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Bullet Wound Amputations

Civil War Medicine

Laura Flaherty

"The limbs of soldiers are in as much danger from the ardor of young surgeons as from the missiles of the enemy."

-Surgeon Julian John Chisholm, 1864

Abstract

Civil War medicine was highly dependent on the profession and education of those practicing medicine on the battlefield. Throughout the states that were involved with the war are burial grounds of soldiers or partial remains post amputation. Are there indicators of differing probabilities of survival of amputees at field hospitals or (traditional) established hospitals? Were soldiers more likely to live through amputations only to later die from infection? The factors under consideration are: capabilities of surgeons and staff at the types of treatment locations, hygiene, infection, available treatment material, potential transfers from field to established hospitals, treatments, and the later disposal of limbs.

Figure 1. This barn was used as a hospital for wounded soldiers at the Battle of Antietam, *Sharpsburg, Maryland.*

Location: Traditional V Field Hospitals

Traditional hospitals were far and few between in the Confederacy, a majority of battles taking place south of the Mason-Dixon. Field hospitals were set up as close to battlefields as possible, whether in brick and mortar building appropriated by the armies (Figure 1) or canvas tents at encampments. If soldiers were able to close enough to be brought to a large hospital, more options were explored as care was usually more readily available. Cases that seemed to have a larger chance of healing were given more thought and other treatments were sometime s attempted before surgery. Field surgeons were more often than not those who had less training than those in traditional hospitals, some known to amputate first to gain surgical experience (Weld & Sokis 1966).

Figure 4. The bones were discovered by a utility crew in 2014 at the Manassas National Battlefield Park. *Manassas, Virginia.*

Infection

An injured soldier would likely find himself on the back of a wagon, usually with other wounded, in tight spaces and forced to lay in whatever was left from a previous transport. If the ride did not kill him, the blood loss or infections most likely could. Approximately 45 % of patients died from infection (Reilly 2016). The signs of infection were often ignored, thought to be a natural part of the healing process.The most common infections included gangrene, tetanus, blood poisoning, and erysipelas(Wegner 1998).

Primary Amputations					Secondary Amputations			
	Cases	Cures	Deaths	Percent Deaths	Cases	Cures	Deaths	Percent Deaths
Thigh	345	213	132	38	162	43	119	73
Leg	314	219	95	30	150	76	74	49
Arm	294	252	42	14	140	87	53	37
Forearm	69	91	8	12	45	35	10	22
Shoulder-joint	79	54	25	31	28	8	20	71
Elbow-joint	4	3	1	25	3	2	1	33
Wrist-joint	7	5	2	28	-	-	-	-
Hip-joint	3	1	2	66	-	-	-	-
Knee-joint	5	2	3	60	6	-	6	100
Ankle-joint	6	4	2	33	4	4	-	-
Tarsal-join	16	13	3	19	8	7	1	12
Total	**1149**	**827**	**315**	**27**	**546**	**262**	**284**	**51**

Source: John Julian Chisolm's *A Manuel of Military Surgery*, 361

Figure 2

Consolidated Table of Amputations from June 1, 1862, to February 1, 1864, Collated from Reports in the Surgeon General's Office

Disposal

The disposal of limbs is difficult matter to delve into as there is very little information on the subject. The general idea was that doctors would have them buried in local cemeteries or on the battlefield (Pfanz). A 'limb pit' was discovered at the Manassas Battlefield in 2014, the contents of which included 10 leg bones and forearm (Figure 4). It is one of the first found like it in the United States (Joyce 2018)

Titled: "A Mornings Work"- The gruesome consequence of war, from outside Harwood Army Hospital in Washington, D.C Courtesy of the National Museum of Health & Medicine, Armed Forces Institute of Pathology. -CP1043

Figure 5. A photograph of amputated limbs outside of Hardwood Army Hospital, Washington D.C.

Evolution of Medicine

The nineteenth century saw numerous changes to the medical practices of America. Physicians began to transition from the art of medicine to the science, organizations forming and vying for respectability, treatment far from standardized. With old habits and new theories, the Civil War showed the appointment of all physicians in both the Union and Confederate armies the title of surgeon. As nursing was a frowned upon occupation with little to no formal training, surgeons had not the time, the technology, or the experience to manage the number of shattered limbs and mangled bodies (Wells 2001). The amputation of limbs was the easiest answer but also, in many cases, the most logical: 'life is better than limb' (Figure 3, 5). Civil War surgeons came under heavy fire from popular opinion, many believing that too many amputations were taking place. By the end of the war, only 1 in every 15 surgeons were permitted to amputate (Reilly 2016).

Figure 3. An illustration from *A Manual of Military Surgery*, Confederate States if America, Surgeon General's Office, 1863.

Primary V Secondary

Amputations were generally performed quickly, with in the first 24 hours of the wound. If the surgeon waited 48, the mortality rates increased by over 33% In the Union Army, approximately 30,000 out of the 1750,00 extremity wounds resulted in amputations with a 26.3 % mortality rate (Reilly 2016). If the remaining extremity became infected, a second amputation was performed in an attempt to save the soldier's life. The mortality rate doubled, 51% of the patients dying (Figure 2).

Post Amputation Treatments

Postoperative treatment were a leading cause of infection among soldiers. . The treatment and hygiene of wounds was still in its infancy, old ideas clashing with evolving sciences. The most popular of the treatments were wet bandages, the material kept on the wound for weeks at a time, thought to encourage healing. Soldiers who were unable to receive treatment and dry packed their own wounds with sawdust, or dry clothes. Few of these men died from infection (Figg & Farrell 1993).

Conclusion

There is sufficient evidence to support the thesis that infection killed more often than the act of amputation, specifically higher is those who had to undergo a secondary amputation. The physical location where the amputation took place did not yield enough information to directly answer whether or not there is direct connection to survival, those who were transported to hospitals were exposed to unhygienic modes of transport and increased shock. The means by which limbs were disposed of does not correlate with any known effects on the soldiers mortality rates..

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Photographs (Clockwise)

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