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Federal Wounded at Marye's Heights, Near Fredericksburg, Va.

MEDICINE of the CIVIL WAR

M. Muter

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MEDICINE of the CIVIL WAR

Casualties during the Civil War are often evaluated in terms of trauma and death resulting from battlefield wounds and accidents. In truth, the major killer of the War between the States was sudden and uncontrollable disease.

Statistics of morbidity and mortality related to casualties of the Confederate Armies are relatively scarce. Many records of the Medical Corps of the Confederacy were destroyed in the Richmond fire. Among the Northern troops, deaths from disease, both infectious and noninfectious, were about double those resulting from wounds. From the available data, it may be assumed that statistics for

the Confederacy were comparable.

Attrition from infectious diseases decimated troops, delayed some campaigns, and indeed, prevented others from even starting. In almost every unit of both the Union and Confederate Armies, there were, eventually, cases of dysentery, malaria, measles typhoid fever, smallpox, tuberculosis, and other diseases.

This booklet is in tribute to the dedicated medical personnel of both sides, who worked unceasingly and heroically to alleviate the suffering of the sick and wounded.



Wounded Soldiers after the Battle of the Wilderness – 1864
(Brady Collection)

CARE OF THE WOUNDED

During the first actions of the war, some wounded men were inadvertently left on the battlefield for as long as two days before being moved for treatment. The injured were first transported by untrained litter bearers, who used discarded gates, doors, window frames, ladders, and other objects as improvised litters. The walking wounded often carried the disabled to the rear.

In the fierce fighting of the battle of Gettysburg – probably the bloodiest of the war – such was the efficiency of administration that, after each day, not one of the fallen was left on the ground. This rapidity of action was in sharp contrast to the tardy removal of casualties during earlier battles. The ambulance trains moved the casualties to field installations, and after treatment they were taken as soon as possible to general hospitals.

At Gettysburg, almost every division had its own hospital, grouped according to Army Corps. These hospitals were strategically located near creeks to provide badly needed water.

The enormity of the task which confronted the field surgeon is sharply delineated in this passage from a report of Surgeon John H. Brinton on April 6, 1862, written during the battle of Shiloh:

“The mass of wounded in Sunday’s fight, who received the attentions of the surgeon had dragged themselves, as best they might, to the high bluffs between the middle and hospital landings A limited amount of hay had been obtained from the transports and this, littered on the earth, served as a bed for those most grievously hurt The weather was terrible, the rain incessant, and the mud almost knee deep. The medical officers of the command labored faithfully and all that was possible was done to alleviate the horrors of that fearful night”

SURGERY IN THE FIELD

The wounded soldier who received medical attention in the field (and base hospital) had still to run the considerable risk of surgery. After ambulance facilities were available, field hospitals were sometimes overwhelmed by major battle casualties. The limited number of surgeons worked around the clock and haste and neglect were unavoidable under such circumstances. (See the letter of Dr. J. S. Billings written to his wife from a field hospital at Gettysburg in this exhibit.)



Wounded during the action at Spotsylvania
(Brady Collection)

Anesthetics, generally chloroform, were available, but there was no notion of aseptic procedure. As W. W. Keen recalled some years later:

“We operated in old blood-stained and often pus-stained coats . . . with undisinfected hands . . . We used undisinfected instruments . . . and marine sponges which had been used in prior pus cases and only washed in tap water.”

Nearly all wounds became infected. In the case of chest or abdominal wounds, surgeons probed with their fingers, prescribed morphine and tried to stop external bleeding. Otherwise there was little that could be done. Death within three days from hemorrhage and/or infection was the normal result. The average Union mortality from gunshot wounds of the chest was 62 percent of cases and from wounds of the abdomen, no less than 87 percent. By way of contrast, only about 3 percent of all American wounded failed to survive in World War II.

The chances for survival following an injury to the extremities were better though not good. Joints were resected and limbs amputated with alarming frequency, often in an attempt to prevent the spread of infection. It was usually the ensuing infection which caused death. The so-called “surgical fevers” included tetanus, erysipelas, hospital-gangrene, and septicemia.

MEDICAMENTS

Medical supplies were transported to the battle areas as part of the general field train, and carried

to the front lines in ambulances, or on pack mules, or on the shoulders of the regimental hospital stewards.

The major effective drugs in use were quinine and morphia. Whiskey was frequently administered to the wounded to induce "reaction," and as the solvent for quinine sometimes administered daily as a suppressant of malaria.

Chloroform, sometimes mixed with small amounts of ether, served as an anesthetic. Among other drugs used were opium, pepsin, various emetics and cathartics, iodine, and calomel.

Dysentery, one of the most important diseases from the viewpoint of both high morbidity and mortality, was treated with oil of turpentine, among many other substances, and ipecac was administered for enteritis; probably neither of these was very effective.

The paratyphoid fevers were not separately recognized and diagnosed; the term "typhomalarial fever" was used to describe debatable cases of prevalent remittent fever.

The lack of preventive measures and specific therapy for treatment of the various diseases became a major factor in the outcome of some battles, and

at times, of entire campaigns.

AMBULANCE CORPS

The original organization of the medical service offered inadequate provision for the removal of the great numbers of casualties from collecting points to hospitals in rear echelon areas. On September 7, 1862, in a letter to Secretary of War Stanton, Surgeon General William A. Hammond requested the formation of an ambulance corps. The corps, complete with animals, personnel, and supplies, was first established under the guidance of Dr. Jonathan Letterman, Medical Director of the Army of the Potomac.

On the Confederate side, the task of transporting the wounded was complicated by the difficulty of running supplies and equipment through the Northern blockade of Southern Atlantic ports and the lower Mississippi River.

As in the North, the duties of Confederate surgeons included supervising the moving of the wounded from the battle lines to facilities in the rear. Toward the end of the war, the entire transportation system of the Confederacy, including their ambulance organization, collapsed for want of the necessary equipment and supplies.



Ambulance train near Harewood Hospital, Washington, D.C. 1863 (Brady Collection).



Top: Ward in a hospital at a convalescent camp near Alexandria, Va. (Brady Collection)

Bottom: United States Sanitary Commission Camp (Brady Collection)



HOSPITALS

The hospitals of the Civil War varied from crude, quickly constructed regimental receiving stations near the battle lines to well-staffed and fully equipped general hospitals at the rear capable of handling thousands of casualties.

At the outset of the war, a mere handful of surgeons and administrators was available for the immense task of organizing, staffing, and supplying the vast medical complexes required by both sides. Public schools, abandoned buildings, factories, warehouses, churches, and private homes were all utilized as medical care facilities.

In the South, the Chimborazo Hospital in Richmond was the largest military hospital of its time. Dr. James B. McCaw was appointed medical director of this enormous complex, completed in early 1862. It had a capacity of 6,000 beds, and treated 76,000 patients.

The Northern States, with their more numerous facilities, had Carver, Stanton, and Campbell Hospitals, located in or near Washington. Dozens of others were scattered throughout the Union States, convenient to transportation facilities by rail or water. In the summer of 1864, a period of high casualties, hospitals as far from the eastern front as New York and Boston, and as far west as Louisville, St. Louis, and Cincinnati received the sick and wounded.

THE ROLE OF WOMEN

At the outbreak of hostilities, it became evident that corollary assistance would be needed to support the troops. In the North, the United States Sanitary Commission, a civilian organization, evolved from this need. Originally organized by women in most of the large cities in 1861, the general intent of the Commission was to assist the government in the care of the troops. The Commission provided temporary shelters, clean bedding, wholesome food, and other services for the men.

In the South, there were many women's aid societies, but none approached the scope of operation of the Sanitary Commission. The principal activities of these groups in the Confederacy paralleled those of the Commission; in addition, they helped run medical supplies through the Northern blockade, and took the ailing into their homes. In general, however, the South lacked the resources and organization to match the efforts of the Northern groups.



Clara Barton – a war-time photograph (Brady Collection)

Among the many dedicated women on both sides engaged in this type of service were Clara Barton, founder of the National Red Cross, and Louisa May Alcott, the famous author, who served as a nurse. Sally Louise Tompkins of the South maintained the Robertson Hospital in Richmond, Va. and was commissioned a captain in the Confederate States Army.



Sally Louise Tompkins, the only woman ever commissioned by the Confederacy. (Courtesy Valentine Museum)

PRISONERS OF WAR

More than 600,000 men of both sides were ultimately incarcerated as prisoners of war. Neither Union nor Confederate authorities were prepared to receive the numbers eventually confined.

Many prisons were established in warehouses and other existing buildings. A Southern prison at Richmond had been a factory; Libby Prison in the same city, a tobacco warehouse. The North used such structures as an abandoned penitentiary at Alton, Illinois, for prisoners in the west, and Fort Columbus in New York was converted into a prison facility.

By 1863, the numbers captured had created an appalling situation — this, despite the fact that the opposing sides had entered into an agreement (July 22, 1862) to exchange prisoners. Suffering in the prisons was increased because of insufficient and improper food and the lack of adequate medical facilities. Some prisons maintained hospitals, but they were poorly staffed and meagerly supplied.

The logistics demands of the line organizations and the general shortages which lasted throughout the war years, coupled with overcrowding, added to the harshness of prison life.

The overcrowding contributed to the spread of diseases. At one point, the prison population at Andersonville, Georgia reached 33,000. As with many prisons of the Civil War, little effort was made to cleanse living quarters, and sanitary and bathing facilities were virtually nonexistent.

This lack of sanitation, in part caused by open sewers and latrines, gave rise to thousands of cases of disease and increased mortality. Malnutrition, diarrhea, dysentery, and respiratory diseases were common.



Camp Douglas, located near Chicago. During the month of February, 1863, almost 10% of the prison population died.



Forest Hall Military Prison, Georgetown, Washington, D.C.



Top: Part of the prison population at Andersonville, Georgia. (Brady Collection)

Below: Scene at Andersonville, where many inmates died as a result of various diseases. (Photo by A. J. Riddle)





Hospital Tent, Jan. 1863
(by Wm. M. McIlvaine Jr.)



Hospital attendants collecting the wounded after the engagement of Hatcher's Run.
(Drawing by A. R. Waud)

SPECIAL ARTISTS

Several illustrated publications assigned artists to cover the Civil War. The immediacy of the sketches rendered by these men in the field caught the drama and tragedy of the conflict.

Among the most prolific of the illustrators, or "special artists," as they were called, was Alfred

Waud, who represented *Harper's Weekly*. Winslow Homer, one of America's most famous artists, was also among those sketching in the field.

The Civil War was the first to have comprehensive pictorial coverage, at least for the North, both in photographs and drawings. Only Northern illustrated publications had artists with the troops, since all of the illustrated papers of that time were published in New York City.



FIELD HOSPITAL 1ST DIVISION, 8TH CORPS, NEAR PETERSBURG, VA.
WINTER OF 1864 AND 5.

ENLISTMENTS AND DEATHS

ENLISTMENTS*

Union	2,893,304
Confederacy somewhere between 1,277,890 and 1,406,180	

DEATHS

Union**

In battle	110,070
Disease	224,586
Accidents, suicides, etc.	24,872
Total	359,528

Confederacy**

In battle	94,000
Disease, etc.	164,000
Total	258,000

Total, Union and Confederacy	617,528
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*Reducing these figures to the standard of three-year enlistments, Livermore put Union strength at 1,556,678 and Confederate strength at 1,082,119.

**Adjutant General's Officer (1885).

***Burke.

CONSOLIDATED STATEMENT OF ARTICLES OF MEDICAL AND HOSPITAL PROPERTY CARRIED WITH THE ARMY OF THE POTOMAC ACROSS THE RAPIDAN (MAY 4, 1864).°

Drugs

Acacia	Ammonium carbonate	Collodion	Whiskey
Sulfuric acid	Ammonia water	Ferric chloride	Brandy
Tannic acid	Spirits of Ammonia	Mercury pills	Lead acetate
Tartaric acid	Silver nitrate	Morphine	Potassium arsenite
Ether	Camphor	Olive oil	Potassium iodide
Alcohol	Cantharides	Castor oil	Quinine
Alum	Chloroform (35 quarts)	Turpentine	Liquid soap
		Opium	Squill

*Official Records

WOUNDS AND SICKNESS (Union)°

Wounds

Of the 246,712 cases of wounds reported in the Medical Records by weapons of war, 245,790 were shot wounds and 922 were sabre and bayonet.

Sickness

Of 5,825,480 admissions to sick report there were:

<u>Cases</u>		<u>Deaths</u>
75,368	typhoid	27,050
2,501	typhus	850
11,898	continued fever	147
49,871	typho-malarial fever	4,059
1,155,266	acute diarrhea	2,923
170,488	chronic diarrhea	27,558
233,812	acute dysentery	4,084
25,670	chronic dysentery	3,229
73,382	syphilis	123
95,833	gonorrhoea	6
30,714	scurvy	383
3,744	delirium tremens	450
2,410	insanity	80
2,837	paralysis	231

*Official Records

CONFEDERATE MEDICINE WAGON*

Acetic acid	Arsenic oxide	Digitalis	Opium
Adhesive plaster	Asafoetida	Ether	Quinine sulphate
Alcohol	Columbo	Hydrochloric acid	Rhubarb
Aloes	Copaiba	Hyoscyamus	Senna
Ammonia water	Creosote	Morphine sulfate	Sugar
			Sulfuric acid

*Official Records

CASUALTIES IN MAJOR BATTLES*

	<u>Federal</u>	<u>Confederate</u>
First Bull Run, Va. (July 21, 1861)	2,645	1,981
Fort Donelson, Tenn. (February 12-16, 1862)	2,832	16,623
Shiloh, Tenn. (April 6-7, 1862)	13,047	10,694
Fair Oaks or Seven Pines, Va. (May 31-June 1, 1862)	5,031	6,134
Seven Days' Battle, Va. Peninsular Campaign (June 25-July 1, 1862)	15,849	17,136
Second Bull Run, Va. (August 29-30, 1862)	14,754	8,397
Harper's Ferry, W. Va. (September 12-15, 1862)	11,783	500
Antietam (Sharpsburg), Md. (September 17, 1862)	12,410	13,724
Perryville, Ky. (October 8, 1862)	4,211	3,396
Fredericksburg, Va. (December 13, 1862)	12,653	5,309
Murfreesboro or Stone's River, Tenn. (December 1, 1862-January 2, 1863)	12,906	11,739
Chancellorsville, Va. (May 1-5, 1863)	16,792	12,764
Siege of Vicksburg, Miss. (May 18-July 4, 1863)	8,873	39,491
Gettysburg, Pa. (July 1-3, 1863)		
Engaged	88,298	75,000
Killed	3,155	3,903
Wounded	14,529	18,735
Missing	5,365	5,425
Total losses	23,049	28,063
Chickamauga, Ga. (September 10-21, 1863)	16,170	18,454
Chattanooga Engagements (Tenn.) (November 23-25, 1863)	5,824	6,667
The Wilderness, Va. (May 5-7, 1864)	17,666	7,750
Spotsylvania Court House, Va. (May 8-20, 1864)	18,399	7,750
Cold Harbor, Va. (June 1-3, 1864)	12,000	unknown
Siege of Petersburg, Va. (June 10-April 2, 1864)	42,000	28,000
Atlanta, Ga. (July 22, 1864)	3,722	8,500
Saylor's Creek, Va. (April 6, 1865)	1,180	7,000

REFERENCES:

- Medical and Surgical History of the War of the Rebellion* — (1870-1888)
- Miller. *Photo History of the Civil War* — 1911
- National Gallery of Art. *The Civil War* — 1961
- Eaton. *Original Photographs of the Civil War* — 1907
- Steiner. *Disease in the Civil War* — 1968
- Cunningham. *Doctors in Gray* — 1958
- Adams. *Doctors in Blue* — 1952
- Steiner. *Medical-Military Portraits* — 1968
- Confederate States Army. *Manual of Military Surgery* — 1863
- Medical Society of Virginia. *Confederate Medicine* — 1961
- Steiner. *Physicians General in the Civil War* — 1966
- *Livermore. *Numbers and Losses in the Civil War* — 1900