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## The Wounded, the Sick, and the Scared: An Examination of Disabled Maine Veterans from the Civil War

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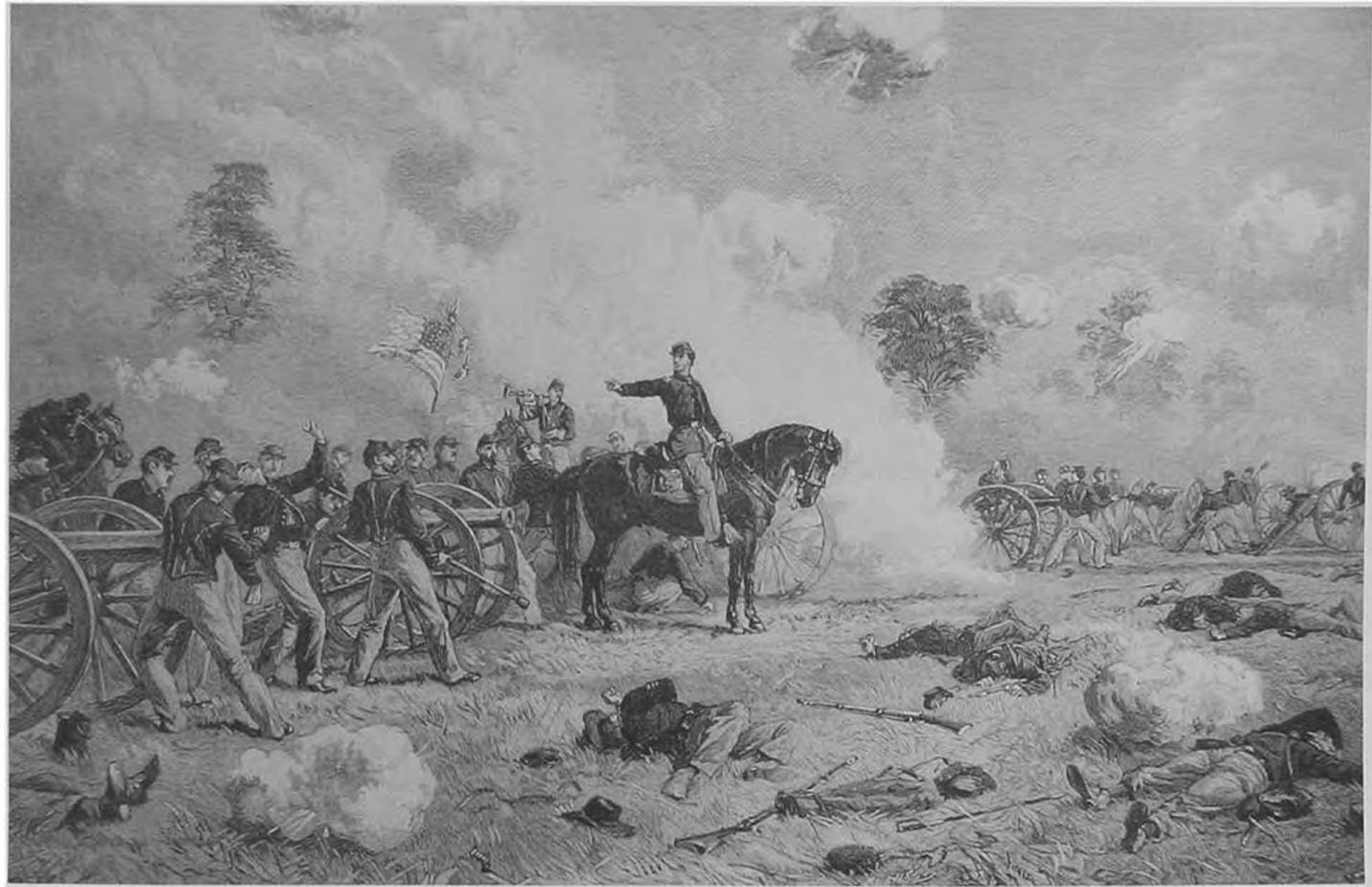
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Despite the mountain of paperwork generated by the Civil War, there are many gaps in our understanding of its medical history. Raw figures tell us how many soldiers died or were incapacitated, but the nature of their maladies is more difficult to ascertain. A cache of documents in the Bangor Historical Society sheds light on these issues. Illustration from *Battles and Leaders of the Civil War: People's Pictorial Edition* (1894).

# THE WOUNDED, THE SICK, AND THE SCARED: AN EXAMINATION OF DISABLED MAINE VETERANS FROM THE CIVIL WAR

BY JOHN D. BLAISDELL

*Students of Civil War history often harbor a sterilized impression that veterans included only the living, who returned home to pick up the threads of their previous existence, and the dead, who were laid to rest with honors in local or national cemeteries. In truth, there were many who fell in between: neither dead nor physically intact, they suffered debilitating injury or disease for their remaining lives. Records of some 260 such individuals in the Bangor Historical Society provide insight into the medical and surgical problems suffered by Civil War veterans. Their conditions fall into four categories: those who suffered preexisting diseases and injuries; those who contracted diseases in the field brought on by stress, poor food, poor sanitation, and exposure; those who suffered battlefield traumas; and those who suffered from "heart palpitations," perhaps an early version of combat fatigue. This article suggests that distinctions between these categories are not always clear-cut. John Blaisdell, a prior contributor to MAINE HISTORY, was born in Bangor and educated at the University of Maine, the University of Washington, and Iowa State University. He is currently an instructor in the Department of Animal and Veterinary Sciences at the University of Maine.*

THE AMERICAN CIVIL WAR is one of the best documented wars of the nineteenth century. This fact has been a blessing and a curse for professional historians. It has been a blessing because it provides an almost endless source of material for historical study and analysis. It is a curse in that these records often lead to conflicting conclusions. For example, it is generally accepted that at least 600,000 men died as a result of that conflict. As to the exact causes of these deaths,

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[In case the applicant does not live within thirty miles of a surgeon of the regular army, the following will be required instead of the certificate of such surgeon:]

SURGEONS' AFFIDAVIT.

(Date.)

It is hereby certified, that ———, a ——— in the company of ———, in the ——— regiment of the United States ———, is rendered incapable of performing the duty of a soldier, by reason of wounds or other injuries inflicted while he was actually in the service aforesaid, and in the line of ~~his~~ duty, viz: ~~as~~

By satisfactory evidence and accurate examination, it appears that on the ——— day of ———, in the year ———, ———, being engaged ——— at or near a place called ———, in the (State, District, or Territory) of ———, he received ——— in his\* ——— and he is thereby not only incapacitated for military duty, but, in the opinion of the undersigned, is ——— disabled from obtaining his subsistence from manual labor.

—————, Surgeon.

—————, Surgeon.

\*Here give a particular description of the wound, injury, or disease, and specify in what manner it has affected the applicant so as to produce disability in the degree stated.

†The blank in the last line but one is to be filled up with the proportional "degree" of disability; for example: "three fourths," "one-half," "one-third," &c., or "totally," as the case may be.

‡The magistrate who may administer the oath to the surgeons must certify that they are reputable in their profession, and the official character and signature of the magistrate must be certified by the proper officer, under his seal of office.

§§ Mode of authenticating papers.—In every instance where the certificate of the certifying officer who authenticates the papers is not written on the same sheet of paper which contains the affidavit, or other paper authenticated, the certificate must be attached thereto by a piece of tape or small ribbon, the ends of which must pass under the seal of office of the certifying officer, so as to prevent any paper from being improperly attached to the certificate.

Figs. 1 and 2: "Instructions and Forms to be Observed by Persons Applying ... for Invalid Pensions" (Government Printing Office, 1861), courtesy Bangor Historical Society.

## FORM OF APPLICATION FOR AN INVALID PENSION.

STATE OF ——— }  
 County of ——— } *sect.*

On this ——— of ———, A. D. one thousand eight hundred and ———, personally appeared before me, a judge of ——— [*here state the official character of the person administering the oath,*] within and for the county and State aforesaid, ——— aged ——— years, a resident of ———, in the State of ———, who, being duly sworn according to law, declares that he is the identical ———, who enlisted in the service of the United States as a ——— in the company commanded by ———, in the ——— [*here describe what war, or other service declarant was engaged in,*] and was honorably discharged on the ——— day of ———, in the year ———; that, while in the service aforesaid, and in the line of his duty, he received the following wound, (or other disability, as the case may be.) [*Here give a particular and minute account of the wound or other injury, and state how, when, and where it occurred, where the applicant has resided since leaving the service, and what has been his occupation.*]

(Signature of claimant.)

Also personally appeared ——— and ———, residents of the (county, city, or town,) persons whom I certify to be respectable and entitled to credit, and who, being by me duly sworn, say that they were present and saw ——— sign his name (or make his mark) to the foregoing declaration; and they further swear, that they have every reason to believe, from the appearance of the applicant and their acquaintance with him, that he is the identical person he represents himself to be, and that they (deponents) do reside in the (county, city, or town,) aforesaid.

(Signatures of witnesses.)

Sworn to and subscribed before me, this ——— day of ———.

(Signature of judge or other officer.)

there is no consensus. According to one study only one in six died as a result of deliberate battlefield wounds; the rest succumbed to sickness or accident. Another work claims that only two men died of disease to every one who died of trauma, while a third puts the ratio at three to one.<sup>1</sup> An added result of this mountain of material on the Civil War is the problem of the depersonalization; the aggregate data favors dry statistics over narrative studies, dehumanizing the sufferings and accomplishments of the men involved.

Smaller record sets help us limit the opportunity for conflicting statistics and interpretation, and these more focused document collections do not compromise individuality for the sake of historical analysis. Such records, when available, are generally found in state and municipal archives. One such set of records, found at the Bangor Historical Society, involves a list of 260 Maine men who were granted disability pensions during the Civil War. This list, covering the discharge of men from September 1861 to August 1863, is extensive enough to provide a fairly complete overview of the assorted medical and surgical problems among Maine's troops during the first two years this conflict.

To apply for a disability pension, a Civil War soldier had to complete four requirements. First, he had to prove his identity with two witnesses swearing under oath that he was who he said he was. Second, he had to provide certification from a commissioned officer from his unit that he was wounded, injured, or incapacitated, and that the medical condition had been incurred in the line of duty. Third, a qualified surgeon had to provide a description of the medical condition and note its relationship to the disability. Last, the soldier had to document his habits and occupation since leaving the service.<sup>2</sup> To make the process a little easier, standard application forms were available to both the soldier and to the examining physician (figs. 1, 2).

Because the application process was so involved, many soldiers sought help from lawyers. By 1862 local Bangor newspapers contained numerous advertisements from lawyers who offered assistance to disabled veterans—for a price. Both the federal government and the State of Maine recognized the potential for abuse by attorneys and took measures to control it. The federal government required all lawyers involved in the application process prove that they were licensed in the state in which they practiced. The State of Maine went one step further and established strict guidelines for attorney's fees. Lawyers could receive no more than \$6.50 per individual for aid in obtaining a pension. Any

lawyer who received more could be charged with a high misdemeanor and fined or imprisoned.<sup>3</sup>

Like lawyers, physicians were regulated by the pension process; they could charge no more than \$1.50 for examining a veteran. The state appointed certain physicians to conduct these examinations; in Bangor, the task fell to Drs. John Mason and James Weston. These were the two gentlemen who compiled the list of disabled veterans in the Bangor Historical Society. Originally from Castine, Mason received his M.D. from Harvard University in the 1820s. He then came to Bangor where he practiced medicine until 1866. Mason was one of the original members of the Bangor Medical Association when it was established in 1829. He also “ministered” to the troops during the so-called Aroostook War. During the Civil War Mason not only certified veterans as disabled but gave physical examinations to perspective recruits, at fifteen cents per examination. Weston was also a prominent member of his profession. He graduated from Dartmouth Medical School in 1845, and one year later he was vaccinating Portland residents for smallpox. Later he moved to Bangor, where he practiced medicine until his death in 1877. Weston was a founding member of the Penobscot Medical Association in 1845 and continued to be active until 1873.<sup>4</sup>

The records compiled by Mason and Weston involve some 260 soldiers from different Maine units. Not all were veterans of the Civil War; Private Joshua Boynton of the 4th Regiment of U.S. Infantry served in the War of 1812 and was wounded at the Battle of Chataque Woods in Canada on November 15, 1813. Boynton was shot in the left leg, and the bullet injured his Achilles tendon, supposedly causing permanent lameness. He did not apply for his disability pension until 1862, however, some forty-nine years after he was wounded, suggesting that the lameness was at least partly due to aging.<sup>5</sup>

Twenty-odd regiments and units are represented in these records, including eighteen infantry units—the 2nd, the 4th through the 20th, and the 22nd Maine—and four artillery units—the 1st through the 3rd and 5th Maine Heavy Artillery—along with the 1st Maine Cavalry and the Navy. The best represented is the Second Maine, with some eighty-nine members mentioned. The Sixth and Fourteenth Maine come next, with twenty-two and twenty-three members respectively. Eighteen of the men are not immediately identified by unit. The injuries are as follows:

Traumatic Insult	53 Cases
Gunshot	49 Cases
Axe	3 Cases
Bayonet	1 Case
Hernias	29 Cases
Respiratory Problems	34 Cases
Gastrointestinal Problems	22 Cases
Orthopedic Problems	46 Cases
Cardiac Problems	31 Cases
All others <sup>6</sup>	41 Cases

### Passing Muster

One of the outstanding features of this list is the number of men discharged for hernias and varicose veins. This may reflect the number of militia members among the early Civil War recruits. Most if not all of the early regiments were made up of existing militia units—organizations that in 1861 were little more than social clubs. On April 23, 1861, for example, the Bangor Light Infantry was mustered for service, and after this came other militia units, such as the Ex-Tigers and Armory Association, the Castine Light Infantry, and the Grattan Guards. These militia units were generally signed up without benefit of a physical examination; the first records of physical examinations do not appear until September 1861. By October 1861 a standardized examination form appears (fig. 3). In addition to examining the individual for all physical imperfections, the physician was required to check whether the recruit had received any injuries to the head, whether he had suffered fractures, sprains or dislocations, whether he had hemorrhoids or trouble urinating, and whether he had been vaccinated for smallpox. Once physical examinations were standardized, large numbers of men were rejected for physical disabilities. A record from Belfast for the years 1863-1864 shows that of the 137 men called up for service under the newly established draft, 47 were exempted for physical disabilities: more than one out of every three.<sup>7</sup>

As to which cases existed prior to recruitment and which were acquired in the line of duty, it is often difficult to determine. Merritt Jordan was diagnosed in September 1861 with a varicocele—excessive fluid in the scrotum that causes it to swell. This condition had existed long enough to cause damage to the left testicle and spermatic cord.



Cornelius Mahoney was discharged in November 1861 for severe varicose veins in his right leg, a condition so advanced that varicose ulcers were present. The advanced state of both these conditions suggest the men had them prior to mustering in. Another pre-war condition was the hernia, which appears to have been common enough among the civilian male population to justify numerous newspaper and magazine advertisements for trusses. A number of men claimed to have acquired hernias in the service. John McKinney supposedly suffered his hernia as the result of a coughing spell, and George Harriman had his occurring as a result of vomiting. In some cases, the hernia probably did occur while the men were in the service: Thomas Large supposedly suffered his from lifting a cask of water, while Ray Potter's occurred as a result of lifting a heavy box.<sup>8</sup>

Hernias occasionally caused severe medical problems. During the retreat from the First Battle of Bull Run, Charles Hooper of the Second Maine Hooper was struck by an army wagon, which supposedly caused a severe hernia (or perhaps the wagon trauma simply exacerbated a preexisting condition). Whatever the cause, Hooper marched back to Washington in severe pain. For the rest of his service he was relegated to light duties that did not require physical exertion. His condition became so serious that he was discharged in August 1862 as totally disabled. He returned to Castine, where he spent the rest of his life as a postmaster. Over the years his condition deteriorated, leaving him bedridden for weeks in pain. Unable to stand the pain any longer, in 1912, at age seventy, Hooper committed suicide.<sup>9</sup>

One of the questions on the October 1861 form involved alcoholism: are you in a habit of drinking or have you ever had the "horrors"? This condition, while not common, appeared occasionally among disabled veterans. James Nicholson, a sergeant in the Second Maine, was discharged in August 1861 with cirrhosis of the liver. The records noted that his condition kept him from active employment and would eventually kill him. Charles Cobb of the Fourteenth Maine was also discharged with chronic liver disease, a condition that left him severely debilitated. Not all men who suffered with this condition survived to be discharged. In July 1861 Michael Shay, a private in the Sixth Maine, was admitted to a military hospital with delirium tremors. While there, he jumped from a window to his death.<sup>10</sup>

### The Problem of Disease

Many of the men who passed physicals never made it into combat; instead they fell victim to disease. Infectious disease seemed a particularly serious problem in the first years of the war. The crowding of thousands of men into a new and highly contagious disease environment had predictable results. Men who had never been exposed to diseases like mumps, diphtheria, or measles were vulnerable to these childhood afflictions. Watson Ward of the 11th Maine was discharged in August with complications from an attack of measles, suffering with breathing problems, a pain in his side, a bad cough, and a fluid buildup in the upper right lung. Cyrus Emery of the 14th Maine suffered from both diphtheria and measles, a situation that left him with an ulceration of the lungs and damage to his eyes. Robert Rollston of the 13th Maine was discharged as a result of measles; the condition subsequently caused orchiditis—a swelling and inflammation of the testicles. Rollston was also diagnosed with a left inguinal hernia, a condition he probably brought with him when he enlisted.<sup>11</sup>

The Maine troops may have been responsible for the introduction of one disease—diphtheria—into other units. In the summer of 1861 diphtheria broke out in Aroostook County. A local newspaper noted disease had been rampant among children in northern Maine since August, and by December as many as three hundred cases had been reported in Presque Isle and Patten. The disease reached southern Maine in the early fall. Bangor noted nineteen deaths during the two weeks prior to October 26; eleven of the victims were children. The epidemic continued, with twenty-eight deaths in the last two weeks of December. In Wiscasset, six children in one family died in a space of six days, exhibiting a pattern reminiscent of diphtheria. In late December diphtheria reached Portland. The disease lingered in southern and eastern Maine until January. The disease followed the Maine troops to Washington; in early September Jacob Cunningham of the 4th Maine and L.W. Doloff of the 5th Maine came down with diphtheria. The 5th Maine recorded two prior cases, suggesting that the disease had been present since August. In October Dr. Samuel B. Morrison, chief surgeon of the 2<sup>nd</sup> Maine, noted: “there have been many cases of throat distemper in this regiment during the last two months. Most appeared immediately after a storm, especially among those who had been on guard at night or on picket duty and exposed to the combined influence of cold and moisture, though some occurred without any such exposure.” Only one case proved fatal.<sup>12</sup> In December a second Maine surgeon, Daniel McRuer, observed that

during the last two months diphtheria has prevailed in the 3th and 4th Maine. . . . It was first observed in the families of three civilians who lived in the vicinity of the 4th Maine; five children died of the disease. The soldiers of the 4th, who had free intercourse with these families, were first attacked; fourteen cases occurred, three fatal. The troops of the 3rd, having free communication with the 4th, were next seized; seven cases, two fatal.

McRuer noted that "from the manner of its introduction as well as its mode of progress . . . it might be inferred to be contagious."<sup>13</sup> While McRuer was correct about the disease being infectious he was probably wrong in claiming that the source of infection was the civilian family. If anything, it was the Maine troops who spread the disease to the civilians.

The mortality rate among Maine soldiers for this disease was anywhere from 10 percent to 30 percent, suggesting that a number of men probably had prior exposure, and therefore antibodies, to the affliction. Both Jacob Cunningham and L. W. Doloff recovered without complications, and both returned to duty. Among the records of the disabled veterans, only two men were discharged with problems arising from diphtheria, and in both cases the disease appears to have been only part of the problem. In October 1862 Cyrus Emery of the 14th Maine was discharged as a result of contracting diphtheria and measles, the combination causing permanent damage to his lungs and eyes. A month later Fred Gardiner of the 18th Maine was discharged with chronic pulmonary disease supposedly resulting from a severe attack of diphtheria. (More likely Gardiner, like many others, entered the military with subclinical TB, and the attack of diphtheria caused it to become clinical in nature.)<sup>14</sup>

Many Maine men entered the service with some limited immunity against at least one disease: smallpox. Of all the infectious diseases smallpox was the only one in which measures were available to control its spread. The earliest measure involved inoculating healthy humans with the dried scabs from smallpox pustules. These individuals would then have a mild or even subclinical case of the disease and in the process develop an immunity against it. This procedure was first seen in New England in the 1720s. One of the earliest references to this procedure in Maine was a 1792 Portland newspaper notice in which the selectmen ordered that all individuals in Portland receive inoculation for this disease.<sup>15</sup>

For all its success the inoculation procedure was not entirely safe.



Exposure to raw, wet conditions – a fact of life for the common soldier – exacerbated a number of diseases. Others were spread by crowded and unsanitary conditions and the constant movement from one part of the country to another. Illustration from *Battles and Leaders of the Civil War: People's Pictorial Edition*.



Most traumatic injuries occurred on the battlefield, but the extent of injury depended on a variety of factors. Illustration from *Battles and Leaders of the Civil War: People's Pictorial Edition*.

Many inoculations resulted in full-blown infections, from which more than a few died.<sup>16</sup> By 1798 a new inoculation was introduced using serum from a cow diseased by cowpox. Unlike its smallpox cousin, cowpox rarely produced clinical symptoms in humans. First employed by an English physician named Edward Jenner, the procedure quickly spread to North America. By 1800 Maine physicians were regularly advertising the new preventative. During the 1820s Maine moved to control the spread of smallpox, using inoculations and mandatory quarantine of infected individuals. Such measures were employed during outbreaks of smallpox in Bangor in 1819, in Portland in 1824, and again in Bangor in 1840 and 1848.<sup>17</sup> By 1851 the city required all children to be vaccinated before they could attend school.

These measures, although limited, appear to have provided Maine troops with some measure of protection; records note very few cases of smallpox. Only two men from the 17th Maine, Moses Moody and John Pollis, died of smallpox, while nearly forty men died of typhoid fever or similar complaints. The disease did prove a serious problem when in spring 1863 the 20th Maine was vaccinated by a contaminated batch of smallpox vaccine. Over eighty men contracted the disease and several died. Because of this the entire regiment was quarantined that spring and missed the battle of Chancellorsville. Among the discharge records there was only one individual, Eugene Springer of the 1<sup>st</sup> Maine Cavalry, who was discharged as a result of contracting smallpox.<sup>18</sup>

Measles, mumps, diphtheria, and smallpox were far less of a problem than other afflictions. The most serious disease conditions were those of the gastro-intestinal tract, the respiratory system, and the musculoskeletal system. Official records indicate that up to July 1, 1863 these conditions led the discharges:

Tuberculosis	13,228
Debility	10,878
Diarrhea and dysentery	9,949
Rheumatism	9,000 <sup>19</sup>

Among these disabled soldiers, tuberculosis was the biggest factor. At least twenty men on the Bangor Historical Society list were discharged for "consumption," the symptoms being night sweats, chest pain, coughing up of blood, and, in advanced cases, congestion or consolidation of the lung, a condition in which a portion of the lung became little more than scar tissue. For most, the disease proved to be chronic.

Burton Bunker of the 2<sup>nd</sup> Maine was discharged in July 1862 with chest pains, difficulty in breathing, and the coughing up of blood. A member of the Ex-Tigers and the Amory Associates, Burton was probably in the early stages of tuberculosis when he entered the service. Charles Tarbox of the 2<sup>nd</sup> Maine, Edwin Reed of the 6<sup>th</sup> Maine, and John Trask of the 7<sup>th</sup> Maine were similarly discharged in spring 1862, and least two other men, William Doe of the 6<sup>th</sup> Maine and Rural N. Norris of the 7<sup>th</sup> Maine, appear to have been discharged in the final stages of this disease, in which the TB appears to have spread from the lungs to other organs—in Doe's case the urinary system, and in Norris's case the digestive system.<sup>20</sup>

Tuberculosis appears to have been fairly prevalent in eastern and northern Maine prior to the Civil War. According to the 1860 census, Maine had one TB case for every 290 persons, and TB deaths accounted for better than a quarter of all deaths from infectious diseases. Maine newspapers carry numerous advertisements for patent medicines claiming to cure this affliction. One touted "blood food" as an effective treatment for restoring red blood cells and thus reestablishing normal circulation. These treatments were based on the belief that TB was a "constitutional disease" caused by metabolic imbalance. Most treatment aimed at correcting this so-called imbalance. Private David T. Billings of the 2<sup>nd</sup> Maine underwent such a procedure. A stonecutter from Brooksville, Billings was mustered out of the Castine Light Infantry in spring 1861, and by August 1862 he was in a military hospital with a fever supposedly contracted during the Peninsula Campaign. Initially he was given quinine, which controlled the fever. He was also given tincture of iron for the metabolic deficiency of tuberculosis, although the medical officer thought that "his general appearance presented no suspicion of tubercular diathesis." By November Billings was suffering from fatigue and a hacking cough, brought on by congestion in the upper right lung. Billings began to cough up fluids and experienced night sweats. The physicians added cod liver oil to the iron and quinine treatments. On November 25 Billings began to cough up blood, and the quinine dosage was increased. Billings slowly improved, and by February the congestion, the cough, and the expectoration had largely disappeared. Nevertheless, he was eventually discharged as disabled.<sup>21</sup>

The other common medical complaint among the Maine troops was dysfunction of the lower gastrointestinal tract. One study notes that among northern troops more men died of diarrhea and dysentery—57,265—than of battle trauma—44,238.<sup>22</sup> This was a particularly seri-

ous during the first year of the war, when appalling hygienic measures combined with poor diet caused many deaths from enteric conditions. Many survived only to be incapacitated by chronic dysentery or diarrhea. Diarrhea was officially known as loose bowels, while dysentery was diarrhea with blood in the stools. Among the 260 men discharged as disabled, 22 suffered from chronic diarrhea. Jessie Holbrook of the 6<sup>th</sup> Maine suffered an initial attack in September 1862; by January 1863 it had become chronic. Willis Morse of the 2<sup>nd</sup> Maine, with both diarrhea and an enlarged liver, was discharged as disabled in May 1863. Issac Waterbury's chronic diarrhea resulted in a fistula in his anus, while Henry Miller's condition proved so severe that it caused a rectal prolapse. Jason Garnett came down with typhoid fever during the April 1862 siege of Yorktown. The disease developed into a chronic condition, leaving Garnett extremely debilitated, and by November his general condition was noted as very poor.<sup>23</sup>

Typhoid fever was easier to diagnose if the patient died than if he survived. The reason for this is that a small anatomical structure known as Peyer's Glands found in the small intestine becomes swollen and inflamed with typhoid fever. Medical reports list other symptoms as a coated tongue, hot, dry skin, diarrhea, and lastly delirium. The post mortem of George Wood of the 2<sup>nd</sup> Maine, who died of typhoid fever, provided such a distinctive example of Peyer's Gland inflammation that a specimen was taken for the Army Medical Museum. If the patient survived, the diagnosis was much less definitive. George Gardiner of the 19<sup>th</sup> Maine was admitted to a military hospital in December 1862 with an enlargement of the scrotum. Soon after he was troubled with a sore throat and an earache, and by January he exhibited a flushed face, furred tongue and "gastric disturbance." He later developed diarrhea; his ears began to discharge fluid, and he suffered from extreme fatigue. The diarrhea cleared up only to be followed by chills and pain about the right shoulder. Eventually all but the shoulder pains cleared up. Gardiner was diagnosed with typhoid fever, which changed to remittent fever, and from there to intermittent fever.<sup>24</sup>

Diagnosis was often guesswork, particularly with respect to rheumatism, after consumption and diarrhea the most common reason for disability. Rheumatism was divided in the official medical records into acute and chronic form. The major contributing factor for both was cold and dampness. Despite its prevalence, the condition was rarely fatal; in official records there are only seven cases in which death occurred, all supposedly due to "an implication of the heart." Edward E. Roach of the

10<sup>th</sup> Maine died of “chronic rheumatism” while in the service, and a number of men were eventually discharged as permanently lame. Seaman Chandler Eastman and Private Richard Crett were both discharged with a form of rheumatism that left them able to walk only with difficulty.<sup>25</sup>

Other soldiers suffered chronic lameness. Joseph Lards of the 2<sup>nd</sup> Maine was discharged in 1862 as the result of a back injury, and Sergeant Monroe Dugan of the Second Maine Artillery was disabled when a horse fell on him, injuring his hip and spine. A third soldier, Sergeant William Lawrence of the Second Maine, was injured during the First Battle of Bull Run when he was forced to jump from a bridge to avoid being run over by a wagon and ruptured a disc in his back. Lawrence was discharged in late July as permanently disabled and the rest of his life suffering from chronic back pain. Too crippled to engage in manual labor, he worked as a clerk at the post office in Bangor and at the Kenduskeag Bank. Lawrence died in 1891.<sup>26</sup>

### The Problem of Traumatic Insult

Fifty-eight of the men discharged as disabled suffered from traumatic insult. The numbers break down as follows:

Wounds from artillery	6
Wounds from bayonet	1
Wounds from gunshot	39
Wounds from axe	3
Wounds from horses	9

Not all gunshot wounds occurred during combat. Two men suffered injuries from the accidental discharge of their weapons. James McKenney of the 2<sup>nd</sup> Maine accidentally discharged his musket while on picket duty. The bullet maimed his right hand, resulting in the amputation of two fingers. By a quirk of fate McKenney was involved in a second accidental shooting. In June 1861 he accidentally shot William Babcock, also of the 2<sup>nd</sup> Maine, while both were on picket duty. Upon being challenged by Babcock, McKenney brought his weapon to attention only to have it go off. The bullet hit Babcock just above the knee, fracturing his femur. Babcock’s leg was amputated above the knee, but he died around the first of July.<sup>27</sup>



In other cases the traumas were accidental. In December 1861 Peter Bohn of the 2<sup>nd</sup> Maine injured his left ankle with an axe while on fatigue duty. While at the time of his discharge he walked with a cane, the examining physician believed he would recover completely. Henry Neil of the 2<sup>nd</sup> Maine suffered permanent impairment to his left leg after a horse stepped on it. The lower leg was permanently hyper extended, meaning he could no longer bend or straighten it. Miles Reeves of the 1<sup>st</sup> Maine Cavalry was similarly disabled from being kicked in the hip, while Henry Rider of the 11<sup>th</sup> Maine suffered serious injuries to his liver and kidneys after being kicked by a horse.<sup>28</sup>

Most traumatic injuries occurred on the field of battle. Seldom, however, did this involve bayonet wounds. Of the forty-six men injured by deliberate trauma, only one, James Davis of the 2<sup>nd</sup> Maine, was injured by a bayonet. In July 1861 he received a wound to the right side of his head, leaving him unconscious for eight days and hospitalized until October 1861. In June and again in November 1862 Davis suffered relapses. He was finally discharged as disabled in December, suffering from partial imbecility, intermittent dizziness, fainting, and pain. Over the years his condition deteriorated, and by 1867 an examining physician noted his dizziness had become constant. Davis drew his pension last in 1869 and then disappeared from the records.<sup>29</sup>

Most of the gunshot wounds were caused by either a round musket ball or by conoidal lead ball known as a minie ball. The latter, named after French Army Captain Claude Minie, was a hollow-based projectile varying from .54 to .72 caliber. The minie ball, when shot from a rifled musket, could cause fatal wounds at 300 yards. Injuries were large, ugly, and gaping. The minie ball could shatter bones into large fragments, which in turn caused secondary lacerations.<sup>30</sup> For those hit by the round musket ball, the seriousness of the wound depended on the distance the projectile traveled. Musket balls generally came from guns that were not rifled, which decreased the effective range considerably—rarely further than 100 yards. But the lack of rifling caused problems for the wounded since the bullet wobbled during flight, often causing even larger wounds than minie balls. Wounds from artillery were equally devastating; unlike gunshot wounds the projectile usually involved a jagged metal fragment, which could cause enormous lacerations.

A number of Maine soldiers received gunshot wounds to the head. A.T. Palmer was discharged as a result of a musket ball to the skull. The injury left him totally disabled, unable to perform even the simplest manual labor. Nathaniel Roberts of the 1<sup>st</sup> Maine Cavalry was struck in

the skull by a fragment of an artillery shell. He recovered, only to be discharged due to an spinal injury when he fell from his horse after being hit by a shell. The animal subsequently stepped on him. When examined in November 1862 he could no longer walk without crutches. For all their disabilities these men were lucky to survive. A survey of forty-seven Maine soldiers with gunshot wounds to the head indicates that only twenty survived, and of this twenty thirteen were permanently disabled.<sup>31</sup>

Three men, all from the 2<sup>nd</sup> Maine, were disabled by gunshot wounds to the face. Timothy Mahoney was shot in May 1862 at the battle of Hanover Court House. The bullet hit him on the left side of the face, cutting off half his left ear. He was discharged with severe pain in the face. Charles Green was hit in the cheek at the Second Battle of Bull Run. The bullet passed down his neck and came to rest in his back. Charles Rogers, also wounded at the Second Battle of Bull Run, was hit in the right side of his face, injuring his jaw. At the time of his discharge he could not open his mouth more than half an inch. Rogers appears to have recovered since he later served as a captain with the 31st Maine. Facial wounds often proved fatal. Of sixteen Maine soldiers who suffered gunshot wounds to the face, only seven survived. None who survived were unscathed; five lost an eye, while the other two lost a number of teeth.<sup>32</sup>

Of fourteen Maine soldiers with gunshot wounds to the chest, only five survived to be discharged. William Patterson of the 2<sup>nd</sup> Maine was wounded in the chest at the battle of Fredericksburg. A piece of shrapnel from an artillery shell hit Patterson in the sternum, ripped through his right lung, penetrated his diaphragm, and came to rest in the right lobe of his liver. Despite this terrible wound, Patterson survived, and in May 1863 he was discharged as disabled. Although he never fully recovered, he returned to Bangor where he spent the next forty-six years as bailiff in the Penobscot County Courts. Patterson died in 1916.<sup>33</sup>

For ability to survive such traumas, few could match Dennis Mahoney of the 2<sup>nd</sup> Maine. He was hit by three bullets at the battle of Bull Run. The first entered the left side of his chest, passed through the left lung, and came to rest in his back; the second hit him in the sternum, passed through the liver, and also came to rest in his back; the third hit him in the right hand, fracturing a bone in his forefinger. Neither of the first two bullets were ever extracted. To add insult to injuries, Mahoney was taken prisoner shortly after the battle. He was eventually paroled, and in August 1862 he was discharged as disabled. Dr. Weston, the exam-

ining physician, noted that at the time of his discharge Mahoney suffered from pain in his legs and chest and shortness of breath. George Ferrar of the Second Maine was also wounded at the battle of Bull Run. Shot twice in the abdomen, he managed to make it to a general hospital. While there, the physicians discovered he had a scrotal hernia. Despite these problems, Ferrar left the hospital after six weeks and was discharged as disabled. Ferrar eventually reenlisted with the 7<sup>th</sup> Maine Battery of Artillery.<sup>34</sup>

Thirty of the disabled veterans suffered from bullet and shrapnel wounds to the limbs. These wounds ranged from slight to major wounds, the latter requiring removal of limbs. In uncomplicated cases the bullet or shell fragment hit only soft tissue; bones, nerves, and major blood vessels were not involved. Such wounds were dressed and left to heal by themselves, and in most cases there was little or no permanent damage. Sometimes bullets were permanently embedded in limbs. In these cases, if no major vessels or nerves were injured the bullet was left where it landed. This happened to two soldiers of the 2<sup>nd</sup> Maine. Joseph Green was shot in the arm at the First Battle of Bull Run and the bullet was embedded in the muscles. John Clements, ended up with a bullet in his right foot as a result of being accidentally shot while on guard duty. Other soldiers came away from gunshot wounds with permanent damage. Judson Rankin of the 2<sup>nd</sup> Maine was wounded in the left leg by a shell fragment at the First Battle of Bull Run. The fragment damaged the gastrocnemius muscle—the major muscle in the back of the lower leg—causing the limb to be permanently contracted. Rankin was discharged as partially disabled. Charles Cobb of the 6<sup>th</sup> Maine was shot in the foot during the Peninsula Campaign. The wound left him with a permanent limp, and he was discharged as disabled in September 1862. Clark lived until 1935 when he died at age 92. Theodore Sargent of the 2<sup>nd</sup> Maine was wounded at the Second Battle of Bull Run by a ricocheting cannon ball. The projectile hit Sargent in the right arm, crushing his radius and ulnar and dislocating his wrist. Sargent's arm was not amputated, but it atrophied over time. Nevertheless, Sargent lived until 1910. Samuel Davis of the 2<sup>nd</sup> Maine was wounded at the battle of Hanover Court House by a bullet that passed through his left arm, penetrated his chest, entered his left lung, and finally exited through his back, just below his shoulder blade. Davis was discharged in August 1862 suffering difficulty in breathing, pain in his side, and a persistent cough. Davis' left arm was permanently disabled, but he nevertheless enlisted as a sailor on the brig *O.C. Clarry*. Shortly after, he fell to his death from the yardarm. Wit-

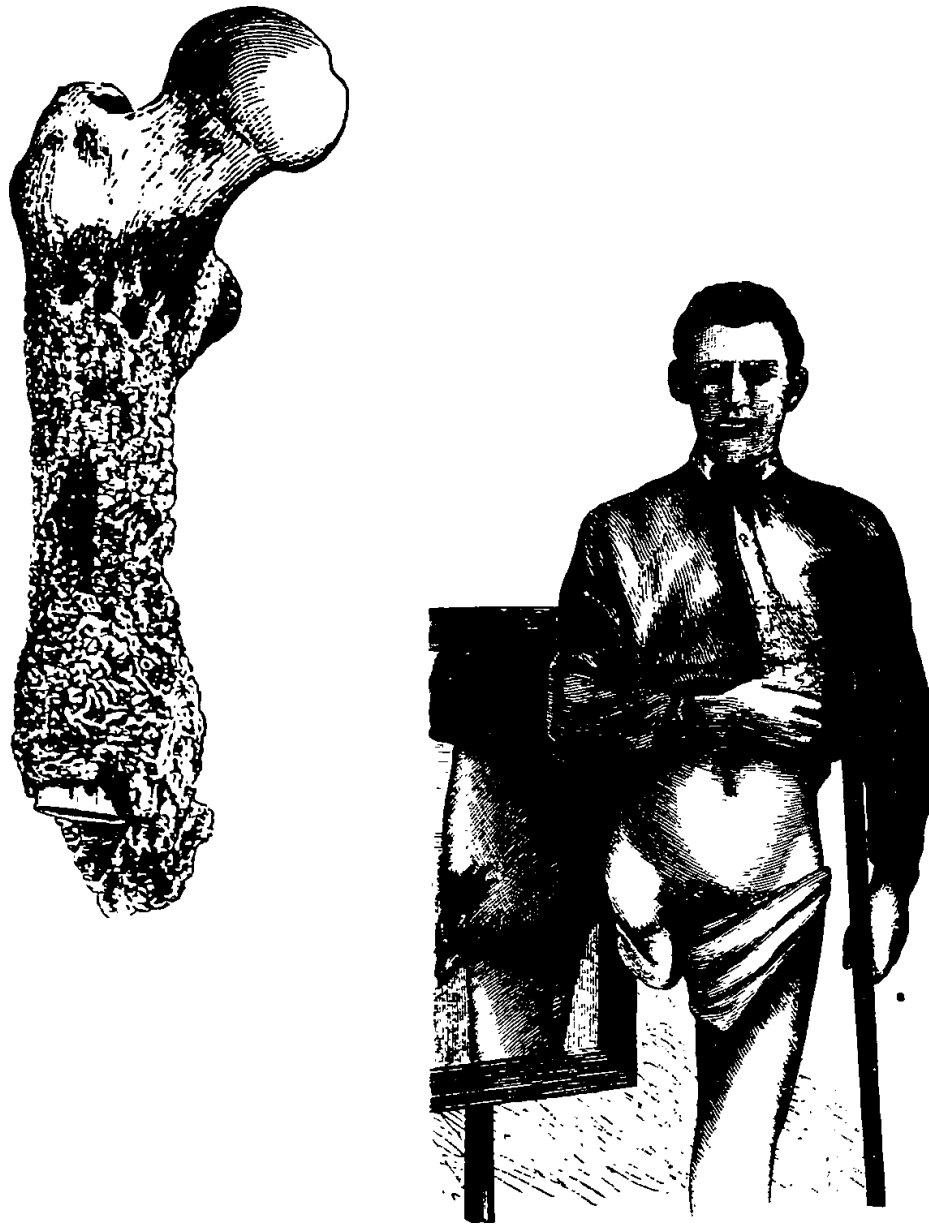
nesses claimed that his weakened left arm was probably the cause of the fall.<sup>35</sup>

If a bullet shattered a bone, the fragments could cause serious complications. The main approach to dealing with projectile-damaged bone was amputation. Even in the best times this procedure was very dangerous. Of 137 Maine soldiers who had all or part of a leg amputated, only 58 survived to be discharged. At the battle of Fair Oaks, John Whitcomb of the 11<sup>th</sup> Maine was hit by an artillery fragment that shattered his femur. He lay on the battlefield for two days before he received medical attention, and then his leg was amputated half way between the knee and the thigh. Despite this he survived to be discharged. George Randall of the Sixth Maine had his right arm amputated as a result of a gunshot wound that shattered his elbow, while William Laccab of the 22nd Maine lost a finger as a result of a bullet wound to the left hand.<sup>36</sup>

Eben Smith of the 11<sup>th</sup> Maine was wounded in the right leg in August 1864 near Deep Bottom, Virginia. Initially physicians attempted to save the leg, but by the end of August it had become swollen and was bleeding profusely. At this point the limb was amputated below the knee. An examination of the amputated leg revealed an opening or abscess in the tibia, and the bone was retained for the army medical museum. Smith did well until October when he began to hemorrhage. An attempt to tie off the femoral artery was not successful, and soon after the stump began to exude a fetid-smelling pus. In November it was opened again, and more of the femur was removed. Nevertheless, Smith's situation deteriorated and in January 1865 the stump was reopened and the rest of the femur was removed. The bone was found to be diseased (figs. 4 and 5). Smith was discharged in May 1865, and for the next two years he did reasonably well. Then in May 1867 he was admitted to the Veterans Hospital at Togus Springs in Augusta with severe pain in his stump. His health again deteriorated, and by 1874 Smith's condition was such that he was unable to sit, let alone stand.<sup>37</sup>

### Venereal Disease and Combat Fatigue

Venereal disease was common among Civil War soldiers. According to one study it affected about 82 cases per 1,000 men. If this is accurate, approximately 20 of the 260 disabled Maine veterans should have suffered from some form of venereal disease, but nowhere in these records is there any mention of syphilis or gonorrhea. This may be due in part to



Figs. 4 and 5: "Man with a Wooden Leg Named Smith." Eben Smith of the 11th Maine was wounded in the leg in August 1864. Despite repeated attempts to stop the hemorrhage and infection, Smith's condition deteriorated, and in January 1865 the stump was reopened and the rest of the diseased femur removed. By 1874 Smith was completely bed-ridden. Illustration from *The Medical and Surgical History of the War of the Rebellion*.

social attitudes, but there are plenty of advertisements in Bangor newspapers for a treatment for something known as “the itch,” a condition described as “that loathsome disorder.” Another Bangor newspaper advertised “Dr. Douglass’s Arabian Paste,” a remedy for gonorrhea. Additionally, the records of the City of Bangor physician note four cases of syphilis and five of gonorrhea in Bangor in 1852. Still, acknowledging venereal diseases did not suggest that the community accepted it. The fee table of the Bangor Medical Society for 1837 notes that treating gonorrhea cost ten dollars and syphilis fifteen dollars; in comparison child delivery cost from five to ten dollars, and amputating a forearm or lower leg, thirty. The high cost of treatment for venereal disease was probably a reflection of the contempt both the medical profession and the general population had for these conditions. There are very few descriptions of venereal disease in the official medical and surgical history, but among the records are symptoms that could easily have been caused by the gonococcus microorganism. Wesley Warrington of the 6<sup>th</sup> Maine was discharged with “chronic inflammation of the bladder,” a condition that made urination both difficult and painful. Charles Dexter, also of the 6<sup>th</sup> Maine, was discharged with an “affection of the kidneys,” a condition that caused scalding and pain during urination. William Erskine of the 11<sup>th</sup> Maine was discharged with “chronic bladder and kidney disease.”<sup>38</sup>

Last is the problem of combat fatigue. The American Civil War brought one of the first attempts to identify combat fatigue as a medical condition. It is given a specific name: Neurocirculatory Asthenia or Da Costa’s Syndrome. Named for Dr. Jacob M. Da Costa, this condition was first described not by him but by Dr. Henry Hartshorne, who, in a June 1863 presentation before the Philadelphia County Medical Society, noted a condition in soldiers involving valvular disease and dilation, cardiac palpitation, and gastric derangement. Hartshorne described this as “cardiac muscular exhaustion.”<sup>39</sup>

Da Costa was the physician that conducted the first systematic examination of the condition. While at a military hospital in Philadelphia, Hartshorne examined 200 men diagnosed with the condition. He noted 28 of these had “hypertrophy” of the heart; 136 had “cardiac irritability,” and 36 had a transitional condition between the two. The symptoms were ambiguous at best. DaCosta noted that the victims exhibited a rapid and sometimes irregular pulse, chest pains, and shortness of breath. They also complained occasionally of digestive problems. Treatment involved rest and digitalis preparations. Few men ever returned to active duty; some were assigned light duty and most were discharged.<sup>40</sup>

If microbiology was in its infancy at the time of the Civil War, cardiology was in its embryonic stages. It was only in the late eighteenth and early nineteenth centuries that cardiac failure was treated with digitalis. A derivative of the Purple Foxglove, digitalis was first developed as a medicinal compound in the eighteenth century by the English physician William Withering. One of the first individuals in the United States to employ this drug was Hall Jackson of Portsmouth, New Hampshire, who in 1790 noted its benefits in treating dropsy, an excessive fluid accumulation in the limbs usually caused by cardiac insufficiency.<sup>41</sup>

By the nineteenth century, digitalis was used on a fairly regular basis, but only when certain symptoms appeared, including edema of the limbs or trunk, shortness of breath, and purple fingers and lips.<sup>42</sup> While these symptoms were fairly definitive, many of the symptoms Da Costa noted, such as shortness of breath or stomach problems, were extremely subjective. Moreover, in an age when the only means of diagnosing diseases of the heart was a crude stethoscope—little more than a wooden tube—Da Costa's diagnosis, cardiac irritability and hypertrophy, was questionable. To his credit Da Costa took into account the possibility of other medical problems, such as malaria, typhoid fever, tuberculosis, or scurvy. What he did not consider were other heart diseases, such as rheumatic fever or coronary artery disease. Such diseases may have been in a subclinical form in certain men when they entered the army. The stress of military life in turn may have aggravated these problems, provoking the clinical signs Da Costa noted.

The records of the 17th Maine provide the names of at least nine men who died suddenly, suggesting they entered the military with organic heart problems. In several cases these men died without evidence of organic disease, and the diagnoses range from exhaustion to heart failure. In November 1862 William Hersey died suddenly after an exhausting march; apparently when the march was over he simply "laid down and died." That same month Private Alvin Marr died of "heart failure," and the following January Charles Wood dropped dead after drilling, and Moses Elliot and Francis Stuart both died suddenly of "exhaustion." Samuel Stanley and Joseph Weaver died suddenly in December 1863 and January 1864 again from "exhaustion." Last is the case of Corporal Jonathan Boothbay who in March 1863 supposedly died of "nostalgia." Three men of the 10th Maine, Ether S. Milliken, George A. Corbett, and Elbridge F. Murch, died of "heart disease," while Charles Dennett of the 29th died of "home sickness." Three men from the 2nd Maine exhibited heart problems that in 1861 led to death or discharge. Edward R. Cham-

berlain died of "exhaustion" during the retreat from the First Battle of Bull Run, and James Nicholson and Lysander Dunbar were discharged with heart problems.<sup>43</sup>

There are at least thirty cases of men who were discharged as disabled with "heart palpitations"; for many, the rapid, often irregular heart beat was a symptom of some other medical problem. W. Stillman of the 2<sup>nd</sup> Maine was discharged with chest pains and palpitations of the heart, conditions he may have acquired as a result of a barrel of meat falling on his chest. Henry Schnell was discharged in July 1961 with heart problems that supposedly came about as the result of overexertion; among his symptoms, however, were fatigue, heart palpitation, and incipient phthisis, or tuberculosis. There were other cases in which the symptoms appear to have involved organic heart disease. Albert Turner was discharged with endocarditis, an infection of the inner walls of the atria and ventricles, while Hiram Billington was discharged with dropsy, which can be indicative of congestive heart failure.<sup>44</sup>

There is little question Civil War soldiers experienced combat fatigue. It was particularly evident during Grant's 1864 campaign from the Wilderness to Petersburg. As one historian noted:

Since the beginning of this campaign the armies had never been out of contact with each other. Some kind of fighting, along with a great deal of marching and digging, took place almost every day and a good many nights as well. Mental and physical exhaustion began to take a toll; officers and men suffered what in later wars would be called shell shock. On the union side one officer observed that in three weeks men had grown thin and haggard. . . . "Many a man," wrote Captain Oliver Wendell Holmes, Jr., "has gone crazy since this campaign began from the terrible pressure on mind and body."<sup>45</sup>

For a number of Maine soldiers the stress of combat appears to have led to a nervous collapse. The cause of death for Charles C. Porter of the 10th Maine was given as "insane-drowned," while Loring Parcher of the 29th committed suicide while confined to the state Insane Asylum in Augusta. A few men were discharged with what appears to be some form of Da Costa's Syndrome. Galen Worcester and Edward Kelleher, both of the 2nd Maine, were discharged in January 1863 with heart palpitations and fainting.<sup>46</sup> Unfortunately, the symptomology for these cases is so vague as to be all but useless. In short, there is no precise way of determining which men suffered from shell shock and which had organic heart disease.



## Conclusion

The records of the 260 disabled Maine veterans found in the Bangor Historical Society provide a detailed summary of the medical and surgical problems Union soldiers suffered between 1861 and 1865. One of the first things evident in this survey is the presence, early on, of soldiers suffering from chronic illnesses like tuberculosis, rheumatic fever, lameness, or hernia. This resulted from mustering whole peacetime militia units without physical examinations. These chronic illnesses complicate our understanding of the relation between war and disease. In addition, a number of medical conditions in these reports were probably subclinical when the soldiers arrived and could not have been detected, by even the most rigorous physicals of the day. The records also indicate that many soldiers in perfect health were incapacitated before they saw combat. But the onset of disease was hardly cut and dried. Previous exposure to certain infectious diseases, such as diphtheria and smallpox, largely guaranteed that soldiers would not be afflicted with these conditions again, but in other cases, such as tuberculosis and rheumatic fever, prior exposure assured that the rigors of army life would cause these cases to become fully clinical. Over all, the record illustrates the poor state of health and hygiene that plagued the Civil War soldier—conditions as severe as the threat of battle in some cases. But the combination of war, disease, and poor hygiene leaves us with many unanswered questions, the relation between “combat fatigue,” cardiac disease, and subclinical medical problems being the most intriguing. Despite the detailed record these 260 Maine men provide, we may never know how exactly disease and warfare were interrelated in this epic point in our nation’s history.

## NOTES

1. James McPherson, *Battle Cry of Freedom* (New York: Oxford University Press, 1988), pp. 377n, 382; Paul E. Steiner. *Disease in the Civil War* (Springfield, Illinois: Charles C. Thomas, 1968), p. 9; Richard A. Gabriel and Karen S. Metz. *A History of Military Medicine*, 2 vols. (New York: Greenwood Press, 1992), vol. 2, p. 182.
2. *Instructions and Forms to be Observed by Persons Applying to the Pension Office for Invalid Pensions* (Washington, D.C.: Government Printing Office, 1861), pp. 1-5.
3. *Instructions... for Invalid Pensions*, p. 5; *Annual Report of the Adjutant General*

of the State of Maine for the Year Ending December 31, 1862 (Augusta: Stevens and Sayward, 1863), pp. 46-47.

4. *Annual Report... Adjutant General... 1862*, p. 47, appendix A, p. 17. *Constitution of Bangor Medical Association* (Bangor, Maine: S. S. Smith, 1829; revised 1837); letter, 1841, William Castein Mason Medical Scrapbook 1791-1922, vol. 1 (1791-1879), Bangor Public Library (hereafter Mason Medical Scrapbook); John Mason, medical bill, August 1861, Mason Medical Scrapbook; *Portland Advertiser*, December 18, 1846; William C. Mason, Jerrie K. Phillips, and Thomas U. Coe, *A History of the Penobscot Medical Association* (Bangor: privately printed, 1898), p. 64.

5. *Records of Disabled Veterans*, Bangor Historical Society (hereafter *Rec. Dis. Vet.*), p. 87.

6. This last category involved problems like measles, typhoid fever, diphtheria, mumps, cirrhosis of the liver, epilepsy, deafness, and blindness.

7. *Bangor Whig and Courier*, April 23-30, 1861; *Annual Report ... Adjutant General... 1862*, appendix H, p. 21.

8. *Rec. Dis. Vet.*, pp. 2, 9, 13, 25, 32-36; *Bangor Whig and Courier*, August 11, 1837.

9. *Bangor Daily News*, September 12, 1912; James Mundy, *Second to None: The Story of the Second Maine Volunteers* (Scarborough, Maine: Harp Publications, 1992), pp. 80-81.

10. Examination Form, October 1861, Bangor Historical Society; *Rec. Dis. Vet.*, pp. 16, 82. *Bangor Whig and Courier*, July 23, 1861. For a discussion of medical history of the Civil War, see also Mundy, *Second to None*; and James H. Mundy, *No Rich Men's Sons: The Sixth Maine Volunteer Infantry* (Cape Elizabeth, Maine: Harp Publications, 1994).

11. McPherson, *Battle Cry of Freedom*, pp. 485-87; *Rec. Dis. Vet.*, pp. 56, 89.

12. *Bangor Whig and Courier*, November 4, 17, 23, October 30, December 17, 28, 1861, January 2, 4, 1862; Jabez Fitch, *An Account of the Numbers That Have Died of the Distemper of the Throat Within the Province of New-Hampshire* (Boston: Eleazer Russel, 1736); J. Dickinson, *Observation on That Terrible Disease Vulgarly called The Throat-Distemper* (Boston: T. Green, 1740); *Medical and Surgical History of the War of the Rebellion*, three parts (Washington, D.C.: Government Printing Office, 1877; hereafter *Med. Surg. Hist.*), part 3, Vol. 1, pp. 738, 742.

13. *Med. Surg. Hist.*, part 3, vol. 1, p. 742.

14. *Rec. Dis. Vet.*, pp. 82, 97.

15. Ola Elizabeth Winslow, *A Destroying Angel: The Conquest of Smallpox in Colonial Boston*. (Boston: Houghton Mifflin, 1974), pp. 72-93; Donald R. Hopkins, *Princes and Peasants: Smallpox in History* (Chicago: University of Chicago Press, 1983), pp. 248-54; *Eastern Herald*, September 3, 1792.

16. That this occurred is best reflected in an epitaph for fourteen-year-old Jonathan Tute, who died of smallpox in Vermont in 1777:

Behold the amazing alteration  
Effected by Inoculation  
The means employed his life to save  
Hurried him headlong to the grave.

See: Thomas C. Mann and Janet Greene, *Over Their Dead Bodies. Yankee Epitaphs and History* (New York: Barnes and Noble, 1993), p. 42.

17. *Bangor Register*, June 3, 17, 1819; *Portland Gazette*, April 20, 27, May 4, 1824; *Maine Farmer* 16 (January 20, 1848): 5; John D. Blaisdell. "Hardly the Best of Times: The Practice of Medicine on the Maine Frontier." *Maine History* 35 (Winter-Spring 1996): 116-119.

18. William B. Jordan, Jr. *Red Diamond Regiment: The 17th Maine Infantry, 1862-65*. (Shippensburg, Pennsylvania: White Mane Publishing Company, 1996), pp. 284, 370; *Annual Report... Adjutant General... 1864-1865*, vol.1, p. 331; John J. Pullen, *The Twentieth Maine* (Philadelphia: J. B. Lippincott Company, 1957), p. 74; Alice Rains Trulock, *In The Hands of Providence. Joshua L. Chamberlain and the American Civil War* (Chapel Hill: University of North Carolina Press, 1992), pp.110, 460n; Steven S. Sears, *Chancellorsville* (New York: Houghton Mifflin Company, 1996), p. 133; *Rec. Dis. Vet.* p. 101; Edward P. Tobie, *The History of the First Maine Cavalry* (Boston: Emery and Hughes, 1887), p. 589.

19. *Med. Surg. Hist.*, part 1, vol. 1, p. 646.

20. *Rec. Dis. Vet.*, pp. 27, 46, 50, 83, 95.

21. Augustus A. Gold. "Climatology of Consumption" *Boston Medical and Surgical Journal* 69 (September 10, 1863): 110; *Bangor Whig and Courier*, August 5, 1851, April 15, 1861; René and Jean Dubos, *The White Plague* (New Brunswick, New Jersey: Rutgers University Press, 1987), pp. 104-109; *Med. Surg. Hist.*, part 3, vol. 1, p. 819.

22. Bell T. Wiley, *The Life of Billy Yank* (New York: Book of the Month Club, 1994), p. 124.

23. *Rec. Dis. Vet.*, pp. 102, 112, 115, 104, 140.

24. *Med. Surg. Hist.*, part 3, vol. 3, pp. 117, 337, 384; Army Medical Museum, Specimen no. 420.

25. *Med. Surg. Hist.*, part 3, vol. 3, p. 829. See John M. Gould, *History of the First—Tenth—Twenty-Ninth Maine Regiment* (Portland, Maine: Steven Berry, 1871), p. 334.

26. *Rec. Dis. Vet.*, pp. 83.

27. *Rec. Dis. Vet.*, p. 43; *Bangor Whig and Courier*, July 6, 1861.

28. *Rec. Dis. Vet.*, pp. 19, 34, 42, 48; Tobie, *History of the First Maine Cavalry*, p. 654.

29. *Rec. Dis. Vet.*, p. 14; *Med. Surg. Hist.*, part 1, vol. 1, p. 30.

30. Gregory A. Coco, *A Strange and Blighted Land: Gettysburg, the Aftermath of*

*the Battle*. (Gettysburg, Pennsylvania: Thomas Publications, 1995), pp. 163-64.

31. *Rec. Dis. Vet.*, pp. 3, 99; *Med. Surg. Hist.*, part 1, vol. 1, pp. 44-286.

32. *Rec. Dis. Vet.*, p. 91, 96, 106; *Med. Surg. Hist.*, part 1, vol. 1, pp. 330-362.

33. *Med. Surg. Hist.*, part 1, vol. 2, pp. 475-587; *Rec. Dis. Vet.*, p. 119.

34. *Rec. Dis. Vet.*, pp. 58, 107.

35. *Rec. Dis. Vet.*, pp. 21, 38, 44, 62, 79, 109, 127.

36. *Rec. Dis. Vet.*, pp. 78, 93, 159.

37. *Med. Surg. Hist.*, part 3, vol. 2, p. 155.

38. Thomas P. Lowry, *The Story the Soldiers Wouldn't Tell* (Mechanicsburg, Pennsylvania: Stackpole Books, 1994), p. 104; *Bangor Weekly Register*, April 26, 1817; *Bangor Whig and Courier*, March 31, 1852; Constitution of Bangor Medical Association, Adapted 1829—revised 1837 (Bangor: S. S. Smith, 1837); *Med. Surg. Hist.*, part 3, vol. 1, pp. 891-893; *Rec. Dis. Vet.*, p. 40.

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42. Blaisdell, "Hardly the Best of Times," pp. 113-114.

Jordan, *Red Diamond Regiment*, pp. 24, 38, 290, 293, 339, 357, 372; Gould, *History of the First—Tenth—Twenty-Ninth Maine Regiment*, pp. 333, 335, 638; *Annual Report... Adjutant General... 1861*, pp. 74, 98.

43. *Rec. Dis. Vet.*, p. 13, 23, 61, 77.

44. McPherson, *Battle Cry of Freedom*, p. 734.

45. Gould, *History of the First—Tenth—Twenty-Ninth Maine Regiment*, pp. 336, 642; *Rec. Dis. Vet.*, pp. 113, 114.

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