reserved for hospital use. In all, there are over 80,000 documented cases of anesthesia used during the war showing that it was a welcome tool of healing in this bloody fight.

If there is one word that seems synonymous with Civil War medicine it is "amputation". Often spoken of as a needless procedure that cost an otherwise healthy young man a limb, the reality is that while the stories about piles of limbs at field hospitals during battle are true, the procedure was lifesaving. There are over 50,000 cases of amputations recorded for the war. The procedure was the quickest solution in an era when shattered limbs and crushed blood vessels could not be repaired and death from infection or uncontrolled bleeding was a likely outcome. In fact, when amputations were performed within the first 24 hours the Soldier's chance of dying was a mere 27%. If amputation was delayed, the mortality rate jumped to 52%. Usually this was a simple case of sacrificing the limb to save the man.

Nearly two thirds of deaths during the war resulted from the various diseases that plagued the Soldiers, and 39% of soldiers who died after being wounded in battle actually died from infection that set in after treatment. In all, Union physicians treated an estimated 600,000 cases of disease ranging from childhood illnesses, such as mumps and measles, to venereal disease. Diarrhea and dysentery were the most commonly treated illnesses and also responsible for the most deaths. In fact, during the first 2 years of the war, 27% of all diseases treated by Confederate doctors were some form of the diarrheal illnesses. Doctors believed diarrhea was a "miasmatic" disease caused by bad air.

For example, Private Charles C. Perkins exemplifies confusion over the cause of his illness in his diary from

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August 27th, 1862 to September 1st, 1862. (See his diary entries at www.armyheritage.org.) Perkins, an otherwise educated man, drinks untreated water and eats beef that he stored raw in his haversack overnight before cooking. He writes on August 31st, "Diarrhea again owing to drinking coffee I suppose."

Treatment involved purgatives to rid the body of "irritating food or secretions" (dehydrating the patient even further) and morphine which aside from being a painkiller also causes constipation.

Hospital gangrene was probably one of the most feared of any disease. The infection would start as a black spot on a slowly healing wound that slowly spread through the wound and on to healthy tissue, which would soon begin to rot.

Doctors tried a number of treatments including cauterizing the infected flesh, silver nitrate, and even packing the wound with lint soaked in turpentine. Most cases, however, resulted in amputation.

The American Civil War was one of the darkest moments in our nation's history. Of the nearly 3 million men who marched into battle approximately 618,000 lost their lives, and nearly 400,000 of these to disease. The death toll was nearly 2% of the entire population, and of the men lucky enough to be in the 79% who survived the war, nearly half a million returned home permanently maimed or disabled.

Sources

Adapted from "Civil War Medicine", Courtesy of the National Park Service <http://www.nps.gov/vick/forteachers/upload/CW%20Medicine.pdf>



Central Office Armory Square Hospital, Washington. Photo Credit: U.S. Army Military History Institute, MOLLUS-MASS Collection



Surgeons in Field Hospital operating on soldier injured during Siege of Charleston in 1863. Photo Credit: United States Army Military History Institute, MOLLUS-MASS Collection