Civil War Medicine

Physicians, Surgeons and Hospitals

Innovations of Civil War Medicine

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Introduction

The Civil War marked a turning point in medical care. Ludmerer states that the Civil War was “a medical as well as a human tragedy” and the “bloodiest in the history of the United States.” At the start of the conflict medical facilities—hospitals and battlefield ‘primary’ or dressing stations for initial treatment of the wounded were inadequate; there was a lack of ambulance service to transport the wounded. Mid nineteenth century American medical education was inadequate and nursing care consisted of soldiers serving as nurses and orderlies. At the completion of the war, and at an enormous cost of lives and resources, the following innovations rose from the conflict:

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2 Rosenberg, Charles. 1987, *The Care of Strangers*, p. 97
3 Ludmerer, Kenneth, *op. cit.* p. 10 – 11.”The standard course of instruction at the nation’s medical schools in the nineteenth century consisted of two four-month terms of lectures….with the second terms identical to the first.” In 1800 there were only three medical schools…University of Pennsylvania, Harvard and King’s College. …Training took place in ‘proprietary’ medical schools – owned and operated by physicians - which were started to replace the apprenticeship system.
4 Rosenberg, op. cit.
5 Source: The Safety Net, National Association of Public health Hospitals and health Systems: *For Us The Living: Medical Treatment and Innovation in the Civil War* Spring 2006 Vol 20 No 1”
Conditions

War itself is hard but considering the conditions facing soldiers — in the North and the South — fighting the war were extremely harsh: 6

“For the Unfortunate Civil War soldier, whether he came from the North or from the South, not only got into the army just when the killing power of weapons was being brought to a brand-new peak of efficiency; he enlisted in the closing years of an era when the science of medicine was woefully, incredibly imperfect, so that he got the worst of it in two ways. When he fought, he was likely to be hurt pretty badly; when he stayed in camp, he lived under conditions that were very likely to make him sick; and in either case he had almost no chance to get the kind of medical treatment which a generation or so later would be routine.” (Website: Home of the American Civil War) 7

Weapons of war:

In 1861, the belligerents were about to enter the modern era of weaponized warfare on land, sea and air. The changes altered age old tactics and severely reduced the rate of survival. On land, accuracy and increased range of small and large guns emerged. On the sea, iron ships made wooden navies obsolete. In the air, telegraphy brought the front lines to the commanders in the rear. Spotters in balloons hovering over enemy lines, provided their cannon batteries with eye witness intelligence required to properly calibrate range for the big guns. 8

There were a wide variety of firearms, including rifles, pistols, muskets, and repeating weapons in addition to knives and swords. Also widely used was artillery including cannons. Some of the

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6 http://www.civilwarhome.com/civilwarmedicineintro.html downloaded 9/2/2017
7 Ibid
8 http://www.history-of-american-wars.com/civil-war-weapons.html
new weapon technologies used in the civil war included rifled gun barrels, the Minie ball and repeating rifles.\(^9\)

**Disease:**

According to Ohio State University’s website Civil War Medicine:\(^{10}\)

“The deadliest thing that faced the Civil War soldier was disease. For every soldier who died in battle, two died of disease. In particular, intestinal complaints such as dysentery and diarrhea claimed many lives. In fact, diarrhea and dysentery alone claimed more men than did battle wounds. The Civil War soldier also faced outbreaks of measles, small pox, malaria, pneumonia, or camp itch. Soldiers were exposed to malaria when camping in damp areas which were conductive to breeding mosquitos, while camp itch was caused by insects or a skin disease. In brief, the high incidence of disease was caused by a) inadequate physical examination of recruits; b) ignorance; c) the rural origin of my soldiers; d) neglect of camp hygiene; e) insects and vermin; f) exposure; g) lack of clothing and shoes; h) poor food and water. Many unqualified recruits entered the Army and diseases cruelly weeded out those who should have been excluded by physical exams. “

**Sanitation**

An inspector who visited the camps of one Federal Army found that they were "littered with refuse, food, and other rubbish, sometimes in an offensive state of decomposition; slops deposited in pits within the camp limits or thrown out of broadcast; heaps of manure and offal close to the camp." The Federal government even founded a **Sanitary Commission** to deal with the health problems in army camps. Mary Livermore, a nurse, wrote that... "The object of the Sanitary Commission was to do what the Government could not. The Government undertook, of course, to provide all that was necessary for the soldier, . . . but, from the very nature of things, this was not possible. . . . The methods of the commission were so elastic, and so arranged to meet every emergency, that it was...

\(^9\) http://www.historynet.com/civil-war-weapons The Minié Ball (aka Minie ) was a type of bullet that was used throughout the Civil War. Designed to expand while traveling along the rifle barrel, it increased muzzle velocity as well as providing spin to the bullet, expanding its accuracy and range”

\(^{10}\) 10 http://ehistory.osu.edu/exhibitions/cwsurgeon/cwsurgeon/introduction http://ehistory.osu.edu/exhibitions/cwsurgeon/cwsurgeon/introduction Downloaded 9.3.2017
able to make provision for any need, seeking always to supplement, and never to supplant, the Government.”

**Diet**

“The diet of the Civil War soldier was somewhere between barely palatable to absolutely awful. It was a wonder they did not all die of acute indigestion! It was estimated that 995 of 1000 Union troops eventually contracted chronic diarrhea or dysentery; their Confederate counterparts suffered similarly.”

**Organization of Medical Departments – Union and Confederate**

On April 11th, 1861, the day before the Confederacy fired upon Fort Sumter, Bellevue Medical College open its doors. Prior to hostilities in 1861 the Medical Department of the Union Army consisted of one Surgeon General, thirty Surgeons and eighty-four Assistant Surgeons. Some Surgeons and Assistant Surgeons resigned their commissions to join the Confederate Department of Medicine.

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13 Ibid
Union Physicians

Union regiments were about 1,000 strong; each was assigned a surgeon and an assistant. Positions were filled mainly by doctors who, in private practice, had not seen nor treated serious traumatic injuries such as were found in war. Bellevue volunteers, accustomed to trauma from knife fights, shootings and accidents resulting in bone and muscle crushing were in Oshinsky’s words “a “clear-cut” above. Frank H. Hamilton M.D. was a leading surgeon at Bellevue and had trained many of the Bellevue volunteers.

Dr. Hamilton was the author of several books on military service: including A Practical Treatise on Military Surgery by Frank Hastings Hamilton, MD, 1861

Oshinsky, David, 2016. Bellevue, Three Centuries of Medicine and Mayhem At America’s Most Storied Hospital. P.86

Ibid

“During the Civil War, it was essential surgical manuals were published because most physicians who enlisted or volunteered during the war had little or no surgical experience. Medical colleges typically offered two year courses to grant a medical degree and the medical textbooks they used are represented in this collection. The medical textbooks were produced for or used by both contract and military surgeons during the Civil War. In the latter pages of this collection are medical and surgical textbooks which would have been used in medical college just prior to or during the Civil War. Those designated by the Medical or Hospital Departments were government issue for the U. S. Army.” Downloaded 10.15.2017 from http://medicalantiques.com/civilwar/Civil_War_medical_book_collection/Civil_War_Surgical_Manuals_page_1.htm

Photo downloaded from Google Images – original source of Trent Valley Archives, Peterborough, Ontario
In the United States army each Regimental Surgeon was allowed, for three months service, the following:21

http://medicalantiques.com/civilwar/Articles_on_books/Civil_War_Surgery_Hamilton.htm
PREPARATIONS FOR THE FIELD.

1. Small Amputating Knife.
2. " " Casing.
5. Scapels.
6. Cauteret Knife.
7. " " Needle.
8. Teneculam.
10. Steel Bougies, silvered, double curve, Nos. 1 and 2, 3 and 4, 5 and 6, 7, 8, and 9 and 10, 11 and 12.
11. Wax Bougies, Nos. 2, 4, 6, 8, 10.
12. Silver Catheters, Nos. 3, 6, 9.
14. Malignant Cases, brass bound.
15. Gutta Percha Fouch.

Pocket.
1. Large Scalpel.
2. Small "
3. Artery Forceps.

1. Ball-dog Forceps.
2. Curved "
3. Dressing "
5. Sharp-pointed Bistoury.
6. Probe-pointed "
7. Long Probe-pointed Bistoury.
8. Straight Scissors.
9. Knife "
10. Flat-curved Scissors.
11. Gum Lance.
12. Teneculam.
13. Tenotomous Knife.
15. Exploring Needle.
17. Seton Needle.
18. Spatula.
19. Probea.
20. Director.
22. Compound Silver Catheter.
25. Morocco Case.

For the whole of which a substantial leather trunk is provided.

About eighty different medicines are furnished as a three months’ supply to each regiment, a few medical books, hospital stores, and bedding.

Most of the medicines used in the United States Army are manufactured and supplied by E. R. Squibb, M.D., late of the United States Naval Laboratory, at his laboratory, 149 Furman Street, Brooklyn. The name of Dr. Squibb is a complete guarantee of their excellence to all who have a personal acquaintance with the man, or who have used his drugs. Of one thing we may be certain, therefore, however poorly our soldiers may be clothed or fed, they are in no danger from impure or adulterated drugs.

The schedule entitled “Furniture and Dressings,” is as follows:

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22 http://medicalantiques.com/civilwar/Articles_on_books/Civil_War_Surgery_Hamilton.htm
Jonathan Letterman, M.D.

Jonathan Letterman M.D. was the Medical Director of the Army of the Potomac Under his leadership an effective ambulance and hospital system was developed.

Dr. Letterman, had been a career Army medical officer since 1849. He was selected for the medical director position by his longtime friend and colleague, surgeon general William Hammond. Letterman had previously served with both McClellan and Hammond in western Virginia, and the latter two men had conferred and agreed upon his appointment. For his part, Letterman later wrote: “It was a position I did not seek; it was one I could not decline.”23 His plan for reorganization, called The Letterman plan included:

The Letterman Plan

Ambulance Service

Reorganization of the ambulance corps which had performed poorly in earlier campaigns, often being used to haul supplies instead of those needing emergency medical care. Once the wounded were brought in, Letterman sketched out a tiered-system of trauma care dedicated to improving the treatment and chance of survival of wounded warriors.

Time was a crucial factor on the battlefield. Civil War physicians first attended those troops with the greatest chance for survival. The lesser wounds were bandaged and the more

23 https://opinionator.blogs.nytimes.com/2012/07/05/the-end-of-the-gutbuster/
seriously damaged limbs were amputated. Victims of the deadlier abdominal, chest and head wounds were frequently left until last or left to die.24

Zooave  Ambulance Crew Demonstrate Removal of Wounded from the Field

Reorganization of military hospitals. Every military hospital would have one surgeon in change, with two assistant surgeons: one to organize supplies and another to keep records. In addition to these three surgeons, hospitals would choose the three most skilled medical officers, as opposed to the three highest ranking, to operate. By the end of 1863, well-ventilated multiple-pavilion style hospitals were being built in major cities, accommodating up to 3,000 patients each.25  Dr. Letterman served with the Army of the Potomac in many battles including Gettysburg, where the main general hospital was named Camp Letterman for him.26

Figure Photo of Camp Letterman - Gettysburg

26Ibid
Dr. Letterman also:

- Removed the regular Army quartermaster from being in charge of medical supplies.\(^\text{27}\)
- Improved the diet for the Union soldier
- Improved sanitary conditions.

Dr. Letterman served with the Army of the Potomac in many battles including Gettysburg, where the main general hospital was named Camp Letterman for him.\(^\text{28}\)

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\(^\text{27}\) [http://ehistory.osu.edu/exhibitions/cwsurgeon/cwsurgeon/gburgreport](http://ehistory.osu.edu/exhibitions/cwsurgeon/cwsurgeon/gburgreport)

\(^\text{28}\) Ibid

\(^\text{29}\) The Medical History of the American Civil War III [http://abriefhistory.org/?p=5438](http://abriefhistory.org/?p=5438) Downloaded 10/16/2017
When the Civil War began, the Blackwell sisters organized the Women's Central Association of Relief, and worked with Dorothea Dix to train nurses for service in the war Commission.  

“Dr. Elizabeth Blackwell also published two important books on the issue of women in medicine, including *Medicine as a Profession For Women* in 1860 and *Address on the Medical Education of Women* in 1864. In 1866 the New York Infirmary treated nearly 7,000 patients. She then turned her attention to her dream of establishing a medical college for women adjacent to the hospital. The Women's Medical College of the New York Infirmary was opened in 1868”.  

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30 https://www.civilwarwomenblog.com/elizabeth-blackwell/
31 Ibid
Elizabeth Blackwell

- Born in 1821 in Bristol, England, she moved to the US at age 9. She returned to England in 1869 and died there in 1910.
- Elizabeth Blackwell is the first woman known to have graduated from a US medical school in 1849.
- She trained as a midwife in Paris when refused hospital appointments.
- She was appointed to Bart’s in 1849.
- She returned to New York and established, with her sister, the New York Infirmary for Women and Children in 1857.
- She organized the USSC when the War started.
- In 1868, she organized the NY Medical College for Women.

Union Hospitals

Surgeons and Hospital Stewards at Harewood Hospital, Washington D.C. (Library of Congress)

32 http://abriefhistory.org/?cat=5 (Downloaded from Google Images 10/16/2017)
A General view of Harewood Hospital in Washington D.C.

Hospital Ship USS Nashville

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33 https://civilwartalk.com/threads/hospital-ship-uss-nashville.85263/
Confederate Medicine

The Confederate Army began by taking the several state militias into service, each regiment equipped with a surgeon and an assistant surgeon, appointed by the state governors. The Confederate Medical Department appointed Daniel De Leon M.D., one of three resigned United States surgeons, as acting surgeon general. After a few weeks he was succeeded by Samuel Preston Moore M.D. with the rank of colonel who remained until the collapse of the Confederacy. He disliked filthy camps and hospitals and believed in "pavilion" hospitals-which consisted of long, wooden buildings with ample ventilation and sufficient bed space for eighty to one hundred patients.

Samuel Preston Moore was trained as a military surgeon in the US Army but resigned his commission and was appointed Surgeon-General of the Confederate States Army Medical Department at the beginning of the American Civil War. Although brusque and demanding, he was progressive in his military-medical thinking and dissatisfied with the quality of many of the surgeons of the state troops, he insisted that to hold a Confederate commission, every medical officer must pass examinations set by one of his examining boards He reformed the mediocre medical corps by raising recruiting standards and improving treatment protocols and by placing the most capable surgeons in positions of authority. He improved the ambulance corps and directed the construction of many new hospitals for Confederate casualties. He was directly responsible for the barracks hospital design, which is still used today. He established the Confederate States Medical and Surgical Journal and directed a successful effort to develop substitutes for scarce pharmaceuticals from the indigenous flora of the South. He founded the Association of Army and Navy Surgeons of the Confederate States of America. With skill and dedication, Dr. Moore transformed the medical corps into one of the 34 In Caring For the Men. Op.cit. 15
most effective departments of the Confederate military and was responsible for saving thousands of lives on the battlefield.\textsuperscript{35} (American Journal of Surgery. 01/11/1992; 164(4):361-5)

A Manual of Military Surgery, (1863) by Samuel Preston Moore, M.D., CSA\textsuperscript{36}

\begin{quote}
Prepared for the Use of the
Confederate States Army

Published by: Richmond: Ayres & Wade, 1863. The only edition.

Description: With 30 drawing plates and 174 individual figures, this was the first of only two illustrated military surgical manuals (one by Moore and one by Chisolm) to have been compiled and printed in the Confederacy. During the Civil War, Dr. Moore was the surgeon general of the Confederate States Army Medical Department.

Field size manual: 7 x 4 1/2 x 1 in. Original marbled boards, and cloth spine. Original stiff paper binding.
\end{quote}

\textsuperscript{35} American Civil War Medicine & Surgical Antiques website
http://www.medicalantiques.com/civilwar/Medical_Authors_Faculty/Moore_Samuel_Preston.htm

\textsuperscript{36} Downloaded 10/24/2017 from:
Deering J. Roberts, M.D

Surgeon, Confederate States Army

Dr. Deering graduated from Medical School at the University of Nashville, in October, 1858, and received his degree of M. D. in the spring of 1860. He initially refused a commission and enlisted as a private soldier until April, 1862, when he was assigned to duty with the Twentieth Tennessee Regiment as acting assistant or contract surgeon, and was the only medical officer the regiment had until after the battle of Baton Rouge. He wrote an article recording his personal experiences discussing the manner and method of caring for the wounded in the field. The following is a short excerpt from Dr. Deering’s article:

“After some preliminary hospital experience at Hot Springs, and Bath Alum Springs, Virginia, I reported, in March, 1862, to Doctor S. H. Stout, who was just beginning his invaluable services as medical director of the hospitals of the Department and Army of Tennessee. Preferring active service, I was assigned to the Twentieth Regiment, Tennessee Infantry, with which I remained until paroled, after General J. E. Johnston's surrender.

On the morning of December 1, 1864, I received orders to go to Franklin, Tennessee, and make arrangements for the wounded of General Bate's division. I did so, taking with me my hospital steward, a detail of ten men, and two wagons. I found an old carriage- and wagon-shop about sixty by one hundred feet, two stories high. It had a good roof, plenty of windows above and below, an incline leading up to the upper floor on the outside, and a good well. This I immediately placarded as "Bate's Division Hospital," and put part of the detail to work cleaning out the work-benches, old lumber, and other debris. Further up the same street, I found an unoccupied brick store, two stories high, eighty by twenty feet, and, on the corner of the square, the Chancery Court room, about forty feet square, both of which I took possession of, and put the remainder of the detail at work cleaning out the counters, shelving, empty boxes, and barrels.


From History of The Twentieth Tennessee Regiment, C.S.A. by Dr. W. J. McMurray (1904) http://www.tennesse-scv.org/vet6.html

Op cit Deering article.
from the one, and the desk, or rostrum, and benches from the other, sending the wagons into the country for clean straw. 40

LaFayette Gould, Medical Director, Army of Northern Virginia
JUNE 3-AUGUST 1, 1863.—The Gettysburg Campaign.

Report to Surgeon General Moore (Excerpt)

MEDICAL DIRECTOR'S OFFICE,
Camp near Culpeper Court-House, July 29, 1863.

Surg. Gen. S. P. MOORE,
Richmond, Va.

"SIR: At midnight, July 3, after the fiercest and most sanguinary battle ever fought on this continent, the general commanding gave orders for our army to withdraw from Gettysburg and fall back to Hagerstown. I inclose you a copy of my instructions to the corps of medical directors issued on that occasion. Every available means of transportation was called into requisition for removing the wounded from the field infirmaries, and, on the evening of the 4th, our ambulance trains took up their line of march by two routes, guarded as well as could be by our broken-down and inefficient cavalry. One train went by Cashtown, the other by Fairfield. The latter train was attacked by a body of the enemy's cavalry, who destroyed many wagons and paroled the wounded private soldiers, but taking with them all of the officers who fell into their hands. The former train was more fortunate; however, it, too, was attacked by the enemy, and met with some little loss in wagons and prisoners.

The poor wounded suffered very much indeed in their rapid removal by day and night, over rough roads, through mountain passes, and across streams, toward the Potomac. Those who could be removed from the battle-field and infirmaries were concentrated at Williamsport, and transferred to the Virginia bank of the river, by rafts and ferry-boats, as rapidly as the swollen condition of the stream would permit. 41

...
“Our loss at Gettysburg was very heavy, indeed, numbering about 14,000 killed and wounded. The consolidated list will be furnished you at an early day.

At the battle of Winchester, fought by General Ewell’s corps on June 13, 14, and 15, our loss was comparatively small—42 killed and 210 wounded.

I will also forward to you very soon the list of casualties, properly prepared.

Complaints are very frequently made by medical officers and officers of the line that many of the sick and wounded who are sent to general hospital are never heard from, the hospital surgeons failing to report deaths, discharges, furloughs, &c. I would again respectfully request that means be adopted for the correction of this neglect of duty on the part of medical officers in general hospital. I am exceedingly anxious to have a personal interview with you relative to some changes in the organization of our corps in the field, particularly in the purveying department. It is impossible for me to visit Richmond at this time, but hope soon to have an opportunity. My office is exhausted of blank forms. Please have forwarded to me the following, viz.

I am, sir, very respectfully, your obedient servant,

L. GUILD,
Medical Director, Army of Northern Virginia."
Hospitals

**Jefferson Hospital** at Jeffersonville, Indiana, just across the river from Louisville. Built in the winter of 1863-64 with 2,000 beds, later increased to 2,600, at war's end it had plans for 5,000 beds. Its most interesting architectural feature was a circular corridor 2,000 feet long from which projected twenty-four pavilions, each 175 feet long.

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43 Image downloaded from Google Images.
44 44 “Caring For the Men” [http://www.civilwarhome.com/medicinehistory.html](http://www.civilwarhome.com/medicinehistory.html)
Chimborazo – Confederate Hospital, Richmond