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Welcome to the newest installment of the *AMEDD Historian*! The focus of this issue is medical support of the Army during conflicts with Native Americans in the Northern Plains. The Army, and more specifically medical personnel, operated in a diminished capacity after the Civil War. Attached to frontline units and garrisoned at frontier posts, their war was very different. Not only were the weapons, scale, and styles of fighting different, but also the causes for conflict. Territory and settlement led federal interests, while Native American tribes and bands battled for their existence.

Lewis Barger sets the tone providing an encompassing overview of the area, belligerents, and events. From this introduction one is able to delve into the subsequent articles with a greater understanding. A running theme for several of the articles is the Battle of the Little Big Horn. Background information on the battle and medical support are highlighted, but also intriguing is a medical kit owned by Assistant Surgeon George E. Lord. Lord was serving in the 7th Cavalry when he was killed in the battle. His surgical kit was recovered the next day.

“Scotty” Knight provides two great articles on both frontier doctors and their facilities. His articles demonstrate some of the challenges and injuries that these physicians faced. The Hospital Steward and their place in the Army is described by John Haymond. Haymond lists the qualifications for these early medical enlisted Soldiers and their elite qualities. MAJ Johnny W. Sanders considers the medical systems of the
(continued on page 23)

The Northern Plains Indian Wars: An Overview Lewis Barger, historian, ACHH

Indian Wars Campaign Streamer. All fourteen campaigns of the Indian Wars (1790-1891) use the same streamer with the particular campaign embroidered.

On the morning of November 29, 1864, Colonel John Chivington watched two Colorado Volunteer Cavalry Regiments, under his command, attack a village of Southern Cheyenne and Arapaho on the banks of the Big Sandy Creek in eastern Colorado. The Indians were taken by surprise, not least because they had recently surrendered themselves to federal authorities. The warriors who refused to surrender had already left camp; those remaining, mostly women and children, were cut down indiscriminately. Afterwards soldiers looted, scalped, and mutilated corpses.

Atrocities were not unique to the Army. Two years earlier the Dakota, a branch of the Sioux, had gone to war in Minnesota and Dakota Territory killing hundreds of settlers and visiting horrors on the living and the dead. Over 40,000 fled their homesteads as fear gripped the region. In Colorado, local Indian depredations were magnified and unrelated incidents were attributed to hostile natives. The public demanded the Indians' expulsion or extermination. With most of the Army busy fighting the Civ-

il War, the task fell to local volunteers who were all too eager to comply. Chivington had joined the volunteers and fought Confederates at Apache Canyon and Glorieta Pass before being placed in command of the District of Colorado. Despite little evidence that the Indians were planning to go to war in Colorado, Chivington and the territorial Governor were determined to preemptively eliminate the Indian threat, and in doing so, precipitated that which they feared. (Sioux is an umbrella term for thirteen distinct groups of people, organized politically into seven councils and linguistically into three dialects of the Siouan language.)

Before the Sand Creek Massacre, Northern Plains Indians had spent more time fighting each other than whites. Partly, most whites were more interested in crossing the Great Plains than stopping there. Increasingly, though, settlers were establishing farms on the plains. The 1862 Homestead Act opened up public lands in the west so settlers could gain title to 160 acres. The Pacific Railroad Act facilitated building rail lines connecting the east and west coasts. Settlers, prospectors, and railroad surveyors invaded lands the Plains Indians considered theirs by right of conquest and through treaties established with the U.S. government. The Sand Creek Massacre convinced the Indians of the northern plains, principally the Cheyenne, Arapaho, and Lakota Sioux, that the white man could not be trusted and they would have to fight to preserve their traditional way of life.

The Plains Indians were excellent horsemen and one for one, far more skilled at battle than the average American soldier, but the Indian approach to war was far different than the Army's. Indians valued independent displays of courage and honor over discipline, and fought battles rather than waging campaigns. Early in the Plains Wars Indians were armed primarily with clubs, lances, bows, and arrows; later they would obtain rifles as good as (or better than) the Army's. The Army was less mobile than Indian warriors and less familiar with the territory. Ammunition was in short supply and most soldiers had little opportunity to practice their marksmanship. Northern Plains Indians were nomadic. Bringing Indians to a decisive battle proved difficult. The Army's most successful strategies relied on co-opting Indians to act as scouts, destroying Indian winter encampments, denying them of food, ponies, and lodges, and forcing them to decide between the reservation and starvation.

Responding to Sand Creek, a confederation of Cheyenne, Lakota, and Arapaho spent several months in 1865 raiding along emigrant trails in Nebraska, Colorado, and Wyoming. The Army, with troops newly freed by the end of the Civil War, planned to mount a three-pronged expedition, but expiring enlistments and desertion reduced available troops from 12,000 to 3,000. One column eventually departed to find the Indians. The Army engaged in a few inconclusive skirmishes, largely started and ended by the Indians. By the time the column returned to its post the only lesson they had taught the Indians was that the Army represented no serious threat, reinforcing Indian resolve to keep the whites off their lands.

The Bozeman Trail opened in 1863 as a cutoff from the Oregon Trail and ran straight through Indian hunting grounds stretching from the Black Hills to central Wyoming. In early 1866 Major General William T. Sherman ordered two posts built to help secure the Bozeman trail, Forts Phil Kearny and C.F. Smith. The Indian Bureau, the government agency with the responsibility to treat with non-reservation tribes and oversee those on the reservations, opened a conference at Fort Laramie to convince the Indians to permit emigrants to pass over the Bozeman Trail. The Indian Bureau promised the chiefs, including Lakota Chief Red Cloud, that the Army had no intention of entering into the territory. The deception was revealed when a battalion of infantry passed through Fort Laramie on its way to build the forts Sherman had ordered. Red Cloud was furious and determined to drive the soldiers from Indian lands.

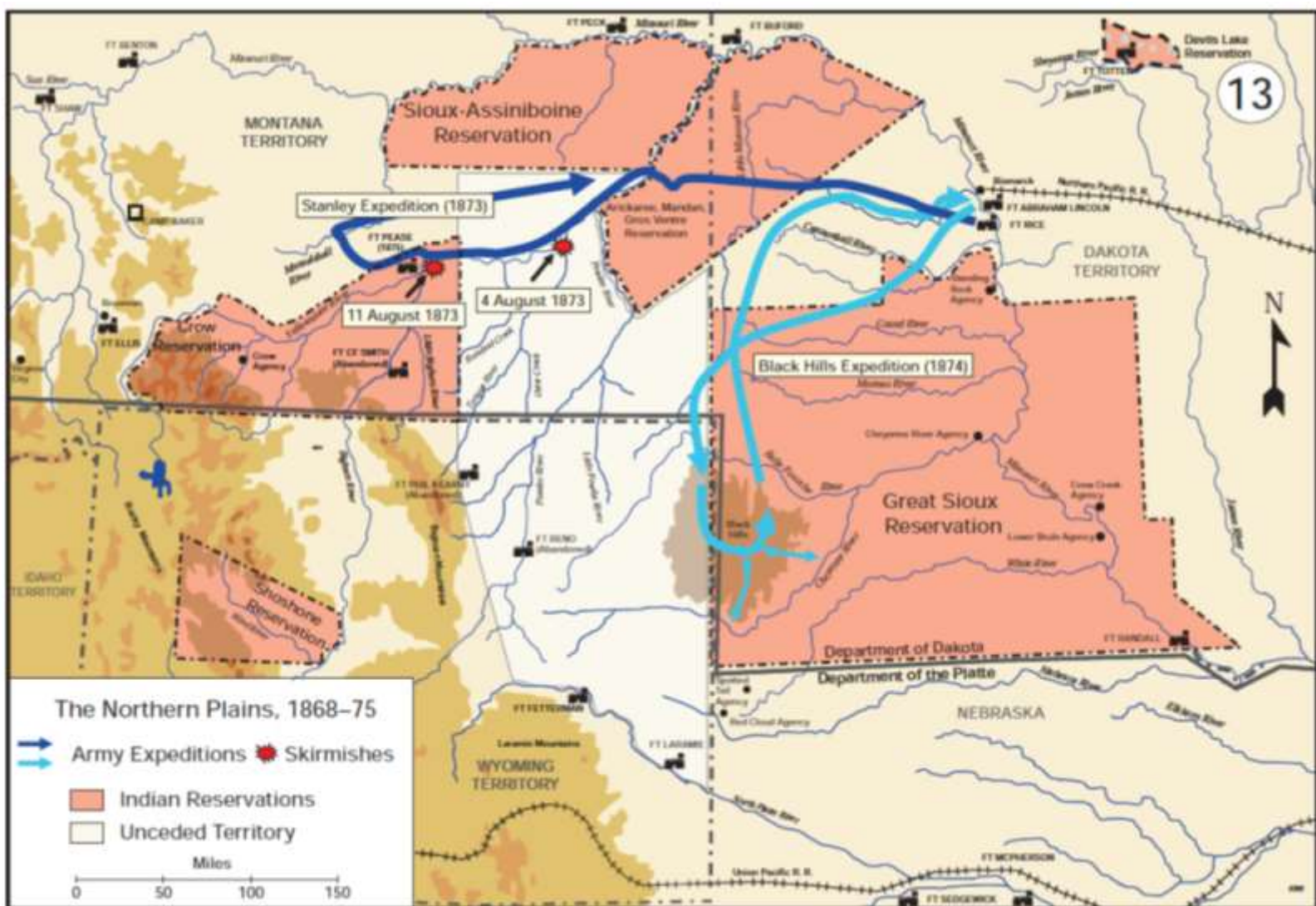
In July 1866, Red Cloud's band began attacking wagon trains and forts along the trail. The attacks on the forts accomplished little, but the attacks on civilians effectively closed the trail to white traffic. In December, after a series of skirmishes near Fort Phil Kearny, Red Cloud's forces succeeded in luring a combined force of infantry and cavalry under Captain William Fetterman into pursuing a small band of attacking Indians away from the fort. Three officers, seventy-six enlisted soldiers, and two civilians chased the Indians a few miles north of the fort, following a low ridge. On either side of the ridge hundreds of Sioux, Northern Cheyenne, and Arapaho waited to spring a trap. Forty minutes later, no white men remained alive on the battlefield. Victorious, the Indians withdrew after stripping and mutilating the bodies.

The Fetterman Massacre embarrassed the Army and Sherman planned a major campaign to punish the Indians the following year, but the Doolittle Commission, chartered by Congress to investigate the Sand Creek Massacre issued a report, *The Condition of the Tribes*, weeks after Fetterman's ill-fated mission. The report blamed Indian-white hostility on a number of factors: whites were encroaching on Indian territories,

regardless of treaties; governmental agents dealt unfairly with the Indians; dishonest traders took advantage of the Indians and provided cheap whiskey that led them on the path to dissipation. Indian culture was being wiped out by the inexorable march of whites moving across the continent. The only way to save the Indians was to teach them white ways, transform them into farmers, and remove them far from areas whites were occupying. The government concurred, and established another commission to end Red Cloud's war without further fighting.

Red Cloud was not yet ready for peace. The Indians following him disagreed about where best to strike next and 1,000 Lakota headed back to Fort Phil Kearny while about 700 Cheyenne warriors struck out for Fort C.F. Smith. At both locations Indians attacked work parties outside the forts, but the Army was better prepared and mounted effective defenses at both locations. The following spring the government decided that it was preferable to accede to Red Cloud's demands than try and force the Northern Plains Indians to yield. In 1868 Red Cloud came to Fort Laramie where he was offered closure of the Bozeman Trail, abandonment of the Army's forts along the trail, guarantee of a huge reservation for the Lakota in Dakota Territory, provision of food for the Indians for thirty years while they learned to farm, and preservation of a large area of non-reservation lands in Montana and Wyoming west of the reservation as the Unceded Territory, a hunting area, closed to white settlement without prior Indian approval. Red Cloud agreed to the terms, and his war ended.

For a few years, the Northern Plains Indians lived in relative peace and isolation. They had no intention of becoming farmers, but some did spend the majority of their time on the reservation. Some of the Lakota refused to accept Red Cloud's treaty and live on the reservation, continuing their nomadic life in the Unceded Territory. (See map below, courtesy of the Combat Studies Institute.) In the summer, some reservation



Indians travelled to the Unceded Territory to hunt, returning to the reservation in winter. This group came to be known as 'summer roamers' while the Indians that remained off the reservation throughout the year came to be known as 'winter roamers,' or non-treaty Indians. Most significant among the non-treaty Indians was a Hunkpapa-Lakota war chief known as Sitting Bull.

In the summer of 1873, Lieutenant Colonel George Custer and his 7th Cavalry were assigned to guard a team in the Yellowstone River valley surveying for the Northern Pacific railroad. Despite promises that the Unceded Territory would be preserved for the Sioux, the Northern Pacific was planning a route across it. In August, Custer and a cavalry detachment encountered a war party sent from Sitting Bull's village. The engagement lasted several hours and while casualties were low, the Indians displayed an unusual determination to continue the fight, ending only when eight companies from the 7th arrived to relieve the small force. The results of the battle were tactically insignificant, but railroad investors pulled their money out. That company's collapse was one of the factors initiating the financial panic of 1873 that resulted in a six-year economic depression in the United States. The depression, in turn, left many unemployed, and many of those emigrated to the West to start a new life, increasing pressure on Indian lands.

In 1874, President Ulysses Grant dispatched Custer and the 7th Cavalry to the Black Hills in the Great Sioux Reservation to scout a site for a military post. Custer brought prospectors who reported finding gold, and newspapers announced their finds prompting whites to begin rushing to Lakota territory to make their fortunes. Although the Army was obligated to keep them out, there was little they could do, and in the East vocal demands to strip the Black Hills from the Lakota's territory grew.

Grant attempted to talk the Indians into giving up the Black Hills. They refused. He threatened to quit supplying them with food on the reservation. Again they refused. Grant appointed a commission to try and purchase mining rights from the Lakota. Still, the Indians refused. In November 1875 Grant determined that if the Indians could not be reasoned with, then force would be used to compel them, and he would start with the non-treaty Indians, believing they who clung most closely to their old way of life were bullying the reservation Indians.

In December, the Indian Bureau demanded Sitting Bull (and the other non-treaty bands) report to the reservation by the end of January or they would be considered hostile. The Indians replied that they would meet on the reservation once winter ended and they were no longer snowbound. A week after the January 31 deadline passed, Major General Philip Sheridan, who had replaced Sherman as commander in the west, ordered a campaign against the non-treaty Indians. The Army's winter operations served only to alert the Indians of the danger, without accomplishing any of the objectives. That spring, more summer roamers than usual joined the non-treaty Indians, swelling their numbers, expecting a fight.

Sheridan intended to meet the Indians' expectations. In June, three expeditions departed from forts east, west, and south of the Unceded Territory with instructions to converge on and compel the non-treaty Indians to move to the reservations. On June 17th, Brigadier General George Crook, marching from the south, was the first to make contact at Rosebud Creek. A six-hour fight ensued and despite low casualties (11 dead, 26 wounded) Crook flirted with disaster until a squadron sent to scout for the Indian's village returned to flank the Indians, who broke off their attacks. Crook claimed victory, but had lost the will to fight, withdrawing to his supply base and calling for reinforcements. Word of Crook's battle, the Indians' tenacity and numbers, and Crook's removal from a position where he could support the other columns would not reach Brigadier General Alfred Terry until the end of June. By that time, Terry's subordinate, George Custer, would lie dead with much of his command.

Eight days after the Battle of the Rosebud, the 7th Cavalry rode into the valley of the Little Bighorn. Custer split his regiment into four elements with part of his command directly attacking the enormous Indian village they encountered while the main element, under Custer, moved to flank the Indians. Much of Custer's plan is reconstruction and conjecture, but the result, 268 cavalry troopers and 6 Indian scouts killed, was the worst defeat suffered by the Army during the Indian Wars.

The nation was shocked. The government was outraged. Congress passed the Sioux appropriation bill, requiring the Sioux to renounce their claims to much of their land and report to reservations on the Missouri River. Little Big Horn was an unqualified victory for the Lakota and Cheyenne, but it solidified the government's resolve to see either the remaining non-treaty Indians confined to reservations or annihilated. General Sheridan transferred Colonel Nelson Miles, a tenacious fighter, to General Terry's command.

After the battle, the Indian village split into several bands, heading for different areas for their summer hunt.

Over the following months the Army would systematically engage and defeat the bands of Indians, forcing them onto reservations largely by destroying their villages and the stores they needed for the winter. Sitting Bull, however, remained unbeaten. In October, Miles had warned Sitting Bull that if he refused to report to the reservation, he would pursue him throughout the winter. Sitting Bull didn't, and Miles did. After scouring the countryside for Sitting Bull's village, an element of Miles' command found it, with most of the warriors out hunting. A brief fight ensued, and the Indians were able to escape but lost their lodges, food stores, and some of their ponies. Eventually, faced with the impossibility of continuing non-reservation life on Sioux lands, Sitting Bull's group retreated north, crossing the border into Canada in May 1877. They would surrender four years later.

In 1890, the Lakota practitioners of a new religion, the Ghost Dance, promised an Indian messiah who would remove the whites, permitting a return to the old ways. The faithful, through ritual and the wearing of Ghost Shirts, would be protected from any harm. Although the Indians weren't taking any hostile action, the Ghost Dance rituals renewed white fears. The Indian Agent called for troops to come and preserve order. Indians, seeing troops arrive, began fearing retaliation. Many left the reservation, or headed for the Pine Ridge, SD, reservation where Ghost Dancers had been concentrating. Nelson Miles, now a Major General, employed a carrot and a stick. He increased food deliveries to the reservations, but surrounded the reservations with eight regiments of infantry and cavalry. Most of the Indians who had left the reservation returned. The 500 or so who held out were busy dancing.

Sitting Bull had adapted to reservation life, but continued to reject white values and cultural assimilation, and encouraged his tribe to practice the Ghost Dance. He planned to visit the off-reservation Ghost Dancers, but on December 15th the Indian Agent sent agency police to arrest him. A scuffle ensued and one of the police shot Sitting Bull, whose supporters scattered. Some went to the camp of Chief Big Foot of the Miniconjou tribe. Big Foot had been an early supporter of the Ghost Dance, and although his ardor had waned, he was on Miles' list of instigators. When Big Foot started moving his camp towards the Pine Ridge reservation, Miles ordered subordinates to take him and his followers into custody. The 1st Squadron, 7th Cavalry was sent to intercept the Indians. Meeting the Indians on December 28th, Big Foot, gravely ill with pneumonia, agreed to accompany the soldiers to Wounded Knee on the reservation. Late in the day, the 2d Squadron of the 7th Cavalry arrived to assist the 1st with disarming the Indians.

On the morning of the 29th the Indians awoke surrounded by eight troops of cavalry supported by four light artillery pieces. While arguing over surrendering their weapons, a medicine man began a solo Ghost Dance. When he was finished, the dance was taken up by a deaf Indian, who raised a hidden rifle. When three cavalry troopers attempted to take it from him, he fired a shot into the air. Immediately, other warriors pulled out weapons hidden under their clothes and began firing into the cavalry between them and their village, shooting some of their own people in the process. The two forces rapidly intermingled and fought hand-to-hand. Military discipline broke down and cavalrymen pursued and shot down men, women, and children attempting to flee. Some Indians managed to escape. The following day the 7th Cavalry skirmished again with Lakota several miles west near Drexel Mission on White Clay Creek. The timely arrival of 9th Cavalry troopers enabled the combined forces to drive the Indians off, ending the Army's last battle with the Northern Plains Indians.

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AMEDD Museum to get Surgical Kit from the Little Big Horn

On June 25, 1876, Lt. Col. George Armstrong Custer led the 7th Cavalry against a combined force of Lakota, Northern Cheyenne, and Arapaho tribes in the Battle of the Little Big Horn. By the end of the day, of the 700 men of Custer's command, 286 were dead on the field and another 55 were severely wounded. Custer and the 210 men he personally led into battle were all killed including Assistant Surgeon George E. Lord. Lord's surgical kit would be recovered in the Indian village the next day and sent to the U.S. Army Medical Museum where it remained until 1917, when it was deaccessioned and sold. Thanks to the generosity of the AMEDD Museum Foundation, Lord's surgical kit is coming back to the Army.

Assistant Surgeon Lord was born in 1846 in Brunswick Maine and graduated from Bowdoin College. By 1875 he had already served in several western outposts before being assigned to the 7th Cavalry in January. Although Lord was ill that day, he chose to accompany Custer and his five companies when they attacked the tribal village. Although initially listed as missing in action, his body was thought to have been found based on clothing and general appearance. Three months after the battle he status was changed to killed in action and in 1890 a grave marker was placed on the field bearing his name.

This artifact is a rare physical remnant of the tragic defeat of the 7th Cavalry. It is also a reminder of the courage and selfless service provided by Assistant Surgeon Lord and all of his fallen comrades.



Army Doctors During the Indian Wars

By G. Alan Knight

The Indian Wars involved Army operations on the frontier prior to and after the Civil War. The Army's principal responsibility was subduing Indians who threatened white settlers and opposed their relentless efforts at westward expansion.

Many medical officers served for long stretches of the Indian Wars, and medical knowledge changed markedly during the decades. While the Army sought well-trained surgeons, with those standards changing, many of the older practitioners lacked the improved medical school training found after the Civil War. The focus of this essay is on frontier garrison medical care after the Civil War.

"Duties of the soldiers, usually cavalry or infantry, were frequently unpleasant, requiring control of Indians who were understandably suspicious of the ever-more-numerous white settlers. The Army housed in these isolated frontier garrisons was underpaid, poorly appreciated, wretchedly housed; an army taught to obey, not given to unnecessary worry, but admirable for its cheer, its gallantry, and its ability to be happy under adverse condition." This quoted writer may have painted too rosy a picture; the rate of enlisted desertions during the Indian Wars period was significant. Most officers were Civil War veterans, many of whom had held significant commands in the conflict. Many of the company officers were former colonels or generals. Promotions proceeded at a glacial pace. The style of warfare was for the most part quite different from that of Civil War, involving countless small unit actions combating the guerilla warfare tactics (hit and run, ambushes) employed by the Indians, rather than major battles involving divisions, corps, and armies. The U.S. Army of the Indian Wars period was a small force of career soldiers, many with numerous years of service. Since it was a small force, and the area of responsibility large, it was widely dispersed, with many frontier garrisons only one or two company posts.

How did the Civil War experience of providing care for the sick and wounded impact the practice of medicine at the frontier posts? The war provided extensive surgical experience to those medical officers who had served during the conflict and stayed in the Army. However the role of germs was not yet well understood until the findings of Robert Koch were published in the late 1880s. New technology had begun to emerge. The clinical thermometer, though invented long before the war, came into general use after it, as did the hypodermic syringe. Before 1873, the retinoscope, ophthalmoscope, laryngoscope and rhinoscope had provided new diagnostic tools, though few of these were available in frontier garrisons. The microscope was more and more widely used, even in hospitals on the frontier. George Sternberg would write textbooks on microscopy technique based on his work in frontier



forts. In the post-Civil War years the major diseases were the same as in the pre-war period, a variety of cures were attempted, but the success rate continued to be variable. Sanitation was recognized as effective in preventing many diseases, but just why was still unclear. Personal cleanliness, cleanliness in the hospitals, water purification, proper ventilation, proper use of disinfectants and quarantines were all applied. However, dreaded diseases such as yellow fever continued to be a national problem, and were not appreciably ameliorated by the use of quarantines and other sanitary measures. After the Civil War, medical education gradually improved and generally produced more knowledgeable physicians. What about the Army's physician selection process? Since the 1830s the AMEDD had stringent entrance examinations for physicians seeking appoint-

An Army surgeon during the Indian Wars with his trusty mount. Note the cartridge belt.

ment.

ment in the Medical Corps. Major figures in AMEDD history such as Leonard Wood and Bailey K. Ashford, initially appointed during the Indian Wars period, commented on the difficulty of the examinations and the high failure rate. In both cases, they actually thought they had failed. All who passed the examinations were graduates of reputable medical schools. Appointment was as an assistant surgeon, with rank as a cavalry first lieutenant for their first three years of service. Subject to existing promotion criteria, those who remained in the service could expect to be advanced to a captaincy, and eventually, to becoming a surgeon with the rank of major. In 1868 the monthly salary for a newly-appointed assistant surgeon was \$120.83, later raised to the princely sum of \$215, whereas a surgeon with ten years of service earned \$215.00 per month.

While there certainly were some medical officers, both commissioned and contract, who contributed to the negative stereotype, they, seem to have been the exception. The majority were men of education and refinement. Why then did some men seek Medical Corps appointments or, if Civil War veterans, remain in uniform? Some desired to not, as one said, "make a business out of medicine." The opportunities for research were there for the surgeon who, even in an isolated frontier garrison, often had time to engage in research, medical and non-medical. Surgeon Elliott Coues was detailed to work at the Smithsonian, but eventually resigned from the Army to focus on his interest in ornithology. Others were simply drawn to Army life, some even from childhood. The stories and encouragement of hometown practitioners who had served in the Civil War undoubtedly inspired some young men to study medicine and seek Army appointment. Other physicians were simply tired of civilian practice or, like Leonard Wood (later the Army chief of staff) found himself unable to develop a profitable practice. George M. Sternberg, an eventual Surgeon General, stayed on after his wartime service, as did John Shaw Billings. William C. Gorgas, another future Surgeon General, entered the Army after studying medicine following his failure to obtain an appointment to West Point. All these men and many others whose names are unrecognized today served in the frontier posts of the Army through the 1880s. The relative isolation at the many frontier garrisons took its toll on some, and alcohol abuse also played a part, as it did with officers and enlisted men of the line units. Among many of the commissioned surgeons, many of whom were older, married, and with families, there was a tendency to seek reassignment after two or three years as the isolation impacted them and their families. However others routinely rotated from post to post on the frontier during lengthy careers.

Failing the examination did not necessarily mean that a candidate was so deficient as to be unworthy of providing medical care for the troops. Some of those physicians sought and were granted contracts as "contract surgeons," which was also a step-stone towards a commission if there were no vacancies in the Medical Corps. However it is important to note that most contract surgeons, titled "acting assistant surgeons," were engaged in civilian medical practice when they received their contract. The majority were professionally trained, often from the better medical schools. There were a number who sought Army experience as a contract surgeon prior to deciding to apply for appointment and subject themselves to the rigorous examination. Others were simply hired because of need at a given post, camp or station. In many of the departments, such as the Dept. of Arizona, contract surgeons filled most of the military medical needs. From the end of the Civil War until the early 1890s, a very parsimonious Congress repeatedly limited and reduced the strength of the Medical Corps. In 1875, even the end-strength of contract doctors was reduced to 75.

Unfortunately acting assistant surgeons were especially distrusted by many line officers, sometimes with reasonable grounds for their view. Acting assistant surgeons also labored under the disadvantage of having no rank, being neither commissioned nor enlisted. That they survived in such large numbers during the Indian Wars period is a result of the Medical Corps being so small. Most were paid at a salary of \$100 per month, plus receiving fuel and quarters. At the larger frontier posts, it was not uncommon to find a regular Army surgeon and a contract surgeon. It was generally the contract surgeons who were sent into the field on campaign or to accompany scouting missions.

Acceptance of these contract surgeons by their commissioned peers varied from complete acceptance to distrust. In 1872, the Arizona Department's medical director, Surgeon Elisha Baily, was generally dubious of contract surgeons, placing eight on a "black list" to renewing contracts. Yet he described Dr. William H. Ensign, a New York University graduate who had served at Fort Whipple, AZ and Camp Date Creek, AZ, as "a jolly gentleman who was sorely missed after his transfer from Prescott owing to his jovial disposition; he was as good as two brass bands, a circus, a theatre, and opera troupe." Despite his recorded antipathy toward contract surgeons, in 1872 Surgeon Baily, assisted by acting assistant surgeons H.M. Matthews and H.H. Davis, removed an encephaloid tumor weighing one and a half pounds from the shoulder of a private citizen at

the Fort Whipple hospital, the Army facility that was the only one in what was then an isolated frontier area.

How were surgeons viewed by their fellow officers? Gen. Tasker H. Bliss, originally commissioned in 1875 (and briefly the Army's Chief of Staff), was asked about the status of medical officers in the opinion of the line officers of the seventies. He said, "To tell you the truth, most of the line did not regard them highly, and it was a common saying that they had nothing to do but to confine laundresses and treat the clap."

The typical post surgeon, whether commissioned or contract, found the practice of medicine was an isolated experience. While at some posts he might have one or two colleagues with whom he could consult, he was usually solely dependent on his own knowledge, the assistance of a hospital steward, and until arrival of trained graduates of the newly established Hospital Corps late in the Indian Wars period, untrained and often unwilling soldier orderlies.

Two developments proved helpful. In 1885 the introduction of the monthly sanitary report and shortly after, the establishment of the Hospital Corps (1887) significantly impacted both the sanitary conditions in posts and the care of the sick and wounded in hospitals. Prior to introduction of the report, medical officers all too frequently had difficulty getting the support of unit and post commanders to improve post hygiene and have substandard hospitals upgraded to improve patient care. The report's contents and the designated recipients gave a post surgeon a needed credibility and in a number of instances, but not all, led to approval and implementing the recommended changes. The short life of many posts, camps, and stations in the period as the Indian menace gradually subsided and the frontier moved made the government reluctant to appropriate more than minimal funds for medical facilities at frontier posts.

The majority of frontier posts were geographically isolated. As a result, an Army surgeon was often the only source of treatment available in a wide area. Surgeons provided care not only to soldiers and their families, but other government employees and their families, and civilians who had settled in the area. It was 1884 when surgeons were specifically allowed to treat dependents, on a space-available basis and charging them for their medicines, a provision that is the legal basis for today's Tricare benefit. Though less common, in some areas, reservation Indians received treatment.

Hospital Facilities and Patient Care During the Indian Wars

By G. Alan Knight

Army surgeons, both commissioned and contract, were responsible for the operation of the post hospitals that served frontier garrisons. In the 1870-1880 period in Arizona for example, only three of eighteen garrison surgeons were regular army medical officers; the remainder were contract surgeons. Typically, a frontier post's hospital would be assigned one hospital steward, a regularly appointed staff non-commissioned officer. Generally, they were competent pharmacists, wardmasters, property managers and clerks, and usually having considerable experience, were of invaluable assistance.

As there were no Army dentists during the 1869-1900 period, hospital stewards often functioned in that capacity. Not until late in the Indian Wars period was a hospital steward assigned as the first Army dentist, at West Point. Dentistry was still in its infancy as a profession and it is clear, from one account, that not all hospital stewards possessed the requisite skills. In regard to extracting teeth, one post surgeon recalled that he had to take over that task because "to see a steward shutting his eyes when he pulled, and listen for the expected crunch or snap of a broken molar....got on my nerves."

In addition to the hospital steward, enlisted men were regularly detailed from units at a post to serve as hospital attendants, nurses, and cooks. There were normally few soldiers volunteering for hospital duty and all too often, unit commanders detailed men who were misfits or troublemakers. Surgeons and hospital stewards often had a herculean task training such men. Finally, in 1887, Congress authorized the organization of a Hospital Corps to provide competent and trained men to assist surgeons and hospital stewards. At the many Army post hospitals, the surgeon had his pick of volunteers who met the requirement of having at least one year's satisfactory service in a line unit. While training may initially have been on-the-job, the Army recognized the need for formal schooling and by 1889 or 1890 those selected were sent to school at either Fort Riley or Fort D.A. Russell, Wyoming, for four months. By the early 1890s instruction included "litter-bearing, ambulance work, tent pitching, establishing dressing stations, application of emergency bandages and tourniquets, field cooking, and the care and use of draft and saddle animals" according to the medical officer in charge of instruction at Fort D.A. Russell. The officer in charge there also taught the rudiments of anatomy, physiology and first aid.

In 1867, the Army's Surgeon General issued Circular No. 4, which contained plans for a standardized 24-bed hospital, comprised of two 12-bed wards. At Fort Concho, in what is today San Angelo, TX, such a structure was built. However, construction was by no means a guarantee of having an ideal facility. By Nov. 1868, the new hospital at the post only had one ward completed. Patients were moved from "the deteriorating hospital tents." However, from official reports and recollections of surgeons, many posts lacked the "modern" hospital. A minimum 12-bed capacity was sought, but hospitals were frequently in 'buildings of opportunity.' In 1855 the post surgeon at Fort Belknap, TX, complained that the hospital roof leaked, while the doors and windows were covered with muslin which kept out neither rain nor cold.



The Fort Concho hospital.

Courtesy www.fortwiki.com

These significant issues pale in comparison to the hospital of Camp Supply, Indian Territory, reported on by Asst. Surgeon J.A. Fitzgerald. Located 86 miles from Fort Dodge, KS, the camp was established in November 1868 as a base for troops operating against hostile Indians, and had a stockade of cottonwood logs. Quarters for men and animals received first priority and the surgeon reported "The hospital consists of tents framed and floored, and warmed by stoves. The dispensary is a log hut with a hospital tent framed and floored." At Fort Davis, TX, no funds were appropriated for a hospital, so the post surgeon bargained with civilian workers. If they would build a temporary facility using their own labor and money, the surgeon assured them of free medical care whenever needed. In the summer of 1868 they finished an adobe structure with a dirt floor and cotton curtains for empty windows. Despite lack of official sanction, a truly modest \$120 of government funds was expended on erecting this structure. The adobe hospital soon began to crumble and leak and, in 1869 the post surgeon wryly noted that the structure was "well lighted and ventilated by numerous holes in the lower and upper part of the walls." In 1874, the War Department finally approved the construction of a twelve-bed hospital at the post, the cost not to exceed \$7,500. Camp Lowell, in Tucson, Arizona Territory, boasted a singularly inadequate hospital around 1870. It used a rented building bounded on one side by a corral, on another by a hog pen, hen roost and stable, at a rental cost to the government of \$60 per month. Water had to be carried three hundred yards from the only available well and the surrounding grounds were too near the latrines in use.

As the era progressed the construction of new facilities proceeded, appropriations permitting. Unfortunately hospitals were built under contract, sometimes even using soldier labor, but without the surgeon having any role in supervision, neither being consulted as to the specifications nor during actual construction, the sole object being economy. Gradually, new facilities were built with hospital-specific facilities such as X-ray rooms, laboratories, and morgues. As germs were better understood, in the late 19th Century there was increased emphasis on disease prevention. Post surgeons were required to regularly inspect all post buildings and housing facilities and make recommendations for improvement. Although much of the actual clerical burden of such reports fell upon the hospital steward, the surgeon was still responsible for maintaining the many records and reports such as the patient register, diet and patient case books, prescriptions, reports of surgical operations, death and burial records, hospital accounts, and property inventories.

The post surgeon also held daily sick call in addition to being available for emergencies during non-duty hours. He had to determine who had legitimate health complaints and who was malingering. Surgeons at frontier posts encountered a wide variety of medical conditions. In Texas, digestive disorders such as diarrhea, constipation and dysentery were common. Frequent respiratory complaints included bronchitis, pleurisy, pneumonia and tuberculosis. Fevers of various sorts were common, usually referred to as "malarial fevers." In 1882, yellow fever occurred at Fort Brown, TX, twenty-nine years after the first outbreak in 1853. Newly assigned surgeon William C. Gorgas found himself fighting this disease, even nursing his future wife back to health against all odds. Later, when his frontier service was but a distant memory, he conquered yellow fever. By the 1880s, scurvy had come under control and was no longer the problem it had been previously. In the personal hygiene area, surgeons faced challenges such as that confronting Fort Davis Surgeon Daniel Weisel in 1861, shortly before war's outbreak. He tried unsuccessfully to get orders issued requiring soldiers to bathe twice a week as in an effort to promote cleanliness and control the spread of disease.

Other commonly-seen ailments included food poisoning, often resulting from lack of refrigeration and contamination. During a ten month period at Fort Richardson, TX in 1868, out of 688 cases of sickness, the surgeon treated 289 cases of "malarial fever" and 163 cases of diarrhea and dysentery."

Post surgeons also commonly treated venereal disease and, less frequently, delirium tremens and insanity. However cases of delirium tremens were reported as more frequent on paydays when troops would frequent the bars and "hog ranches" that tended to spring-up around such posts. Numerous cases of ophthalmia were also treated, this inflammation of the eyes being common in the Southwest where dust and high winds contributed to the high incidence of cases. Frostbite was also a common presenting complaint during the winter months on some parts of the frontier.

The majority of wounds treated were not the result of combat, but were incurred from off-post fights, barroom brawls and kicks from mules and horses. A lack of care in handling firearms also created numerous casualties. Sergeant Samuel Wright, Company C, 13th Infantry, was admitted to the hospital at Fort Buford, Dakota Territory, on 17 October 1869 with a simple fracture of the left clavicle as a result of being thrown from a horse and landing on his left shoulder. A device called Hamilton's Apparatus was used to immobilize the fracture and twenty-three days after admission, Wright was returned to duty.

Another interesting case also from Fort Buford was of the soldier who sustained a compound fracture of the humerus after a heavy Army wagon rolled over the limb. The circumstances of this event are not recorded and it is possible the soldier was asleep and taking shelter under a wagon when it was moved. Regardless, following admission to the hospital on 8 October 1869, the private had his arm immobilized in splints, the wound soon began to stop suppurating and subsequently, following a determination that the union of the fracture was complete, he was returned to duty on 21 November 1869. There was no shortening of the arm.

In 1887, Surgeon Gandy at Fort Concho, TX, treated a private for a fractured right arm after he was thrown from a mule. The next year he saw a 26-year old cavalry private who had received a gunshot wound at close range from a .44 caliber Winchester rifle in a barroom brawl. The gunshot did massive damage to the left elbow joint and, during surgery, Surgeon Gandy decided the arm could not be saved and it was amputated just above the elbow. In June the patient was released from the hospital and soon discharged.

As might be expected, arrow wounds were not uncommon as a result of skirmishes with Indians. Soldiers sustaining arrow wounds were a new challenge for those surgeons who lacked Civil War surgical experience. In 1862, Asst. Surgeon Joseph H. Bill, based on his frontier experience, published an article that contributed significantly to an understanding of such wounds and how to treat them, especially the problem of removing the arrowhead. As Indians became more fully equipped with firearms, arrow wounds seemed to diminish but still occurred through the end of the Indian Wars era.

A picture of the extent and lethality of arrow wounds is reported for a soldier treated at Camp Lincoln, Arizona Territory. The infantry private received a slight cut on the ear from an arrow, two flesh wounds from arrows (with profuse hemorrhage from one), two arrow wounds to the right knee, and gunshot wounds to the upper left arm, the left elbow, and the third finger of his left hand. The evacuation process and time taken are also a testament to the dangers of frontier service where injury required transport to a fixed medical facility. This private endured eight hours of undoubted agony en route to the camp, became weak from loss of blood and from riding part of the time on a horse with a comrade, with the remainder of the evacuation by a "Government team." It does not appear that the team of horses or mules hauled an ambulance; more likely he was moved in a standard Army wagon. Unsurprisingly, he died the next day.

Corporal Edward Monaghan, Company C, 31st Infantry at Fort Buford, Dakota Territory, was wounded in a skirmish with Indians on 6 November 1867, by an arrow that entered beneath the right scapula, passed around the ribs and came out almost through the skin in front so that the arrowhead could be discerned. The intrepid soldier walked two miles to the hospital. After admission to the hospital, the arrow shaft was withdrawn through the entrance wound and the arrow head was removed through an incision since the arrow's outline could be seen below the skin. On 26 November, with both wounds healed, CPL Monaghan returned to duty. Other surgeons expanded on Bill's work on treatment of arrow wounds and in 1873, the Surgeon General published their observations.

Finally, it must be recognized that while the majority of patients admitted to a frontier garrison's hospital during the concluding years of the Indian Wars had a positive outcome from their treatment due to small but significant improvements in diet, sanitation and the results of research, not all did. In addition to negative outcomes due to the severity of injury or disease and slow evacuation, the lack of successful treatment leading to recovery was in part due to the state of the healing arts in the 1800s and, as in the present day, some were due to unforeseen events. While under treatment at the Fort Concho, TX post hospital in 1886, Corporal Leo Bachli of Company B, 16th Infantry, died after swallowing a portion of a clinical thermometer while having his temperature taken by a steward.

In December 1890, the last major engagement between Indians and the Army occurred at Wounded Knee, SD. No longer guerilla warfare, the combat was waged on the Army's terms. Army historian Mary Gillett points out that "the Medical Department could now function much as it had in the Civil War, now with the disciplined members of the Hospital Corps drilled in the management of evacuation. The Army was able to move the required men and supplies by train, and troops no longer had to march endless miles, in constant danger of ambush along trails often impassable to wheeled vehicles. The Indian this final time was surrounded, outnumbered, and totally vulnerable." Wounded soldiers could now be moved more expeditiously but not always more gently to nearby posts. Having anticipated protracted fierce combat, medical officers had earmarked space for casualties to receive initial care in buildings on the Pine Ridge Reservation, reserved beds at the newly built Soldiers' Home at Hot Springs, SD, and had beds available at Forts Robinson and Niobrara, NE. Many casualties were moved by horse-drawn ambulance 26 miles to a nearby town where they were then evacuated by rail to Fort Omaha, NE and some to Fort Riley, KS.

Undoubtedly inpatient care improved significantly toward the end of the Indian Wars era when the garrison hospitals of the frontier, and of course those at well-established posts elsewhere in the United States, began to receive trained graduates of the Hospital Corps who replaced the untrained and often ill-disciplined problem soldiers from line units on whom surgeons and hospital stewards had for so long had to rely. The growing body of scientific medical knowledge had begun to be absorbed by influential members of the Medical Corps and with dissemination to the many practicing surgeons translated into more enlightened diagnostic techniques and the resulting treatment provided. However, many of the truly significant findings in disease causation, treatment and prevention were still some years away from being realized.

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The Hospital Steward, 1865-1899

By John Haymond

The army surgeon has been widely recognized in historical studies of the U.S. Army, but the equally essential hospital steward has received less attention. Particularly in the remote frontier posts of the Indian Wars era, the surgeon and the hospital steward were the mutually supporting linchpins of army medicine.

In modern terms, the hospital stewards were the senior NCOs of the medical branch; acting hospital stewards were the junior NCOs. Great care was usually taken in the selection of stewards, greater care than was perhaps necessary for line soldiers, because the responsibilities and duties of an enlisted man in the medical corps were greater and more varied. A combination of practical experience, time in service, competitive examination, and favorable command referral were required of any soldier who aspired to wear hospital steward insignia. The written examination was especially formidable – it was thorough, comprehensive, and required serious study to prepare for. “He must be free from disease and able-bodied, honest, temperate, and industrious, of even temper, and devoted to the wants and patient under the whims of the sick,” as one source described the ideal enlisted soldier. “He must have a thorough knowledge of the English language, so as to speak and write it correctly; otherwise he could not take charge of the books and records of the hospital. He must have a practical knowledge of pharmacy, sufficient to take charge of the dispensary and of surgery, be able to dress wounds and apply bandages, extract teeth, and to cup and bleed; he should also be a good cook.” That last specification was of particular concern in the Indian Wars-era army, as we will see.



Hospital Steward cap badge.
AMEDD Museum collection.

As an NCO, the hospital steward's rank was on par with the army's other non-commissioned technical specialists such as ordnance sergeants, quartermaster sergeants, first-class sergeants of the Signal Corps, and cavalry saddler sergeants – the only NCO ranks in the army that were senior to the hospital steward were regimental sergeants-major and quartermaster sergeants. His unique position in the military hierarchy was emphasized by a special provision in the application of army justice. “Hospital stewards are subject to the Articles of War...” an 1865 treatise noted, “and are subject to all the punishments inflicted by courts on non-commissioned officers, except that they cannot be reduced to the ranks; they may, however, be

discharged.” In an era when it was not unheard of for NCOs to be busted down to private by courts-martial and then earn back their stripes several times in one career, that was a singular distinction of the hospital steward's position.

A contemporary study noted “No other non-commissioned officer requires so much special knowledge for the proper discharge of his duties, or has such variety of duties to perform, as the hospital steward. Like the first sergeant of a company the hospital steward must be a good disciplinarian, drill master, and general supervisor of the men under his control.” He was a clerical administrator, property master, and expert pharmacist all at the same time, and was also expected to have “sufficient knowledge of medicine and surgery to be able to act intelligently in emergencies in the absence of the surgeon.” On some posts he might also have to perform minor surgery or dental work.

The pharmaceutical element of the hospital steward's job was such a notable part of the role that it was sometimes assumed that civilian pharmacists were naturally suited as candidates for appointment as hospital stewards, “referring to their knowledge of drugs as evidence of their fitness for the position.” The army, however, required that “the candidate for the position of hospital steward must have served at least three months as private of the hospital corps, and at least one year as acting hospital steward (the great majority of hospital stewards serve much longer than this in the lower grades) before he becomes eligible for examination for promotion, since familiarity not only with army regulations but also with the unwritten rules, usually

known as the 'customs and usages of the service,' which should govern his conduct in his relations with his superiors and inferiors in the military hierarchy, is absolutely essential to his usefulness, and such knowledge is to be acquired only by actual service with troops in garrison and in the field." It was clearly intended that hospital steward be a soldier of greater experience, intelligence, and ability than the average enlisted man.

The process of becoming a hospital steward usually began with the privates of the medical corps, and those men were primarily drawn from two different groups. After the creation of the Hospital Corps in 1887, a recruit could enlist directly into the medical branch, or a private in the line could request a transfer to the medical side if he had at least a year's service in a line regiment. The standards for medical recruits were the same as for the army at large, with one interesting exception – "applicants may be accepted whose vision is below the normal, provided that the defect is due solely to comparatively slight errors of refraction (less than ten-twentieths), which are not progressive or accompanied by ocular disease, and which can be entirely corrected with glasses." In an era when poor vision was the single most common reason for a potential recruit to be disqualified from enlistment, this was a notable distinction, and its reason was simple enough. "As members of the hospital corps are not taught to shoot, acuity of vision is not as important for them as for men of the line," one source noted, "but it is essential that they shall be able to see sufficiently well not to be helpless if they lose their glasses in the field..."

Most training was on-the-job. The post surgeon was the primary instructor of the enlisted medical staff, but a considerable amount of teaching and training was conducted by the hospital steward in his role as the senior medical NCO. In 1891, as the army began the force consolidations that marked the end of the frontier era of military operations, a Hospital Corps training company was established at Fort Riley, Kansas, with a cadre of eight medical non-commissioned officers: three stewards and five acting stewards. A second training company was created at Fort D.A. Russell, Wyoming, a short time later. The training course was six months in length, or eight months for those men taking additional instruction in clerical administration or pharmacy. The quality of instruction at these units was excellent, but their locations left much to be desired – with the cessation of combat operations on the frontier and the closure of many of the smaller, remote posts, the cost of transporting recruits out west for training only to return them back east for assignment was determined to be an unjustifiable expense. Accordingly, the school at Fort D.A. Russell was closed in 1894 and reopened at the Washington Barracks in Washington, D.C.; the unit at Fort Riley was discontinued in 1896. By the time of the Spanish-American War, the first incarnation of a professional development school for medical NCOs was also in place. The first class there consisted of "two hospital stewards, seven acting hospital stewards, and nine privates, all of whom subsequently passed the examination for detail as acting hospital steward..." This coincided with the increasing professionalization that was then transforming the army, but the medical branch had consistently placed an emphasis on standardized professional instruction of its enlisted personnel long before the units of the line embraced the practice for their soldiers.

Privates who transferred to the Hospital Corps from the line had some advantages over new recruits as they were already trained, experienced, and familiar with the army's way of doing things, and needed only the specialized instruction necessary for their new medical duties. Enlisted transfers were thus favorably regarded by the Hospital Corps staff, but certain cautions were always kept in mind.

The individual soldier's motivation for requesting the transfer was one thing. Medical personnel received a higher level of pay than most of their peers in the line, as was appropriate for their duties and responsibilities, and numerous contemporary sources warned medical officers of the importance of insuring that pay alone was not the driving impulse behind a soldier's application for reassignment to the Hospital Corps. The enlisted men of the medical branch, as one authority declared,

have higher responsibilities than privates of the line and are properly given higher pay. There is a danger that men will be attracted by the pay alone or by the notion that the work of the hospital corps private is easier than that which falls to the private of the line. The hospital corps private, has, it is true, no guard duty to perform and when no severe sickness prevails is not hard worked. On the other hand, he is always on duty, and his care of the sick may involve protracted watching and much disagreeable and possibly dangerous work, to perform which in the proper spirit he should have a real love for his calling.

Aptitude and avocation were the desired qualities; avarice was to be discouraged.

The attitudes of officers in the line regiments could also play a part in the quality of men presented as candidates for the Hospital Corps, in much the same way as has always factored into the army's personnel placements. "The moral and mental qualifications of the candidate for transfer from the line to the hospital

corps are or should be known in advance by the medical officer,” one commentator noted. “He should investigate personally in making the selection of men for transfer, for many company commanders oppose the transfer of good men on the ground that they cannot be spared, and are on the other hand not unwilling to rid themselves of men who have shown themselves unable or unwilling to learn or are otherwise objectionable.” Just as is true today in the army today, commanders hated to give up their best soldiers, and were only too eager to reassign their problem cases.

There was one particular skill an enlisted soldier might have which a commander would be especially reluctant to lose, and that was in the culinary arts. In an era when the army had not yet established any system of formal instruction to provide the force with qualified and capable cooks, men who had a talent at the cookstove were prized by every company fortunate enough to have them. The medical branch had long emphasized the importance of diet and food preparation in healthcare, and was always on the lookout for soldiers who could cook. It often tried to get them by means of transfers from the line regiments, but, as one source noted, “to secure good cooks this way is not so easy. They are treasures with which the officers of the line are reluctant to part.”

The junior enlisted personnel of the Hospital Corps, the medical branch’s “hewers of wood and drawers of water,” dealt with a wider range of duties than did their peers in the infantry or cavalry regiments of the day. The organization of one large army hospital at the end of the 19th Century gives a good indicator of just how varied those responsibilities were. “The present personnel of the institution,” the hospital’s senior surgeon reported, “consists of 4 officers, 4 non-commissioned officers, 40 privates... The following are the departments with the number attached to each: Baths and plumbing (1 pvt); Carpenter shop (1 pvt); Dining service (8 pvt); Dispensary (1 NCO, 1 pvt); Linen and laundry (1 pvt, 7 Chinese workers); Nurses (6); Mail (1 pvt); Office (1 NCO, 2 pvt); Driver (1 pvt), Filters and boilers (1 pvt); Light diet service (2 pvts); Orderlies (2 pvts); Provost sergeant (1 NCO); Stables (1 pvt); Ward masters (5 pvts); Kitchen (7 pvt).” There was no shortage of work, but attention was also paid to insuring that each soldier learned as much as possible.

In addition to its first, and always paramount object, the care of the sick, another important function of the hospital is the instruction of the enlisted men of the hospital corps...” this surgeon wrote. “The whole hospital is regarded as a school, and each department is put in charge of a soldier, who is held responsible for its condition. His orders are written in the plainest language, verbal orders being avoided as much as possible. At the end of each month an entire change takes place, so that by means of a regular rotation every man becomes acquainted with the working of the entire system. By this means no man is allowed to stagnate in one place to the detriment of his general efficiency as a sanitary soldier. Lectures, or more properly, informal didactic instruction, supplemented by questions and answers, are held five times weekly, the present course being as follows: Mondays – Discipline, regulations, and drill; Tuesdays – Minor surgery and first aid; Wednesdays – Nursing and management; Thursdays – Materia medica and practical dispensary work; Fridays – Clerical work, the ration and its management...

After a year in such a facility, a Hospital Corps private would have accumulated a wide range of professional experience and would be ready for advancement to positions of greater responsibility.

The medical branch also sought to instill in its enlisted men the conviction that they were part of a truly important and special part of the army. “The last form of instruction is not very tangible, but is of no small moment – the formation of an *esprit de corps* in the detachment,” one medical officer reported. “For this purpose the men are encouraged to form an association of their own... the men are given to understand that their detachment is an organization well meriting pride in its soldierly efficiency.” That pride, and the professionalism on which it was based, would carry the soldiers of the medical branch into the 20th Century and beyond.

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Treatment and Evacuation of Casualties from the Battle of Little Big Horn

MAJ Johnny W. Sanders, MS

Throughout the years, historians have analyzed Custer's pre-battle decisions and pondered what the outcomes would have been had he task organized the force in a particular way. For example, if Custer had his mini-guns...would he have survived? If he had trusted in Crow Scout intelligence reports, would he have attacked so soon? is another example. The battle has been examined from the tactical angle all the way back to the strategic. But few historians have looked at the pre-battle (or even during battle) decisions from a medical standpoint and asked questions like: If Custer had taken his ambulances, could time and lives have been spared on the evacuation? When one weaves through the operational concepts and looks intensely at the medical considerations, many mysteries linger...particularly, the medical evacuation and treatment of casualties.

To review the medical implications or impacts to the battle, one must first examine what the medical capabilities looked like in support of an 1876 cavalry regiment. The laws enacted by congress during the Civil War that established many systems like the Ambulance Corps had dissolved by 1876. Additionally, the AMEDD made no attempts to arrive at a proper "ratio" of medical support to fighting forces on the plains like it did for regular units fighting during the Civil War. The AMEDD struggled to staff the frontier posts with active duty surgeons, and often contracted for surgeons to accompany troops in the field. So, what did the medical support look like to the 7th Cavalry Regiment?

Keep in mind, the 7th Cavalry Regiment was just one of three major units tasked to conduct the Centennial Campaign. Of the three, it was arguably one of the better medically resourced with a higher ratio of medical care (surgeons to potential patients) and ambulances. It was also, notably, the one regiment with an

	Personnel	Surgeons	Ambulances
Dakota Column (7th Cavalry)	597	3 (plus 1 veterinarian)	1
Montana Column (2d Cavalry, 7th Infantry)	436	1	1
Wyoming Column (2d, 3d Cavalry, 4th Infantry)	1,248	4	5

assigned school-trained veterinarian. Even with this robust medical footprint, it is evident that very little planning happened regarding the utilization of these medical assets. Since the unit did not use its ambulances, two of the three surgeons provided direct support to one battalion-size element (under Custer's direct command) and died in the fight, and the only assigned veterinarian remained in the rear area, the unit was not well positioned to medically sustain the fighting force once it made contact with an enemy.

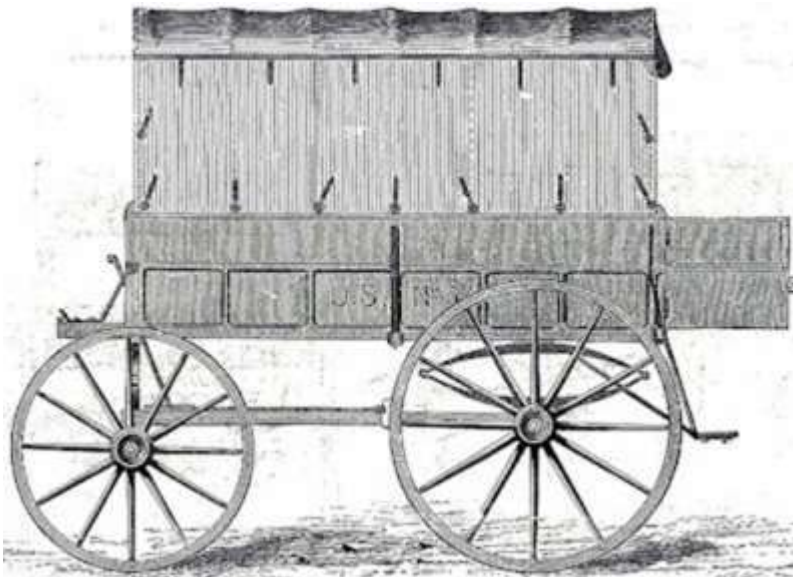
Most history enthusiasts are familiar with the Custer story and the Little Big Horn legacy. A force of approximately 600 U.S. cavalrymen attacked a consolidated village of Plains Indians with very little intel on the "enemy" and suffered approximately 50% casualties, killed and wounded. Prepositions and assumptions of flaws with Custer's decisions aside, the residual affects of caring for wounded included far forward care as well as medical care enroute back to the point of embarkation (Fort Abraham Lincoln, Bismarck, SD) for approximately 50 casualties, one of which was a horse named Comanche. How this evacuation took place and why the cavalry desired to save a wounded horse is somewhat a mystery to readers of this story today.

The evacuation from the Little Big Horn battlefield in 1876 consisted of transporting 44 to 50 casualties (including the horse Comanche), took approximately 10 days from the receipt of the first casualty in fighting, spanned a distance exceeding 715 miles, integrated multiple transport techniques, and included multi-modal evacuation platforms. The evacuation itself took the casualties past a 24-bed hospital along the route only to terminate in a medical treatment facility of the same capability. The multi-modal techniques used to evacuate Little Big Horn casualties, however, did not include Army ambulances.

The Army maintained ambulances within frontier units much in the same manner that it maintained other wagons in the pack trains. The Army did not manage the ambulances in 1876 as well as it did during the

Civil War because the congressional act that established the Civil War Ambulance Corps in 1862 expired at that war's end. At that time, Army medical personnel controlled their placement and use in battle. This expiration caused the removal of the medical personnel allocations to staff and operate the ambulances. Without assigned medical personnel to manage ambulances, ambulances became vulnerable to misuse, or in Custer's case, neglect. He didn't bring his ambulances, but the wounded were evacuated.

The ambulance style that most likely would have been present in the inventory and at Custer's disposal was the four wheeled, two horse drawn "Wheeling Ambulance". This ambulance style produced during the Civil War gained popularity among the medical personnel because of its ability to evacuate up to 12 ambula-



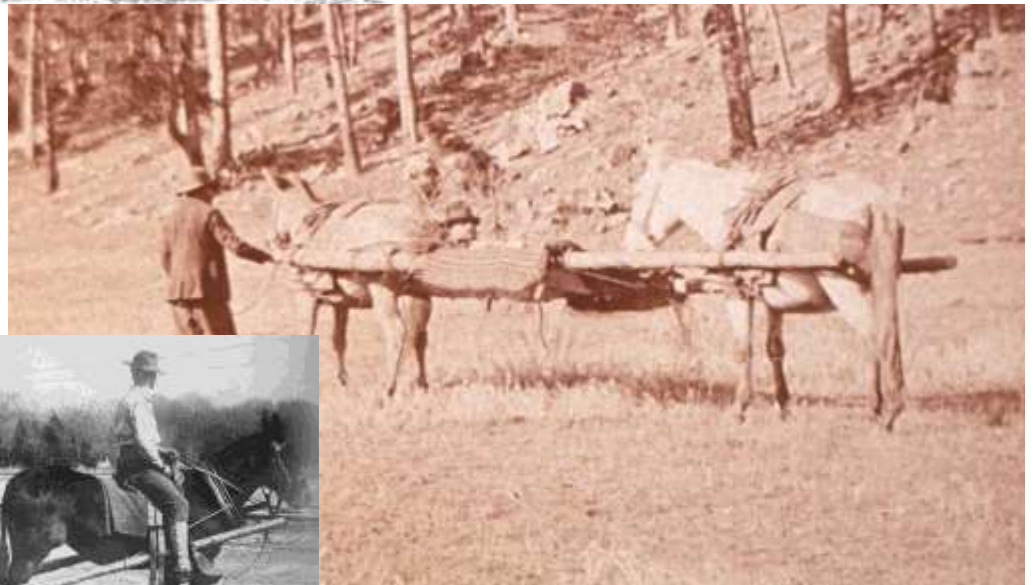
Above: Wheeling ambulance.

Right: Two-mule litter carry, photographed in the Black Hills during the 1876 campaign.

Courtesy Library of Congress.

Below: Travois.

Courtesy National Library of Medicine.



not describe how to medically care for ill and injured throughout the evacuation. Evacuation without medical care enroute is considered a form of casualty

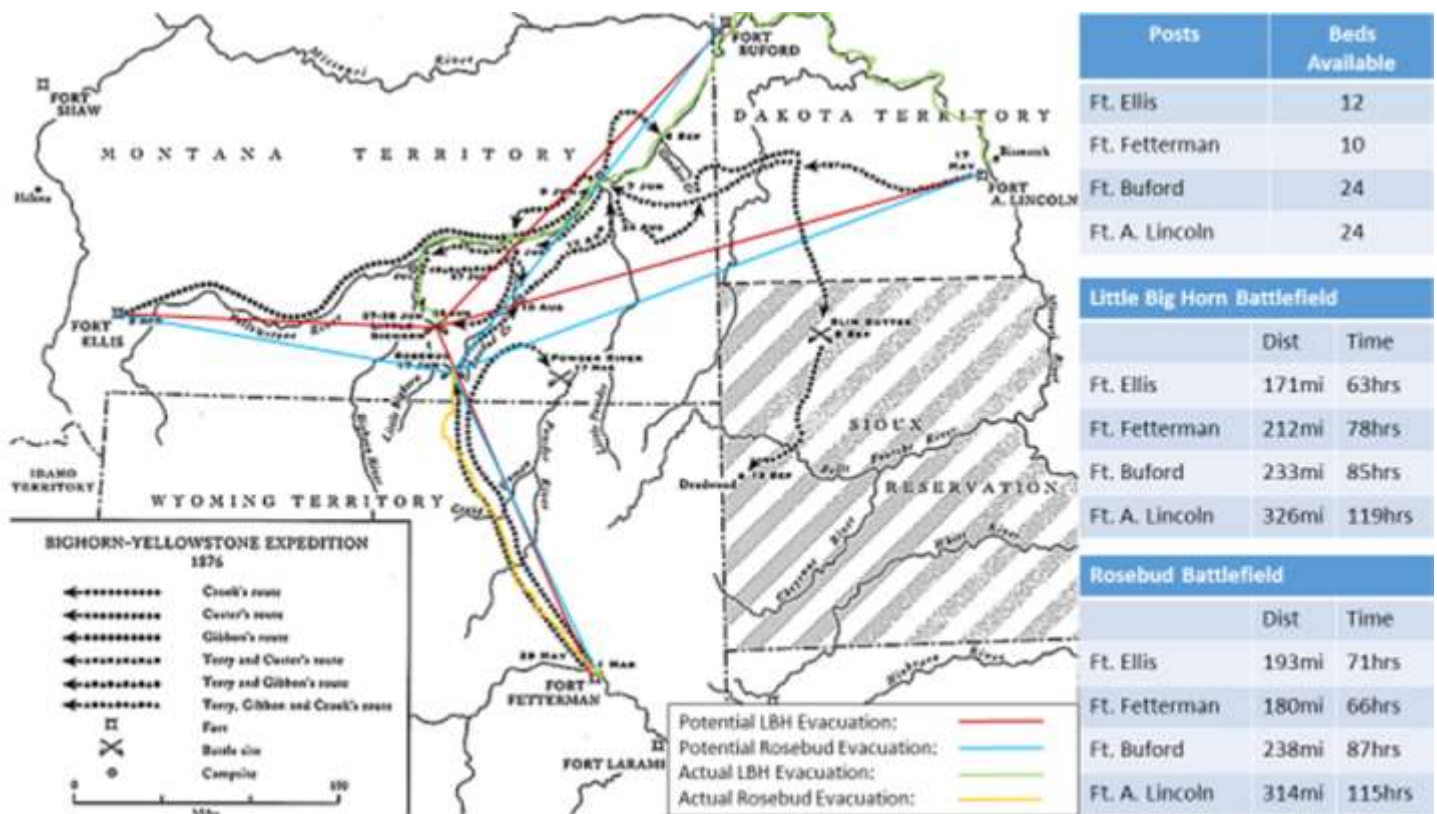
evacuation or "CASEVAC" today and served as the first endeavor in the evacuation from the Little Big Horn. Arguably, the surgeons that accompanied the troops along the evacuation route could have provided care enroute. To do so, this would have required the litter team to stop and allow the surgeon to render medical care before continuing. Although this technique would have been possible, it would not have been probable or preferred over the task of just "clearing the battlefield" of the large numbers of casualties. Instead, the evacuation focused on the movement with little if any care provided enroute.



Using a combination of mule/horse litters (litters strapped between two mules/horses carrying a single casualty), horse drawn travois (one horse pulling a single litter with the aft end trailing on the ground) and hand litters, members of the 7th Cavalry and Colonel John Gibbon's 7th Infantry evacuated 50 casualties approximately 15 miles over land. Because this evacuation was not pre-planned or even prepared for in advance, it took the units additional time to cut poles and fashion the litters adding more time onto the overall medical evacuation timeline. One of the Surgeons who oversaw the evacuation, Dr. Holmes O. Paulding, also noted that a march of approximately six miles had taken several hours from the late evening and all through the night.

The land evacuation started with the movement from the Little Big Horn battlefield and culminated at the confluence of the Yellowstone and Big Horn Rivers. At the author's estimation, this distance spanned approximately 15 miles over uneven but not impassable terrain. The more daunting task proved transferring casualties to the steamship *Far West*, which was moored at the junction of the Yellowstone and Big Horn rivers and involved lowering and raising the casualties from the river banks to the ship. Planners today might consider this to be a transfer to a more robust medical capability, since surgeons provided medical care enroute once on board. The figure below shows the overall time/distance analysis of the evacuation and depicts the closest treatment facilities (and capabilities) that casualties could have been transferred to as part of the Centennial Campaign. The time estimation is based on the average rate of march for a cavalry regiment not in pursuit of an enemy.

Ultimately, the combination of litter evacuations and transfer to what might be considered a MEDEVAC platform (the *Far West*) of patients from the Little Big Horn battle proved successful even if unprepared. Of the 50 total wounded, the evacuation detail transferred 44 to the *Far West* for movement back to Bismarck.



Time/Distance and Hospital Capability Analysis in the Vicinity of Operations

Once on board the *Far West*, three surgeons (Dr. Henry Porter survivor among them) continued the medical treatment that had been halted during the actual casualty evacuation. This treatment continued along the 700 plus mile journey back to Fort Abraham Lincoln. Along the way, three of the 44 wounded died that could potentially have been saved had those patients been transferred to a facility that was bypassed along the water route (Fort Buford).

Several potential explanations exist for why no badly wounded patients were transferred. The Fort Buford facility could have been full, without any beds for badly wounded patients. Additionally, because bad-

ly wounded patients require more supplies to care for, the facility may have been critically low on key medicines or supplies required to treat additional patients. Finally, and most likely, leaders made the decision to forego transferring patients for the sake of continuing the journey expeditiously to arrive the patients at their home station (where their families waited) and to deliver the news of the defeat, which would muster reinforcements much quicker. Regardless, the facility at Fort Buford did not have the capabilities to treat equine patients. The horse named Comanche survived not only the 15 mile land evacuation but also the boat MEDEVAC back to Bismarck.

The 7th Cavalry Regimental Veterinary Officer, Dr. Carl A. Stein, was also on board the *Far West* and assumed responsibility for the care of Comanche. Though not much is recorded on the particulars of Comanche's evacuation to the *Far West*, the author assumes that he walked the 15 mile land route because sources suggest he was not wounded badly enough to necessitate being carried. Once aboard the *Far West*, Dr. Stein provided Comanche enroute care until his transfer to a local livery in Bismarck around 5 July.

Few details have been preserved describing the treatment methods Stein provided Comanche. Newspaper accounts from the period mention bullet removals from Comanche's wounds and first-hand accounts state Comanche was given "Henessey brandy mixed with water" perhaps to ease his suffering. In fact, most of the veterinary treatments provided during that time resembled common remedies that blacksmith and farriers assumed would work based on similar experiences on the farm. Veterinary medical texts from the period describe using a combination of bichloride of mercury solution and carbolic acid for wound treatment. Stein, having been educated in Europe, most likely removed bullets from Comanche's wounds that were superficially lodged and then allowed the wounds to drain as opposed to immediately suturing them. It is difficult to say with certainty exactly how many wounds Comanche received at the Little Big Horn, as historical service records account for Comanche's presence at other battles previous to 1876. Years later, however, when Comanche's hide was preserved by taxidermist L.L. Hyde for display at Kansas University's Museum of Natural History, he noted a total seven scars potentially attributed to bullet and arrow wounds.

The U.S. Army Veterinary Corps was formally established in 1916. Prior to its formal establishment, the Army Medical Department had little success in advancing veterinary medicine. One source suggests only nine Veterinarians served in the Army in 1876 and those nine were most likely educated in Germany or England. At that time, veterinary service was unorganized at best in the military and commanders often "designated" individuals to care and treat for animals on a campaign. Veterinary medicine, so it seemed, was not taken as seriously as human medicine. Even the Regimental Veterinarian Dr. C.A. Stein did not have the respect of the other surgeons, as suggested in the writings of contract surgeon Dr. James DeWolf claiming that the "horse doctor...imagines he knows something about medicine". Regardless how veterinary medicine was viewed at the time, it is clear how the cavalry mounts in general were regarded. In Comanche's case, as the only living thing under Custer's command to survive the battle, was ordered to never be ridden or made to work again. At a time when most animals in Comanche's condition might otherwise have been put to death to spare their suffering, Comanche's life was not only spared but elevated to hero status. His legacy lives on today where he can still be viewed by the public in Kansas University's Museum of Natural History.

In looking at the Battle of Little Big Horn from a medical standpoint, particularly at evacuation and treatment, the 7th Cavalry Regiment may not have struggled to take care of its wounded had more attention been paid to medical planning. The capabilities existed to provide far forward care to the unit assuming it did not sustain many casualties. Based on what is known today, the leadership at the time didn't anticipate sustaining many casualties, which may be a topic for another study. However successful or unsuccessful those efforts to evacuate and treat the wounded might have been, the Little Big Horn has medical relevancy today



Comanche on display.

and is worth examining from a medical stand point in order to avoid the same blunders the 7th Cavalry experienced by lack of planning.

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John Van Rensselaer Hoff (1848-1920), son of an Army doctor, graduated with an M.D. from the College of Physicians and Surgeons in New York City before accepting a position as a contract surgeon with the Army in 1874 and a commission as first lieutenant, Assistant Surgeon later that year. He served in a number of posts throughout the West and travelled abroad to observe the medical organizations of foreign armies before being posted in 1887 to Fort Riley, where he formed the first company of instruction for the newly established Hospital Corps and prepared the drill regulations that standardized instruction of Hospital Corpsmen for service in the field. In 1891, Major Hoff served as the Regimental Surgeon for the 7th Cavalry at the last battle of the Sioux wars, Wounded Knee. Hoff served during the Spanish American War as a Corps Surgeon and in the Surgeon General's Office before retiring in 1909. He returned to active duty during World War I and died at Walter Reed General Hospital in 1920.



Visual History: World War I AMEDD Posters

As a part of the World War I Centennial observance, the AMEDD Center of History and Heritage has created a poster series that recognizes the roles of AMEDD personnel during the war. Each set consists of eight posters that feature the AMEDD corps. More than just placards, the posters provide a historical glimpse into the Army of 100 years ago with sharp images and information.

Doctors, dentists, nurses, and medical enlisted personnel are presented with their numbers and activities during the war. Less well known are Army veterinarians, Sanitary Corps officers, civilians, and reconstruction aids (physical/occupational therapists). While not every specialty is listed, all of the current US Army Medical Department Corps are represented.

A limited number of the posters will be sent to Army hospitals, various commands, medical centers and activities, and medical brigades. Don't worry! You can download your copy of the posters at ameddregiment.amedd.army.mil/posters.html

Some World War I AMEDD facts:

As the Army expanded for the war Army doctors conducted almost 4 million physical examinations.

When America entered the war, the number of Army doctors increased from roughly 800 to over 30,000.

AMEDD Soldiers CPT Conrad Wesselhoeft, 1LT Frank L. Williams, and PFC Harry Liebeskind each received two Distinguished Service Crosses for their wartime efforts.

Over 21,000 nurses served in the Army during World War I.

A new component to the force, African-Americans served as doctors, dentists, and veterinarians during World War I. African-American physicians Urbane F. Bass and Thomas E. Jones earned the Distinguished Service Cross during the war.

New Archival Donations

Five type-written pages dated February 7, 1919: Military Record (1 p.) and A Brief History of the Mobile Field Laboratory, 313th Sanitary Train, 88th Division (4 pp.)

Accrual to the Jack Davis collection: A small WWI era handwritten notebook and three United States Army Ambulance Service reunion medals were added

Two photographs of Major General Clinton S. Lyter, Medical Corps

10 1/4" x 13" color photograph of Walter Reed

Task Force 212 and 212th MASH documents

Military Working Dog and biological sensor research documents

AMEDD Museum Archival Transfers:

Group of Spanish American War documents and photographs belonging to Private John N. Parker, Hospital Corps, 11th Cavalry

Books:

A Frontier Army Surgeon: Life in Colorado in the Eighties.

Donors:

Kent Hendricks

time in his article “Treatment and Evacuation of Casualties from the Battle of Little Big Horn.” Additionally, he relays early veterinary history with the story of Comanche, a horse that survived the battle.

Please let us know your thoughts. We would like to hear your comments and are always seeking new articles for publication. If you are at Fort Sam Houston please stop by the AMEDD Museum!

Nolan A. (Andy) Watson
Acting Chief, ACHH

Spurgeon Neel Prize Competition

The Army Medical Department Museum Foundation is pleased to sponsor the 2018 Spurgeon Neel Annual Award competition for the article of 5000 words or less that best exemplifies the history, legacy, and traditions of the Army Medical Department. The AMEDD Museum Foundation will present a special medalion award and a \$1000 monetary prize to the winner.

Named in honor of Major General (Retired) Spurgeon H. Neel, first Commanding General of Health Services Command (now U.S. Army Medical Command), the award competition is open to all federal employees, military and civilian, as well as non-governmental civilian authors who submit manuscripts for publishing consideration.

All manuscripts must be submitted to Amedd.Foundation@ameddmuseum.org, by 30 November 2018. A submission must be original work and not pending publication in any other periodical. It must conform to the Writing and Submission Guidance of the AMEDD Journal, and must relate to the history, legacy and/or traditions of the Army Medical Department. Manuscripts will be reviewed and evaluated by a six-member committee appointed by the President of the AMEDD Museum Foundation. The winning manuscript will be selected in December 2018.

Additional detail concerning the Spurgeon Neel Annual Award may be obtained from the AMEDD Museum Foundation, 210-226-0265.

Writing for *The AMEDD Historian*

We are seeking contributions! We believe variety is the way to attract a variety of audiences, so we can use:

- Photos of historical interest, with an explanatory caption
- Photos of artifacts, with an explanation
- Documents (either scanned or transcribed), with an explanation to provide context
- Articles of varying length (500 word minimum), with sources listed if not footnotes/endnotes
- Book reviews and news of books about AMEDD history

Material can be submitted to usarmy.jbsa.medcom.mbx.hq-medcom-office-of-medical-history@mail.mil

Please contact us about technical specifications.

The opinions expressed in *The AMEDD Historian* are those of the authors, not the Department of Defense or its constituent elements. The bulletin's contents do not necessarily reflect official Army positions and do not supersede information in other official Army publications or Army regulations.

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Acting Director, Mr. Nolan Watson

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