"Civil War Medicine"

Brandon Schulz

Lightning Talk Presented: March 27, 2014
Published: March 29, 2014

With the current advances and technology in the field of medicine, there are almost no ailments which cannot be effectively treated. However this statement proved to be far from true during the American Civil War in the 1860s. In the four years of conflict, over 760,000 soldiers lost their lives; union and confederate alike. This is the largest amount of casualties suffered by the United States in any war to this date. The main contributor to this staggering number was the fact that germ theory had not yet been developed as well as a lack of hygiene maintained by doctors and surgeons.

Germ theory, as most of you know, is the concept of microorganisms such as bacteria and viruses and the role they play in the development of disease. Without this basic knowledge in biology and human physiology, more soldiers died from disease than in combat; a ratio of about 2:1. In fact, dysentery and diarrhea — preventable diseases in modern society — claimed more lives than battle wounds ever did.

The spread of these diseases was made possible for many reasons: bodies were left unburied, camps were over-crowded, waterways became grossly polluted, and doctors did not have the ability to effectively respond to disease outbreaks. These conditions played an even greater factor at the beginning of the war when soldiers could expect to be on the battlefield one out of every 30 days.

Malnutrition as well as exposure to the elements also left many soldiers very susceptible to communicable diseases. Soldiers were so desperate for proper nutrition, after baking hardtack, they would allow weevils to infest it which provided them with vitamin A and D. This actually helped prevent an even greater spread of disease throughout camps.

Once diseases began spreading through the camps, the treatments doctors offered were usually ineffective or even harmful to a soldier's health. Quinine was often used, mainly for the treatment of malaria but also for respiratory issues. The problem with quinine was that it is

Reprinted from College History
http://collegehistory.info/manuscripts/schulz-brandon.html
Last updated on 25 July 2014
Photo Caption: Civil War medical tent.
only effective in treating simple cases of malaria and the negative side effects such as heart failure, kidney failure, and severe bleeding far outweighed the positive.

Opium also was a popular treatment doctors used for a variety of medical issues like bowel discomfort, pneumonia, bronchitis, and battlefield injuries. Opium is a depressant and the main ingredient in creating heroin. It had no real medical benefit other than as a painkiller and did not effectively treat ailments.

Possibly the worst treatment of all was called "blue mass" and was a mixture of chalk and mercury, which is highly toxic to humans.

Treatment of battlefield injuries proved to be just as ineffective as well. Anesthesia had only began to be used in 1846 and was still a relatively new concept for most doctors. Chloroform was the most popular form of anesthesia and used in approximately 75% of all surgeries, with morphine, opium and ether making up the remainder. Only about a fourth of a percent of soldiers given a form of anesthesia actually died from the anesthetic itself, a surprisingly low number for a relatively new treatment.

When it came to the surgery itself, doctors were inexperienced and simply lacked the knowledge to be successful. A typical amputation was described as multiple doctors holding down a screaming soldier as a surgeon sawed the injured limb off and discarded it into a growing pile of body parts up to four or five feet high.

The lack of hygiene, disinfection or cleaning of equipment, led to the transfer of body fluids and pathogens from patient to patient. Pyemia was a common occurrence and literally means pus in blood and was the transfer of pus into the blood stream usually leading to septic shock and or death. However, 75% of amputees survived surgery; a surprisingly high number.

To better understand why the medical care of the Civil War was sub-par at best, it is necessary to look at the doctors themselves. Approximately 14,000 doctors served in the Civil War; 10,000 for the union and 4,000 the confederacy. Most of them had received little formal training and a majority had never had surgical experience. Many admitted to not even knowing what the inside of a human abdomen looked like; something unfathomable by today's standards. This was due to lack of education required to get into the medical field.

Unlike in Europe, which had four year universities, labs, and better understanding of disease and treatment, the medial programs in the United States could be completed in under two years with no clinical or lab experience. Harvard, one of the leading medical schools of the time, didn't even own a microscope or stethoscope until the end of the Civil War.
The lack of experience and training quickly became evident and the Confederacy set up the US Sanitation Commission, whose job was to go camp-to-camp improving living conditions as well as recruiting nurses. They were relatively unsuccessful due to the constant migration of soldiers and slaves which allowed for the spread of diseases.

It is clear the medical field was not ready for the Civil War, but the war allowed for much advancement to be made in the medical field. For starters, a system on how to effectively manage mass casualties was developed which would be used later in both world wars as well as the Korean War. This included the development of aid stations, field hospitals as well as general hospitals and ambulance services for transporting the wounded.

Another necessary improvement that came out of the Civil war was a hygienic standard for both doctors and camps alike. This also came with an upgrade in the standard of education required for medical students. A better understanding of how diseases worked biologically as well as the knowledge to treat them came into fruition because of the Civil War.

Even to this day we are still learning from the Civil War. In April 1862, after the Battle of Shiloh, wounded soldiers lying in the mud and rain for days began to notice their wounds glow. Unexpectedly, these soldiers were far more likely to survive than soldiers whose wounds had not been glowing. Eventually, the glow became known as a protective blessing from an angel. However it wasn’t until 2001 that the mystery of the glowing Civil War soldiers was solved. It turns out that, because of the poor weather conditions, many soldiers developed hypothermia which allowed for the bacteria Photorhabdus luminescens to grow. This bacterium gave off a distinct green glow and was only able to grow in these soldiers because of their abnormally low body temperatures. It also turns out that a bi-product of the bacterium also killed off most pathogens giving the wounded soldiers a less likely chance of infection.

Without a doubt medicine would easily be considered primitive during the Civil War compared to today's standards. Lack of real medical knowledge led to the spread of diseases, infections and simply poor treatment of those ailing. The United States was not medically ready for such a catastrophe. However, through the trials of the War, we were able to gain a greater understanding of medicine as well as the ability to be successful in the medical field.
Works Consulted


Reprinted from College History http://collegehistory.info/manuscripts/schulz-brandon.html
Last updated on 25 July 2014
Photo Caption: Civil War medical tent.


Reprinted from *College History*  
[http://collegehistory.info/manuscripts/schulz-brandon.html](http://collegehistory.info/manuscripts/schulz-brandon.html)  
Last updated on 25 July 2014  
Photo Caption: Civil War medical tent.