Chapter 1

HISTORY OF RECRUIT MEDICINE IN THE UNITED STATES MILITARY SERVICE

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INTRODUCTION

Recruit medicine is a multidisciplinary specialty of military medicine that deals with the medical care and treatment of recruits. It incorporates the assessment, prevention, clinical management, and treatment of diseases and injuries peculiar to recruits and military training. The goal of this branch of medicine is to provide the military with healthy enlisted personnel to ensure a fit service force. As the US armed forces have grown and evolved, responding and adapting to the demands of warfare since the late 18th century, recruit medicine has developed into an integral part of military medicine.

Through a selective screening induction process, applicants are chosen who are physically fit to serve, thus eliminating individuals with unrevealed or disqualifying medical conditions or injuries who may not meet the military standard. This medical military standard, developed by the US Department of Defense, ensures that medically qualified basic trainees accepted into the armed forces are free of contagious disease, free of medical conditions and physical defects that might require excessive time from duty or hospitalization, able to perform duties without aggravation of physical disorders or other medical conditions, and capable of completing military training. In addition, this medical standard decreases medical care costs and helps military personnel focus positively on training time and manpower needs.

Recent advances in medicine, medical screening, and diagnostic equipment have helped the recruit screening process become more successful. Additionally, current military preventive medicine and treatment practices help recruits to either avoid problems altogether or be treated promptly and return to training with a minimum of lost time. The specialty of recruit medicine has become an extremely effective tool in recruit selection, preventive medicine, and treatment of injuries and illnesses.

UNITED STATES ARMY

Although the history of the US Army began with the Continental Army of 1775 (the forerunner of today's regular Army), the history of recruit medicine is somewhat shorter. Just as medicine changed and evolved as a result of medical research and technological advances, recruit medicine also evolved into the system currently used by the US Department of Defense to screen applicants for all the military services.

The Revolutionary War

There were no formal medical standards for enlistment in the Continental Army (just as there was no formal government and no standing army when America's revolutionary colonists separated themselves from British rule). The first army was an insurgency formed to overthrow British authority in the Americas. Thus, there were no formal recruiting stations, no military medical department, and no established enlistment standards. Generally, any male colonist who possessed two functional legs and arms, who could walk, who was large enough to carry and fire a musket, and who claimed loyalty to the colonial insurgency was allowed to serve during the revolution. Historical records and cinematic depictions of the Continental Army frequently reveal healthy, strong men able to withstand the rigors of war, but the Army was also composed of young boys, individuals who were partially crippled, the mildly ill, and the elderly.

This inadequate recruiting and medical screening system was further complicated by medicine's systemic immaturity. There were no recognized testing or screening techniques for diagnosing diseases and injuries that could negatively impact a soldier's ability to serve in the Continental Army; the only tools available were clinical observation and use of a primitive stethoscope; there were very few medical schools that taught the art of medicine (and none were located in the American colonies); and almost all colonial medicine was learned through the apprentice system. The medical system in place had no methods to ensure educational standards, maintain the clinical competency of trained physicians, or grant licenses to practice medicine and surgery.

The Civil War

After the Revolutionary War, the Continental Army required each regiment to have its own surgeon. By then, the Army had medical regulations that prescribed a routine physical examination of all new recruits by the regimental surgeon. This examination required that the recruit had full use of all extremities; had "perfect" hearing, eyesight, and speech; and had no tumors, scarred or ulcerated legs, skin infections or significant rashes, previous head injury, communicable disease, or evidence of epilepsy. Unfortunately, the selection of regimental surgeons was more a political process than a medical qualifications process, leading to the appointment of unqualified, and sometimes unschooled,

physicians. "The appointment of inferior medical men was partly responsible for one scandal—the farcical physical examination of volunteers. In his report to the Secretary of War, [Frederick Law] Olmstead [of the Federal Sanitary Commission] wrote that hardly a single regiment had conducted a thorough medical examination and in 58 percent of the cases, the examination was a mere pretense."[1(p11)]

The Union Army's need for new recruits and the pressures of recruiting quotas led to many medically unqualified enlistments. Evidence of the inferior medical screening process used by the Union Army's regimental surgeons came directly from the regiments themselves. "Fifteen to 20 percent of the men were reported incapacitated by disabilities suffered before entering the service, which could have been detected by the examining surgeon. Chronic cases were clogging hospitals needed for battle casualties. They included syphilitics and men between 60 and 70 years of age, many of whom had hernias and some who were epileptics."[1(p11)] Another clear example of the inferior nature of these medical examinations was the estimated 400 women who enrolled in the Union Army (initially undetected) as fighting men. The increasing numbers of medical discharges led to general orders from the War Department requiring all regimental surgeons to examine their recruits. However, these general orders were ignored just as the medical regulations had been ignored.

World War I

Lessons learned from the Civil War and the smaller wars of the late late 19th and early 20th centuries resulted in an improved medical screening process of recruits. But this process remained constrained by a lack of definitive testing procedures and credible screening tools, and many medically unqualified recruits evaded the clinical observation process and successfully enlisted in the Army. These recruit screening errors served as a learning experience for World War II.

Evidence of the inadequacies of the recruit screening process included an incidence of tuberculosis that averaged 11 cases per 1,000 soldiers per year. Before the end of World War I, approximately 8,000 soldiers had died of tuberculosis. (Tuberculosis accounted for almost 13% of all medical discharges.) The newly formed Veterans Administration inherited all of those medically discharged soldiers, as well as all the surviving war wounded.

During World War I, the Army recorded certain physical characteristics during the initial physical examinations of the first million selective service draftees. Anthropologists maintained that this knowledge was vital for practical matters such as the cutting of uniforms in certain proportions, and, in addition, that the Medical Department had need for knowledge of the physical proportions in relation to diseases such as pulmonary tuberculosis.[2] "Thus, despite all other medical methods for diagnosing pulmonary tuberculosis, loss of weight remains one of value. Hence, weight at induction needs to be known accurately. As weight in relation to stature is more important than absolute weight, stature needs to be known accurately. Chest circumference is important for the same reason."[2(p48)] After World War I, the medical record section of the Office of The Surgeon General, US Army, compiled statistics from these anthropological data.

The second million drafted men and the half million who were rejected from both groups were the nexus of *Defects Found in Drafted Men*,[3] a volume based on a study of the records of the physical examinations. Today's readers may find some of the original interpretations tainted with the prejudices of that era, despite the stated medical and practical reasons for gathering anthropological data.

The need for a credible recruit psychiatric screening examination tool became evident during World War I. Both medical personnel and Army unit leaders believed that a system of screening out psychiatric patients would have saved both time and money. (There were 122,000 men hospitalized as psychiatric patients during World War I. Of these patients, an estimated 34% received psychiatric discharges from the military.)[4(p1)]

World War II

Because of the lessons learned in World War I, the US Army created a recruit examination process whose primary purpose was to eliminate the physically and mentally unfit (those individuals who were not capable of performing useful military functions). A secondary purpose of this examination process was to identify recruits who were likely to become physically or mentally disabled while on active duty. In August 1940, basic physical standards for induction were published as Mobilization Regulations 1–9.[4] During the war, these regulations underwent several major revisions, and they were amended periodically to correct deficiencies discovered during the medical screening process. Although the Mobilization Regulations possessed some clear lines of acceptance versus rejection regarding a recruit's medical conditions, one of their shortfalls was the introduction, which stated that the regulations were to be used as a "guide" for the medical examiner.[4(p4)] Screening examination clinicians were expected to exercise professional judgment during the

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Fig. 1-1. Artist: Lewis H. Freund. Oil paintings on masonite, created at Fort Chaffee or Camp Robinson, Arkansas, during World War II. These paintings—part of a much larger series—portray the daily lives of soldiers before and during their initial training: (**a**) *Entering Camp*, (**b**) *GI Haircut*, (**c**) *Clothing Issue*, and (**d**) *Mess Hall*. Paintings: Courtesy of the National Museum of the US Army, Army Art Collection, Washington, DC.

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acceptance or rejection of recruits for military service, resulting in subjective enlistment decisions.

When mobilization was ordered in the fall of 1940, the honorable and useful purposes of Mobilization Regulations 1–9 were challenged. The main purpose of the mobilization was to recruit 900,000 highly qualified men from more than 17,000,000 available registrants. The recruits were required to be fit to fight at the time of their recruiting examination. Standards were high, no reparative or therapeutic work was allowed, and psychiatric screening excluded anyone who might not respond well to Army life. However, once the United States actually entered the war, the recruit examination process changed significantly. The Selective Service processed approximately 600,000 recruits per month (Figure 1-1). In 1942, approximately 3,800,000 men entered the Army. Thus, enlistment standards were lowered to ensure that quotas could be obtained; consequently, some recruits with medical limitations and activity restrictions were allowed to enlist with the intent of performing noncombat support duties.[4]

During the first 2 years of World War II, a great effort was made to screen out all men with actual mental disorders, as well as those men with psychoneurotic traits that could cause difficulty in adjusting to Army life. Army leaders believed that men with these traits were a detriment to the morale of units, that they would eventually take up a hospital bed (that would

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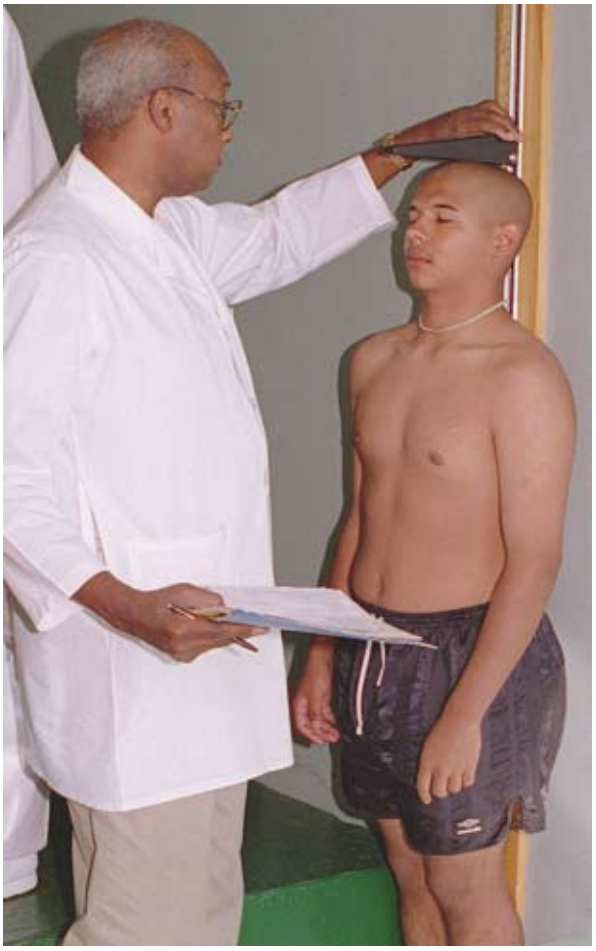

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Fig. 1-2. Physical examinations of contemporary recruits. (**a**) A MEPS medical staff member examining a recruit. (**b**) The visual acuity check, part of a recruit eye screening examination. (**c**) Height measurement. (**d**) A recruit working on the incremental dynamic lift machine. (**e**) A recruit receiving an electrocardiographic examination. (**f**) A medical staff member observing recruits during the neuromuscular portion of the physical examination.
MEPS: Military entrance processing stations.
Photographs: Courtesy of Headquarters, US Army Military Enlistment Processing Command, Chicago, Illinois.

be better filled with an actual combat casualty), and that they would ultimately receive a psychiatric discharge. These beliefs led many induction centers to reject candidates who possessed even minimal signs of emotional instability (such as nervousness or sweaty hands), or recruits who expressed fears about upcoming combat service.[5] By the end of 1943, more than 3 million men had been rejected for physical reasons[4(p2)] and another 2 million for psychiatric reasons.[6(p27)] By the end of World War II, psychiatric unfitness accounted for 30% of all rejections.[6(p27)]

The first formal psychiatric screening tool was introduced in October 1944. The 23-question Neuropsychiatric Screening Adjunct was adopted and used in all induction centers to screen out recruits who needed additional psychiatric testing. The psychiatric examination successfully identified men with serious mental disorders, but borderline cases posed problems for nearly all examining physicians. In 1951, the Neuropsychiatric Screening Adjunct lost credibility and favor when a report showed that many men rejected for military service by induction center psychiatric examiners were actually able to perform civilian jobs satisfactorily for many years.[6,7]

Despite improvements in the recruit screening process, many unqualified recruits still entered active duty just as they did in the Civil War and in World War I. Approximately 380,000 men cleared by induction center psychiatrists (and accepted for military service) ultimately received psychiatric discharges; another 356,000 men were separated for marginal reasons (eg, unable to adapt to military life, bed-wetting).[6]

The Vietnam Era and Beyond

Recruit screening methods used during and after the Vietnam War were not significantly different than they are today (Figure 1-2). However, advances in medicine, medical testing, and medical diagnostic equipment make the recruit screening process more successful in identifying soldiers with disqualifying medical conditions. Using formal testing methods and clinical observation of recruit performance, the recruiting and accession process consistently screens out internal knee derangements, painful flat feet, hearing deficits, uncorrectable visual acuities, obvious psychiatric diseases, infectious skin diseases, and communicable diseases (eg, tuberculosis and syphilis for Vietnam-era recruits, and beginning in the mid-1980s, human immunodeficiency virus and acquired immunodeficiency syndrome). Credible psychiatric screening tools are still inadequate.

Summary

The recruit screening process of the early 21st century is clearly better than the ones used during the 19th and 20th centuries. Its primary purpose is the identification and elimination of individuals who are physically and mentally unfit and who are incapable of performing their military duties successfully.

Advances in medical knowledge, medical technology, and medical diagnostic tools continue to improve our ability to diagnose disqualifying diseases and injuries. However, the real challenge will be in developing tests and screening processes that will identify a recruit's subclinical or unrevealed diseases and injuries, and that will identify physical or mental conditions proven to have a consistently high likelihood for early release from active service. Researchers are actively pursuing credible methods to uncover silent musculoskeletal diseases; previously undiagnosed or unrevealed asthma; and subclinical psychiatric illnesses or personality traits or disorders. These three diagnostic categories are the Army's top reasons why soldiers are unable to complete their first term of enlistment. Precise recruit screening in these categories will prevent much of the induction, enlistment, and commissioning of the physically or mentally unfit.

UNITED STATES NAVY

The treatment of military recruits has never been known as a specialty or as different from other types of medicine. Today, recruit medicine is considered a unique branch of military medicine. Even though recruit medicine is a fairly new specialty, it has actually existed for many decades. In 1871, the US Navy implemented its Medical Corps, which was created to standardize and manage the healthcare of and for its military force.

Pretraining Quarantine, Physical Examination, and Medical Screening

The US Navy has existed since 1775, but there was no specific training regimen for new recruits until 1905, when the first Navy boot camp was established in Newport, Rhode Island. As the Navy grew and personnel increased, other training centers were developed. New and larger hospitals and staging areas were built to handle recruits before, during, and after training. Although the training and medical facilities expanded greatly, recruit medical processing changed very little between 1905 and the 1970s (Figure 1-3).

Recruits were brought to the training center, placed in divisions of 30 to 40 per staging building, and held there for 3 weeks of medical quarantine. They were not allowed to leave the building; food and all other needs were delivered. During the quarantine, recruits were given physical examinations and medical screenings, including blood type identification, which was printed on their dog tags. These screenings were performed within separate buildings to prevent contamination with any possible communicable disease. If no recruits became ill, the entire building population was allowed to continue with training. However, if any recruit became ill, the entire building population was kept quarantined until its residents were examined by a physician and medically cleared to train. This ensured that there were no outbreaks of diseases throughout the training center.

This preventive medicine technique was performed until vaccinations were shown to be effective with close-quarter populations. However, even after vaccinations began, an entire division was still quarantined if any recruits had a reaction to the vaccine. After the recruits were medically cleared and released from medical quarantine, they were given their first Navy issue uniform (Figure 1-4) and could begin training.

The Military Entrance Processing Command

Preentrance Medical Qualification

Because of these problems, a new, streamlined process—the Military Entrance Processing Command—was implemented on July 1, 1976. The Command created military entrance processing stations (MEPS) across the United States in which physical examinations and medical screenings were performed. At the MEPS, the recruit was either medically qualified or disqualified from entering military service. Although this process has always been heavily scrutinized, it has allowed the military to stop holding recruits in quarantine for 3 weeks and begin in-processing as soon as the recruits step off the bus.

Recruits were still kept separate from other trainees during the first week of in-processing, when they received vaccinations; had blood drawn; underwent physical examinations (if a screening test was positive); and received dental, eye, gynecological, and audiological examinations. Once medically cleared, the recruits got a fit-for-full-duty stamp and began training.

Musculoskeletal Injuries and the Rehabilitation Program

Once recruits began training, the majority of the medical challenges were musculoskeletal complaints. Most injuries occurred to the recruits' ankles and feet and were

Fig. 1-3. Medical quarantine. (**a**) In the training centers, recruits were berthed in very close quarters. (**b**) Recruits received their vaccinations before beginning their training. (**c**) Recruits who received the smallpox vaccination were kept quarantined until they were medically cleared. Ca. 1930s–1960s.
Photographs: Courtesy of Great Lakes Naval Museum, Great Lakes, Illinois.

secondary to the poorly designed and manufactured footwear recruits were required to wear. (Several decades later, a boot manufacturer created a boot with increased impact absorption and a steel toe.) The increased stress placed on the lower extremities of recruits who were not used to these types of activities also made musculoskeletal injuries much more common than any others. Because so many recruits lost training days from musculoskeletal injuries, the Navy medical team developed a specific rehabilitation program, which included the position of exercise aide to monitor recruits.

The rehabilitation program dramatically improved recruit health and subsequently decreased lost training days,[8] and it also instituted the concept of teamwork among medical providers (eg, physicians, exercise aides, podiatrists).

Sports Medicine and Reconditioning Therapy Teams

In 1995 the Sports Medicine and Reconditioning Therapy (SMART) teams were created to encourage physical therapists, podiatrists, and sports medicine

Fig. 1-4. First Navy issue uniform during World War I. After graduation from boot camp, the recruit could exchange the naval training station ribbon for one with the ship's name on it.
Photograph: Courtesy of Great Lakes Naval Museum, Great Lakes, Illinois.

physicians to work together closely and to treat only musculoskeletal injuries. This team approach not only resulted in excellent health care for recruits but also helped these providers to understand recruit injuries and to formulate appropriate therapies. In 2001 the Navy received its first trained orthopedic physician assistant (a specialist in musculoskeletal examination), who became the liaison between the orthopedic surgeon and the recruit. This new dimension to the SMART team ensures that a surgical recruit candidate is seen immediately not only by one of the surgical team members and is also followed postoperatively.

Another important tool used by SMART teams is osteopathic medicine. With many recruits complaining of back pain, the use of manipulative medicine (a method of encouraging muscle relaxation before bone realignment) has greatly benefited the recruit population. This method has helped decrease lost training time as well as the need for using medications over prolonged periods. Because of the SMART Team concept,[8] the Navy has seen a decreased number of stress fractures and other significant injuries.

Women's Health

In the late 1940s, women were allowed to join the Navy (Figure 1-5). Women brought with them conditions that had not been seen in the Navy before (eg, pregnancy, gynecological problems, and increased stress fractures). Therefore, it was important that Navy medicine adapt to manage the healthcare of both men and women.

Today, during their first week of boot camp, women have Pap smears, human chorionic gonadotropin screening, and an entire women's health workup performed. They are also educated about sexually transmitted diseases (STDs), birth control methods, gynecological complaints and concerns, and other women's healthcare issues.

Preventive Medicine for Recruits

Monitoring the biggest risks to and vulnerabilities of patients is the most difficult job of the medical provider. When training centers first opened, for example, running water was not available; therefore, dishes had to be done outside in a bucket of water, and recruits had to wash their uniforms in a similar fashion. These practices created health hazards with sewage and bodily wastes. To prevent such hazards from threatening the recruits' well-being, the Preventive Medicine Department (PMD) was established to ensure the health and well-being of all Navy personnel assigned to a specific area. The PMD investigates trends and tracks infection rates and outbreaks among recruits, which spread quickly throughout a division because of the close living quarters and lack of circulating air. In addition, the PMD is a critical part of the team that treats and cares for recruits who have STDs, having exclusive responsibility for tracking and managing of all STD cases. With the onset of new diseases and better testing, the numbers of STD cases in Navy recruits have not declined over the decades.

Specialized Medicine for Specialized Warfare

All candidates seeking entrance to Navy specialized warfare programs need to be physically fit and qualified to endure the rigorous training regimens. These special physicals are performed by the dive medical officer and the flight surgeon, both experts in medical qualifications for their specialty. The dive medical officer, trained in undersea medicine and qualified as a diver, evaluates every recruit who comes through boot camp and wants to become a diver or Navy SEAL (SEa, Air, Land). The flight surgeon is trained in aerospace medicine and is

Fig. 1-5. One of the first women's recruit training platoons to graduate (November 9, 1949) from the Naval Training Center, Great Lakes, Illinois.
Photograph: Courtesy of Great Lakes Naval Museum, Great Lakes, Illinois.

qualified as a pilot. Both of these specialists perform thousands of physical examinations per year that include a thorough head-to-toe physical examination, eye and audiological examinations, and laboratory and radiological examinations.

Sick Call

Most of the illnesses seen in sick call are viral infections. Whenever people come from different parts of the country and live in close quarters, illnesses surface. The difficulty for the healthcare provider is to determine which recruit is severely ill and which recruit has an ordinary viral infection. It is not uncommon in sick call to have one recruit with a fever of 104°F who feels just a little weak and another recruit with a fever of 100.5°F who feels very ill.

Role of Physician Assistants

In 1989 the Navy commissioned its physician assistants as staff officers to work with the general medical officers on all aspects of recruit medicine. Over time, the experience and knowledge of recruit medicine within the physician assistant community have increased, and the physician assistant is now not only a member of the team, but also, in many instances, the leader of a team responsible for direct recruit healthcare. Recruit clinics are the busiest clinics in the United States, sometimes handling 500 to 600 recruits within a 12-hour period.

Summary

Navy recruit medicine evolved from an early period, when all recruits in a building were held in isolation for 3 weeks or longer, until everyone was medically cleared, to the current practice of screening each individually and beginning in-processing when recruits step off the bus. MEPS were established throughout the country to provide physical examinations and medical screenings of recruits, and SMART teams were developed to treat musculoskeletal injuries and to encourage team treatment of recruits. As the fields of women's health and preventive medicine emerged, the Navy adopted new methods to preserve the health and well-being of female recruits and all personnel, including tracking infection rates and outbreaks of infectious diseases. The Navy has created special examinations for recruits needing to qualify for entrance into specialized warfare programs. Sick call provides immediate medical care for recruits. The Navy's physician assistants have been trained to conduct specific physicals for recruits to ensure that they are medically able to perform their tasks after recruit training, and every specialist in Navy medicine is available to evaluate and medically clear recruits for training.

UNITED STATES MARINE CORPS

Most marines' first exposure to military medicine occurs at the two US Marine Corps Recruit Depots (MCRDs) located in Parris Island, South Carolina, and San Diego, California. Since the early 20th century, both of these depots have been training and processing centers for new recruits. The history of these depots provides a background of the formative years for both the modern Marine Corps and Navy medicine.

History of Recruit Training

Establishment of the Marine Corps Recruit Depot, San Diego

As a response to political instability in Mexico, the Marine Corps developed a presence in San Diego in 1911.[9] San Diego was an ideal location and served as a convenient embarkation point for travel to the Pacific. In 1916 the Secretary of the Navy decided to establish a permanent Marine Corps installation in San Diego.[10] Construction began in 1919, and by 1921 the base was ready for duty.[9(p581)] The new base did not become a recruit depot until 1923, and even then, recruit training was only one of its many functions. By 1932, the training regimen had been well established and consisted of an 8-week course of basic indoctrination, rifle range, drill, and guard duty. Some marines were also able to attend Sea School for further ship service training.[9(p582)] Once enrolled, they were taught the fundamentals of seamanship, such as elementary gun drill and shipboard emergency procedures.[10(p13)]

As the need for new marines grew, so did the number of base personnel. However, because the base was surrounded by the city and tidal flats, it was difficult for the base to expand physically. There was little recourse but to shift certain activities to other bases in the area (such as Camp Holcomb, Camp Elliott, and Camp Pendleton). Recruit training became the specialty of the San Diego installation, whereas advanced combat training was conducted elsewhere. On January 1, 1948, this area was designated as the Marine Corps Recruit Depot, San Diego.[9(p582)]

In 1939 the Marine Corps embarked on an ambitious building program for their San Diego base. Several

Fig. 1-6. Recruits wait at the dispensary at the Marine Corps Recruit Depot, San Diego, California (in 1952), while a corpsman (center) marks each of them with an identifying number.
Photograph: Courtesy of the US Department of Defense, collected at the US National Archives, Washington, DC.

years earlier, the headquarters of the Fleet Marine Force had been transferred from Quantico, Virginia, to San Diego. Between the winters of 1939 and 1943, several medical structures were constructed (such as a neuropsychiatric building, a dental building, and a dispensary), as well as additional barracks, mess halls, and storage facilities (Figures 1-6 and 1-7).[10(p14)]

The onset of World War II resulted in quadrupling of the recruits to be processed. Before the war, the average monthly output of trained recruits was approximately 1,600; after Pearl Harbor, this number exploded to 6,800. The training cycle for recruits was temporarily reduced from 7 weeks to 5 weeks, with proportionally more emphasis on physical training and combat readiness. In addition, as the need for personnel became more pronounced, the minimum physical and intellectual standards for Marine recruits were lowered. Screening units and special platoons were developed at the recruit depot to identify and assist recruits with minor physical ailments or learning difficulties (Figure 1-8).[12]

After the end of World War II, the number of recruits again dropped to approximately 1,500 per month. By the onset of the Korean War in 1950, however, recruit training once again expanded significantly from 3 to 8 training battalions.[9] New construction of barracks and mess halls to handle more than 4,000 recruits simultaneously began in 1967. Significant improvements to the dental facilities, including a new dental clinic with multiple operating rooms and a prosthetic laboratory,[11(p94)] occurred in 1972, making the depot one of the most advanced in the Marine Corps.

Establishment of the Marine Corps Recruit Depot, Parris Island

US military involvement at Parris Island, South Carolina, began during the Civil War, when the area served as a key base for the Union Navy. At that time, the area was known as Port Royal and had been in use since the colonial era. After the Civil War, the United States kept ships permanently stationed at Port Royal to train apprentices.[13(p1)]

In 1882 the Navy Department decided to develop a permanent shore-based facility at Port Royal and

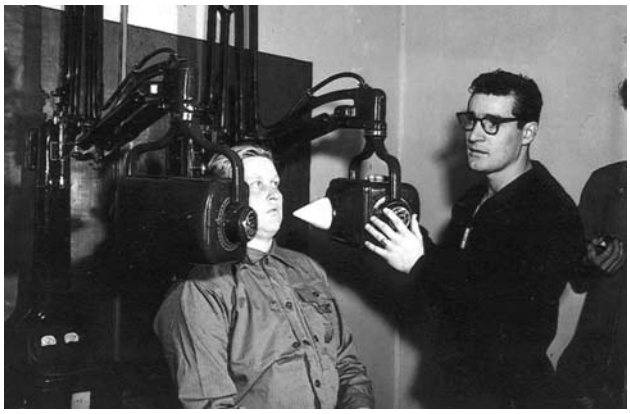

Fig. 1-7. A nervous recruit receives a dental x-ray examination at the Marine Corps Recruit Depot, San Diego, California, in 1952.
Photograph: Courtesy of the US Department of Defense, collected at the US National Archives, Washington, DC.

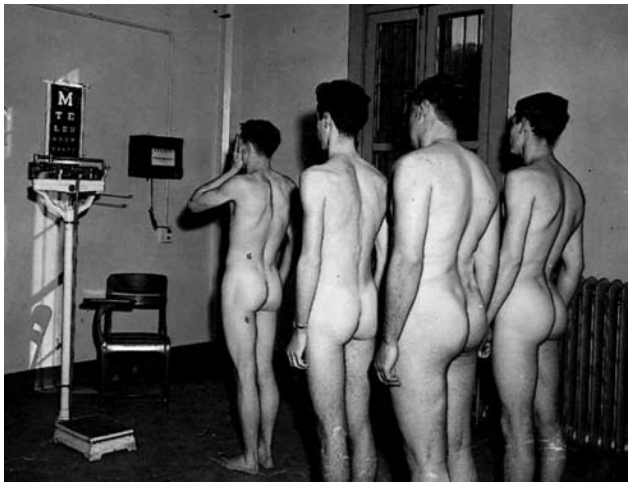

Fig. 1-8. Visual acuity tests were one element of a complete screening examination of all recruits at the Marine Corps Recruit Depot, San Diego, California, in 1952.
Photograph: Courtesy of the US Department of Defense, collected at the US National Archives, Washington, DC.

authorized the establishment of the US Naval Station, Port Royal. To provide security, a group of marine guards was assigned to the port in June 1891.[13] The US Navy Hospital, Port Royal, was established in 1893,[14] and by 1895, the post was officially called Marine Barracks, US Naval Station, Port Royal.[13(p1)] Marines began training at Port Royal in 1909, when the newly designated Marine Officers' School, US Naval Station, Port Royal, began indoctrinating new officers. By 1911 the command had begun training recruits. In 1915, after a temporary transfer of marine training to Virginia, the Navy Department transferred all of its property at Port Royal to the Marine Corps for establishment of a recruit depot.[13(p2)]

The recruit depot was developed just in time for World War I, during which its capacity increased from 835 men in April 1917 to 13,286 men at the height of the war. Although some recruit training was conducted in Philadelphia, Pennsylvania, and in Norfolk, Virginia, most of it was done at Parris Island and San Diego, but predominantly at the former location. The training schedule was similar for both: 8 weeks of intensive training for combat.[13(p3)]

By the 1920s, the Naval Hospital had been expanded to include multiple wards that were able to accommodate nearly 100 patients, as well as an operating pavilion and other support services.[15] At that time, the staff consisted of a commanding officer, a surgeon, 3 other medical officers, 8 nurses, and 29 corpsmen.[16(chap5)]

After World War I, recruit activity reached its nadir, with only about 300 recruits monthly. However, just before World War II, the Marine Corps was authorized an overall increase in personnel, resulting in a commensurate increase in recruits. In 1941, when the United States finally became involved in World War II, the number of recruits expanded from 1,600 to almost 7,000 per month, nearly overwhelming the already expanded facilities. Temporary buildings were hastily constructed, and more permanent ones soon followed.

By 1944 the Naval Hospital consisted of more than 50 buildings (including 14 general wards and multiple specialty wards) and was staffed with more than 300 personnel (Figures 1-9 and 1-10). In addition to the main hospital, medical services were provided at multiple dispensaries scattered around the Recruit Depot.[16(chap6)] As was also true at MCRD, San Diego, medical screening of new recruits was of paramount importance, and two separate platoons were created: platoon A was designated for slow learners, and Platoon B was designated for those with minor physical problems. Both platoons tried to stay as close to the regular training cycle as possible to ease the transition into military life.[13(p2)]

At the end of World War II, recruit numbers quickly shrank to more manageable levels, and the depot made some changes in its management structure so that all medical and dental care was provided by the Post Medical Detachment. In 1946, the detachment had 15 officers and 67 enlisted personnel, with an additional 32 officers and 156 enlisted personnel stationed at Parris Island Hospital.[16(chap8)]

In 1945 a dental detachment was formed and an additional dental dispensary was opened.[16(chap6)] The

Fig. 1-9. Inpatient ward, US Naval Hospital, the Marine Corps Recruit Depot, Parris Island, South Carolina, in 1946. Photograph: Courtesy of the US Department of Defense, collected at the US National Archives, Washington, DC.

Fig. 1-10. A physician observes three corpsmen as they replace a patient's bandages, US Naval Hospital, Marine Corps Recruit Depot, Parris Island, South Carolina, in 1946. Photograph: Courtesy of the US Department of Defense, collected at the US National Archives, Washington, DC.

dental dispensary was noted for its state-of-the-art prosthetic facilities, as well as for its multiple operating rooms. Several hundred patients were seen per month, but the facility could expand to treat thousands if necessary.[17] By the 1950s, more than 80 dental officers were on base, and the dental clinic was filling more than 10,000 teeth per month, making it one of the largest dental clinics in the military.[16(chap8)]

Another significant event was the formal designation of the command as MCRD, Parris Island, to match its sister command in San Diego.[13(p11)] A permanent change to the infrastructure came in 1946, with the construction of Beaufort Naval Hospital, the eventual replacement for Parris Island Naval Hospital. When the latter was decommissioned in 1949, all patient care was shifted to the new facility, then one of the most modern medical facilities in the southeastern United States. Built at a cost of more than $13 million, Beaufort Naval Hospital had 400 beds and the ability to expand easily to accommodate more patients. The wards were comfortable, air-conditioned, and offered a host of amenities, as well as virtually every conceivable specialty service.[18] In 1966 a psychiatric evaluation ward opened to assess and treat the mental illnesses of recruits. In 1970 a new dispensary was constructed that consolidated nearly all the base dispensaries into one. [16]

Current Recruit Training

Changes in Recruit Training

In 1996, under the leadership of General Charles C. Krulak (Commandant), major changes to recruit training were implemented. These changes included the development of identical 12-week courses for male and female recruits, increased training for drill instructors, and, most significantly, addition of "the crucible." Intended as the final, overwhelming hurdle of basic training, the crucible consists of an endurance test lasting more than 50 hours and requiring strenuous physical exertion, problem solving, and teamwork.[19] During this test, recruits are required to march more than 40 miles and participate in more than 32 stations that challenge their physical and mental limits, all the while functioning with little sleep or food.[20] Overall, these changes in training have resulted in a significant increase on the physical demands made on recruits through basic training.

The Marine Corps Martial Arts Program has recently been designed to replace the previous close-combat training. Techniques include upper and lower body strikes, choke holds and counters, and bayonet and knife strikes.[21] Various types of close-hand combat have long been an important element of recruit training and are generally regarded as an invaluable foundation in creating marines.[22] However, even with safety measures, significant injuries can occur (Figure 1-11). The discontinued Combat Hitting Skills Program, a rudimentary form of boxing in which recruits were matched against each other for 15-second rounds, caused more injuries than any other type of training conducted at Parris Island between 1990 and 1995.[23] During that time the program accounted for more than one third of all recruit injuries at Parris Island, with more than 200 recruits sustaining injuries from shoulder separations to concussions. A handful of recruits have had more severe injuries, including skull fractures, comas, and neurological damage. The Combat Hitting Skills Program ended after one fatality.[23]

Basic training can be a physically and emotionally grueling experience, but it is remarkably safe. The death rate of personnel in boot camp is lower than the death rate of comparably aged individuals in the general population.[24] A study of recruit deaths from 1973 to 1985 at MCRD, San Diego, provides an illustrative cross-section of the problems faced by recruits and healthcare providers. Of the 31 deaths studied, 8 deaths were from preexisting medical conditions, such as acute asthma exacerbations, sickle cell crises with disseminated intravascular coagulation, complications of ulcerative colitis, and ruptures of the subclavian artery secondary to a collagen defect. In some cases, recruits concealed their medical conditions from health-

Fig. 1-11. Lower extremity bruising from "body hardening," an element of the Marine Corps Martial Arts Program that involved repetitive strikes to the upper and lower body, at the Marine Corps Recruit Depot, Parris Island, South Carolina, in 2001.
Photograph: Courtesy of Gregory Gorsuch, MD, Captain, Medical Corps, US Navy.

care providers to avoid separation; in other cases, the condition would not have disqualified recruits from training. Nine deaths were from training accidents or intentional injury (including suicide, homicide, and drowning) and weapons-handling injuries. Six deaths were exertional injuries, including cardiac abnormalities and vomitus aspiration after physical training. Eight deaths during this study period were caused by infectious diseases (such as meningococcemia and complications from pneumonia).[24]

Medical Care of Training Injuries

Today, medical treatment of recruits has incorporated lessons learned from the past into a cohesive structure for delivering healthcare. Even in peacetime, the number of recruits requiring medical care is very high; for example, in 2002, MCRD, Parris Island, had more than 174,000 clinic visits basewide (a monthly average ≥ 14,000 visits). At Parris Island, medical care is initially provided by independent duty corpsmen, corpsmen, and physician assistants at the battalion aid stations. Further care can be given at the branch medical clinic or at specialty services located near the base. If the injury is significant enough to require an extended period of convalescence, a recruit is placed in the medical rehabilitation platoon, where he or she is temporarily free from many of the physical demands of basic training. Recruits who have graduated from basic training but continue to have medical problems that prevent them from advancing are placed in the basic marine platoon until the condition improves.

Heat-Related Injury. Heat exhaustion, an exertional heat illness, continues to be a significant problem in recruit training. Education of recruits and drill instructors, however, has significantly decreased the number of casualties. This education includes giving lectures to recruits at the beginning of basic training, monitoring the water intake of recruits, and scheduling physical training carefully to avoid excessive exertion during hot or humid weather.[25] In 1956, after nearly 400 heat casualties and one death (Figure 1-12),[25(chap9)] MCRD, Parris Island, initiated use of the "red flag" system to control heat casualties. Whenever the temperature, humidity, or both reached dangerous levels, a red flag was posted at various locations across the base. Drill instructors ceased all training and moved recruits out of the sun. Today, a more sophisticated flag system (Exhibit 1-1) based on the wet bulb globe temperature index is used at Marine Corps bases worldwide.[26]

Treatment of heat casualties has become a systematic procedure based on well-established and effective protocols. For example, at MCRD, Parris Island, the Branch Medical Clinic set up a designated "cold room" kept at a lowered ambient temperature. The room contains two bathtubs filled with ice water and peripheral items (such as an ice machine and chilled intravenous saline). In the field, recruits affected by heat illness are stripped of their clothing, and their groins and axillary areas are packed with ice. After transport to the clinic, they are placed (but not completely immersed) in the ice bath. Total immersion is avoided in the event that cardiopulmonary resuscitation becomes necessary. The patient's vital signs and rectal temperature are assessed, and the recruit is given intravenous fluids. Repeatedly, sheets are dipped in icy water and used to cover and soak the patient. The patient's head is drenched with ice water and cooled with a fan. In general, within 20 minutes, this procedure results in a significant decrease in core temperature. After the patient's temperature is stabilized, he or she is removed from the cold room for further assessment.[27] These measures have been remarkably effective in controlling heat-related injuries, thus resulting in very low recruit hospitalization rates and infrequent long-term sequela.[28]

Musculoskeletal Injury. Musculoskeletal training injuries also account for a significant percentage of medical care at the recruit depots. One study[29] showed an incidence of three podiatric injuries per 1,000 recruit days at risk, an average of nine such injuries per 100 marines per month of training (Figure 1-13).

The training of female recruits began in 1949, and their incorporation into the basic military training

Fig. 1-12. A recruit is treated for heat exhaustion with sheets soaked in ice water, the Marine Corps Recruit Depot, Parris Island, South Carolina, in 1958.
Photograph: Courtesy of the US Department of Defense, collected at the US National Archives, Washington, DC.

EXHIBIT 1-1

WET BULB GLOBE TEMPERATURE INDICES AND FLAG COLORS

Green flag (WBTI 80.4°F–84.9°F)	Heavy exercise for unacclimatized personnel will be conducted with caution.
Yellow flag (WBTI 85°F–87.9°F)	Heavy exercise for personnel without at least 3 weeks of acclimitization will be curtailed. Avoid outdoor classes in the sun.
Red flag (WBTI 88°F–89.9°F)	All physical activity for personnel without at least 12 weeks of acclimitization will be curtailed. Personnel who are thoroughly acclimatized may carry on limited activity for more than 6 hours daily.
Black flag (WBTI ≥ 90°F)	All nonessential physical activity will be halted.

WBTI: wet bulb temperature index
Reproduced from: US Marine Corps. *Marine Corps Heat Injury Prevention Program.* Washington, DC: Headquarters, US Marine Corps; June 2002. Marine Corps Order 6200.1E

system presented unique medical issues. For instance, there is evidence to suggest that women may be at risk of suffering from different types of musculoskeletal injuries than men.[30] Studies of female recruits confirmed high morbidity rates for young women, with musculoskeletal injuries accounting for 44% of all visits to a healthcare provider and stress fractures accounting for a 5.7% incident rate.[30]

To treat the large numbers of sports injuries, multiple healthcare resources are available. At the Branch Medical Clinic at MCRD, Parris Island, recruits are initially seen on sick call and later sent to a host of specialty clinics—including sports medicine, physical therapy, and SMART team—that offer intensive, focused care and therapy for injuries.

The Ribbon Creek Incident. Despite numerous safeguards, drill instructor misconduct has resulted in injury and death. Historically, the most notorious case of misconduct was the Ribbon Creek incident in 1956, in which a Marine Corps drill instructor, to foster discipline, marched his platoon into a tidal stream in the middle of the night. The stream was at high tide, and several recruits panicked when they stepped into water over their heads. In the ensuing confusion, six recruits drowned. The drill instructor was court-martialed and convicted of negligent homicide and drinking on duty. He was initially sentenced to 9 months' hard labor and a bad conduct discharge; later, however, the penalty was reduced to 3 months' confinement and a reduction in rank to private.[13(pp16–18)]

The Ribbon Creek incident was a watershed event in recruit training and sparked immediate reforms. Beginning in May 1956, all recruit training was placed under the supervision of the commandant of the Marine Corps, not under the individual commanding generals of the recruit depots. This was achieved by creating separate Recruit Training Commands at each of the depots.[11(p85)] Along with administrative change came changes in recruit physical training. To prevent possible heat-related injuries, guidelines were also developed for training in hot weather.[31] A special training company was created to better protect poorly conditioned or injured recruits. It consisted of the following personnel[31]: recruits who had difficulties passing the initial strength test, individuals who had just been hospitalized or were awaiting medical discharge, and recruits in need of additional attention (the "motivational" platoon).

Further reforms were implemented in 1975, when two more instances of recruit injury received national

Fig. 1-13. Recruits have their feet treated for friction blisters, the Marine Corps Recruit Depot, Parris Island, South Carolina, in 1947.
Photograph: Courtesy of the US Department of Defense, collected at the US National Archives, Washington, DC.

attention. A recruit at MCRD, San Diego, died after injuries sustained in the pugil stick arena, and at MCRD, Parris Island, a recruit was shot in the hand by a drill instructor. These incidents sparked congressional inquiry and led to the 1976 development of *Standing Operating Procedures for Male Recruit Training*.[32] These procedures identified certain acts by drill instructors as severe offenses, including physical abuse of recruits and humiliating and degrading acts designed as punishment. Physical training used as punishment was limited to 5 minutes per hour.

Summary

US Marine Corps recruit medicine has consistently faced unanticipated challenges at every stage of its evolution. In the beginning, the problems were merely a reflection of the larger difficulties of establishing recruit depots at Parris Island and San Diego. As the depots gradually developed the needed infrastructure, the new challenges of war forced further expansion and refinement. The Marine Corps adapted and, in time, developed sophisticated procedures for protecting health while routing recruits through training.

In today's Marine Corps, the improvement has been largely procedural, with the implementation of time-tested protocols to prevent and treat illness. Injuries of all types are channeled through a multitiered, multidisciplinary approach that returns the recruits to full duty as quickly as possible. Although training has increased the physical demands on recruits, medical care has continued to improve steadily.

UNITED STATES AIR FORCE

Recruit medicine is the medical care given to recruits to prevent medical attrition and provide the US Air Force with a healthy military force. Initial recruit training, known as "boot camp" or basic military training, lasts 6 weeks and takes place at Lackland Air Force Base in San Antonio, Texas. Since 1946, nearly all active-duty basic training has occurred almost exclusively at Lackland (Figure 1-14).

Organizational History

Lackland Air Force Base—The Beginning

Lackland Air Force Base began on a part of Kelly Field, Texas, known as "the hill" because of its flat escarpment that rose steeply above the Kelly airfield. It was used as a target bombing range by Kelly's pilots. In 1940, Brigadier General Frank D. Lackland, commander of the Air Corps Advanced Flying School at Kelly Field, helped convince the War Department to establish an aviation cadet reception center. On September 30, 1941, the center was designated the Air Corps Replacement Training Center, Kelly Field, Texas, with the mission of training Army Air Force pilots.

To provide medical care for incoming trainees, the Station Hospital, Kelly Field, opened in 1942. Part of Kelly Field became an independent installation called the San Antonio Aviation Cadet Center, commanded by Colonel Robert J. Platt. It was later renamed the Station Hospital, San Antonio Aviation Cadet Center.

The cadet aviation center was closed at the end of World War II and replaced by the San Antonio District of the Personnel Distribution Command, later redesignated as the Army Air Forces Military Training Center. The command's new mission was to absorb troops and equipment from the basic training school in Harlingen Field, Texas, and to begin a 6-week basic training program for enlisted personnel.[33(p9)] Training lengths over the next decade fluctuated from 13 weeks in April 1947 to 2 weeks during the Korean War.

In July 1947 the War Department renamed the land on which the training center stood as Lackland Air Force Base in honor of the late Brigadier General Lackland, who played such a prominent role in originating the aviation cadet reception and training center for Kelly Field. (One week later, the San Antonio photographer E. O. Goldbeck took his famous picture of the Army Air Forces insignia composed entirely of

Fig. 1-14. This was the gate to Lackland Air Force Base, San Antonio, Texas, as it stood in 1948. Not only has Lackland trained most of the enlisted personnel since 1946, but it also has an extensive history of providing officer and aviation training.
Photograph: Courtesy of the 37th Training Wing Historian's Office, Lackland Air Force Base, San Antonio, Texas.

personnel from Lackland Air Force Base, as shown in Figure 1-15.)

The National Security Act of July 26, 1947, established the Air Force as an independent armed service, and on September 18, 1947, the US Air Force was born. By October 1948, the Air Force began basic training for the newly authorized Women in the Air Force division or WAF (Figure 1-16). WAF training was separate from basic training for men. It was not until 1997 that men and women trained together. The first basic military training flight of African Americans was in September 1947 (Figure 1-17). Two years later, integration of the regular units was instituted.

The Korean War

The Korean War had a tremendous impact on basic training and on supplied medical care. With the increased need for soldiers, Lackland Air Force Base received a large influx of new recruits. In December 1950, the 3700th Medical Group became a major port of debarkation for war casualties, receiving 2,774 evacuees between December 11 and January 10, 1951. To meet this demand for care, the 3700th Medical Group increased its bed capacity from 475 beds in August 1950 to 1,000 beds by December 1950.[34] In late December 1950, the Air Force chief of staff lifted recruiting quotas, thus enabling recruiters to enlist new recruits without limit. Special trains arrived daily at Lackland Air Force Base to deliver this vast influx of personnel. There was not enough time to build appropriate structures, partially turning the base into a tent city (Figure 1-18). Because of the change to a shortened, 2-week basic training, the Air Force was accused, in one investigative report, of sending inoculated civilians into the field.[33(p14)] Between July 1950 and June 1951, about 210,253 recruits had passed through Lackland Air Force Base.[33(p16,17)] This tremendous surge in recruit numbers tested the ability of Air Force medical personnel to provide care.

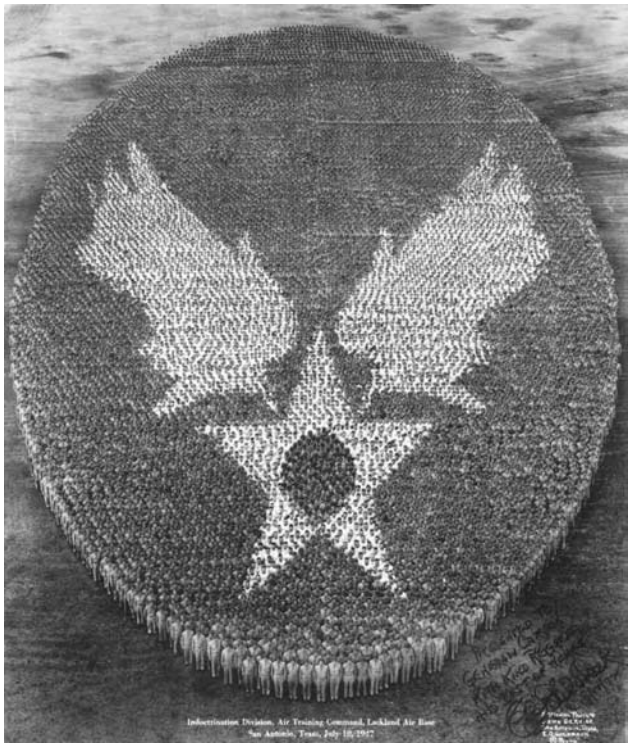

Fig. 1-15. Photographer E. O. Goldbeck built himself a custom 200-foot tower from which to take this photograph. On July 12, 1947, he formed 21,765 Lackland base personnel into this Army Air Forces insignia.
Photograph: Courtesy of the 37th Training Wing Historian's Office, Lackland Air Force Base, San Antonio, Texas.

Fig. 1-16. The 3700th Women in the Air Force (WAF) Training Group.
Photograph: Courtesy of the 37th Training Wing Historian's Office, Lackland Air Force Base, San Antonio, Texas.

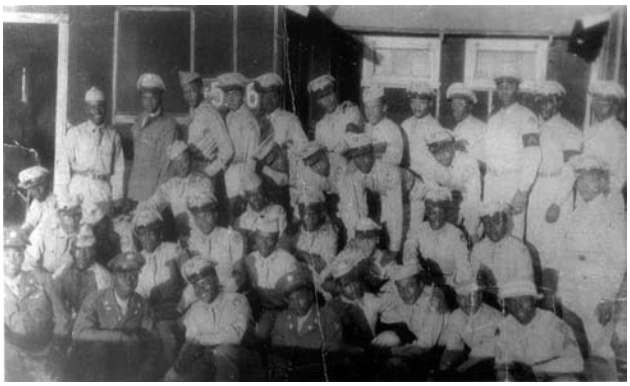

Fig. 1-17. Basic Military Training Flight 1026, which was the first flight of African American men in the newly established Air Force.
Photograph: Courtesy of the 37th Training Wing Historian's Office, Lackland Air Force Base, San Antonio, Texas.

Fig. 1-18. At the height of the Korean War enlistments, recruits lived in tents. Poor planning was the cause of the overcrowding.
Photograph: Courtesy of the 37th Training Wing Historian's Office, Lackland Air Force Base, San Antonio, Texas.

By July 1951, the USAF Hospital, Lackland, was authorized to increase its bed capacity to 1,400, which included 200 beds reserved for air evacuation patients. By early June, the 3700th Medical Group had received its 25,000th air evacuee patient from the Korean War. The USAF Hospital, Lackland, had met the challenge of providing care in less than ideal circumstances and was on its way to becoming one of the military's premier hospitals.

Korea and Beyond

In 1954 many of the pre-World War II buildings used for treating recruits and other personnel on Lackland Air Force Base were beginning to age, and a new hospital was needed that could better meet the needs of the service. Groundbreaking began in October 1954, and on November 16, 1957, the 9-story, 500-bed facility (with more than 1 million square feet of floor space) was dedicated. In 1960 an additional wing added 500 more beds. In the early 1960s, the hospital became part of the Aerospace Medical Division and gained its own separate budget. This allowed the hospital to operate as a major medical center, referral center, and tertiary care center rather than as just a base hospital. On March 2, 1963, the hospital was redesignated the Wilford Hall USAF Hospital in honor of the late Brigadier General Wilford Hall.

In June 1961 the Military Training Center at Lackland occupied a 231-acre portion of the Medina Base, which belonged to the Atomic Energy Commission and was located one-half mile west of Lackland. Two months later, this area was designated as the Lackland Training Annex. In 1966, the remaining portion of Medina Base was turned over to Lackland, adding 4,017 acres and 174 buildings.

During the Vietnam War, basic military training at Lackland reexperienced an upsurge in recruits. By July 13, 1965, 17,568 recruits were trained, and by September 18, 1965, 20,037 recruits were trained. Lessons learned from the Korean War helped Lackland Air Force Base become better prepared for this surge. In 1969, Wilford Hall USAF Hospital was upgraded in title to Wilford Hall USAF Medical Center. By the late 1970s, Wilford Hall was ready for reexpansion and started what would become a 7-year construction effort. On November 4, 1983, the dedication ceremony was held. Although no new beds were added, the expansion doubled the size of the facility (Figure 1-19).

In 1993 the Wilford Hall USAF Medical Center was redesignated the 59th Medical Wing, which later became the Wilford Hall Medical Center. On April 1, 1998, the 59th Medical Wing was reorganized into today's medical structure, with the Trainee Health Flight of the 59th Aeromedical-Dental Group providing the bulk of recruit care.

History of Recruit Medical Care

The history of recruit medical care parallels the advances made in other medical areas. In many ways, the health care of recruits is unique with its own specific problems. For example, recruits come from all over the country within a compressed period of time, bringing with them varying disease exposures—to

Fig. 1-19. Wilford Hall shown at the completion of its expansion in 1983. The original hospital is seen along with the new, low-lying building structure.
Photograph: Courtesy of the 37th Training Wing Historian's Office, Lackland Air Force Base, San Antonio, Texas.

Fig. 1-20. Sleeping quarters for basic recruits in 1962. Notice the staggering of head and feet (by pillow placement) to help prevent the spread of airborne disease.
Photograph: Courtesy of the 37th Training Wing Historian's Office, Lackland Air Force Base, San Antonio, Texas.

eat, sleep, and live together in close proximity (Figure 1-20). In addition, there is mandatory exercise, for which some individuals are inadequately prepared. Also, many recruits are away from home and being exposed to an authoritarian environment for the first time. All of these factors and more (eg, outbreaks of communicable diseases, training injuries) contribute to the medical and mental attrition of recruits. The next sections describe some of the advances and setbacks in recruit health care at Lackland over the last several decades.

The 1960s

Immunizations have played a tremendous role in the health of recruits during training. In 1961 a new jet injection immunization device was used on recruits. This device not only sped up the processing of basic trainees, but also saved the base thousands of dollars by reducing the need for needles, syringes, and sterilization procedures.[35] However, the jet injector was declared unsafe by the US Food and Drug Administration because of possible tip contamination. The needle-free injection system (Bioject Medical Technologies, Inc, Bedminster, NJ) used today provides a safe, single-dose delivery of vaccination.

In an effort to increase recruit enrollment during the Vietnam War, the Air Force began the Medically Remedial Enlistment Program, with the first recruits arriving at Lackland in February 1967. In this program, up to 200 people per month were allowed to enlist with disqualifying but correctable physical disabilities. On arrival, they underwent treatment at Wilford Hall USAF Hospital before beginning military training. Screening for all recruits consisted of a "physical examination, audiogram, color vision test, blood typing, immunizations, tuberculin tine testing, lensometer readings, verifying or revising physical profiles, and ordering spectacles"[36(p105)] (Figure 1-21). The Reid Health Services Center was originally established as

Fig. 1-21. Basic trainees undergoing a dental examination in 1967. The distinctive green uniforms worn by the recruits were later phased out in favor of the common battle dress uniforms.
Photograph: Courtesy of the 37th Training Wing Historian's Office, Lackland Air Force Base, San Antonio, Texas.

the base dispensary in 1967, and later renovated and renamed in honor of Senior Master Sergeant David B. Reid.[37]

The 1970s and Beyond

In the mid-1970s, the Air Force began investigating better ways to screen recruits. One tool, begun in 1976, was the Air Force Medical Evaluation Test, use to psychologically screen recruits and identify enlistees who were unsuited for Air Force careers or unlikely to complete their first term of enlistment. In October 1985, Wilford Hall began screening basic trainees for the human T-lymphotropic virus-type 3—later known as human immunodeficiency virus (HIV). Any recruits who tested positive were discharged from the service. In February 1986, the Air Force began screening all of its personnel, and Wilford Hall became the designated Air Force HIV referral center, monitoring all Air Force personnel who tested positive.

The Basic Military Training Experience

Basic military training at Lackland Air Force Base consists of a 30-day curriculum spread over 6 weeks, with an average of 2 days of administrative in-processing before training begins. The basic training day usually lasts from about 0445 to 2100. Recruits are housed in open-bay dormitories that hold about 55 people per bay, with 20 bays per building (amounting to approximately 1,000 recruits in each building). Recruits train together as a flight, which includes both male and female recruits (though sleeping arrangements are separate). Dormitory and personal hygiene are strictly enforced, and tobacco and alcohol use are prohibited at all times.

The basic training experience is designed to challenge recruits both mentally and physically. The rigorous conditioning program consists of 1-hour daily workouts 6 days a week. Additional daily remedial sessions are also given as required. Three of the 6 days consist of a strength-building regimen that includes pushups, crunches, and leg lifts. The other 3 days consist of aerobic training such as running and sprinting. The mental fitness of recruits is also tested through discipline and teamwork, and all recruits must learn Air Force core values. In addition, academic classes (eg, Air Force history, military customs, ethics, and security) are taught at basic training (Exhibit 1-2).

At the start of the training program, recruits are referred to as "trainees." At the end of field training, they are referred to as "airmen." Graduation requirements include the following: "Maintain weight and body fat standards, pass a wear of the uniform evaluation, pass a reporting procedures evaluation, achieve 70 percent on end of course test, safely shoot and maintain an M-16 rifle, pass a drill evaluation, pass a dormitory performance test, meet or exceed a core values rating, pass a physical conditioning test, and attempt each obstacle on the confidence course."[38(p31)]

In 1995 the Air Force reviewed the basic military training program and found a need to bring a warfighting spirit to Air Force trainees, which led to the institution of "warrior week" in 1999. The goals of the program are to expose recruits to field conditions; teach survival skills, threat assessment, the law of armed conflict, security, self-aid and buddy-aid, explosive ordnance recognition, and the use of the M-16 rifle; conduct nuclear/chemical/biological warfare training (Figure 1-22); and infuse the warrior spirit.[38(p42)]

Current Recruit Medical Care

In 2002 independent duty medical technicians were included in each of the basic training squadrons to help improve provider access, give preventive education, and serve at physical conditioning sessions. One measurable aspect of this new program, during the first quarter of 2002,[40] was a 70% decrease in the number of ambulance runs. In 2003 the Trainee Health Flight

EXHIBIT 1-2

ACADEMIC SUBJECTS TAUGHT AT BASIC MILITARY TRAINING AT LACKLAND AIR FORCE BASE

Human Relations
Air Force History
Military Entitlements
Financial Management
Staff Referral Agencies
Dress and Appearance
Air Force Rank Recognition
Rendering Courtesies
Fitness and Nutrition
Sexually Transmitted Diseases
Military Citizenship
Ethics
Environmental Awareness
Resource Protection
Security
Career Progression
Air Force Quality Force Program
Alcohol/Drug Abuse Prevention and Treatment
Aerospace Expeditionary Force Environment

Adapted from: Official Lackland Air Force Base Basic Military Training site. Available at: http://www.lackland.af.mil/737web/. Accessed September 23, 2005.

Fig. 1-22. As part of the "warrior week" exercise, basic trainees (**a**) crawl through obstacles in an attempt to navigate the combat tactics course and (**b**) practice wearing the chemical warfare suits before entering the confidence (gas) chamber. The instruction that trainees received during warrior week helps to prepare them for the possibility of worldwide deployment. Source: US Air Force photos by Master Sergeant Efrain Gonzalez.

provided nonemergency primary care for approximately 80,000 trainees (about half were basic training recruits), with more than 70,000 visits.[39]

Care is provided by the Troop Health Center and two year-round satellite dispensaries. In addition, the Trainee Health Flight provides mobile medical aid at the confidence course site during training. Dental care is supplied by the 59th Dental Squadron, which processes all recruits. Clinics are closely coordinated with Wilford Hall Medical Center, where cases can be referred when inpatient and specialty care are needed or emergencies arise. In addition, the Preventive Medicine Support Element manages a trainee health preventive medicine program in which training support personnel and trainees are educated in healthy lifestyles. The program also teaches suicide prevention; tobacco cessation; and ways to handle heat stress, blisters, and other common medical complaints.

Summary

Since 1946 Air Force basic military training has occurred almost exclusively at Lackland Air Force Base in San Antonio, Texas. Medical care for recruits began "on the hill" in a simple station hospital that gradually transformed into the Air Force's premier medical center. Foresight, planning, and flexibility have been key to quality care of recruits and soldiers during times of war as well as during peacetime. Basic training is a grueling experience designed to test the physical and mental abilities of recruits, as well as provide the Air Force with a select cadre of healthy and qualified men and women. Recruits represent a unique group of individuals whose medical needs differ somewhat from the average patient population, and preventive measures can provide economical and effective ways to ensure their health.

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