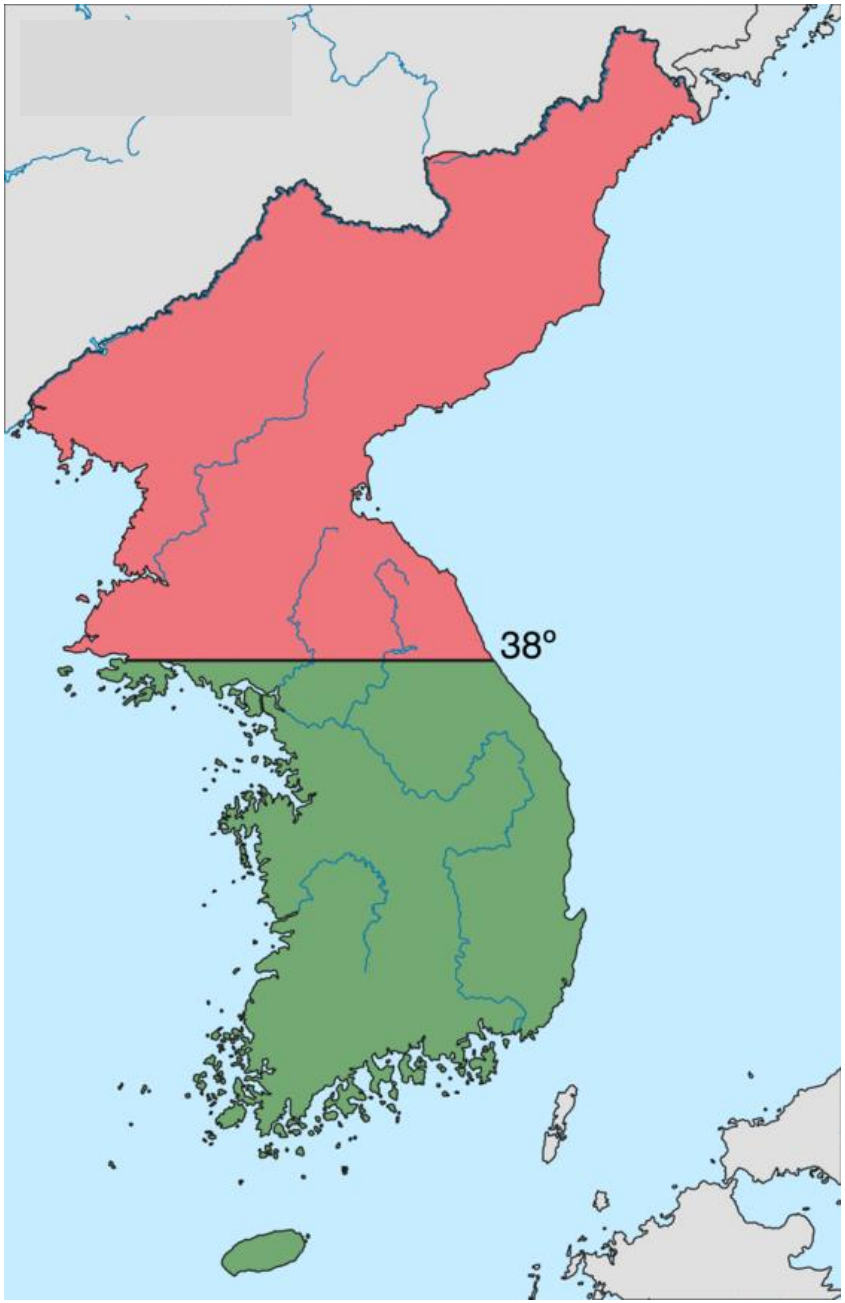
Session 6

Korea & Vietnam

KOREAN WAR
1950-1953



Korean War

Historical Background

- The Korean War was fought between North Korea and South Korea from 1950 to 1953.
- The war began on 25 June 1950 when North Korea invaded South Korea after border clashes.
- North Korea was supported by China and the Soviet Union while South Korea was supported by the United States and allied countries.
- The fighting ended with an armistice on 27 July 1953.

Korean War

Historical Background

- The operation was conducted under the auspices of the United Nations (UN).
- 21 countries contributed to the UN force, with the United States providing around 90% of the military personnel.
- In the US, the war was described by President Harry S. Truman as a "police action", as the United States never formally declared war on its opponents.

Korean War

Preparedness

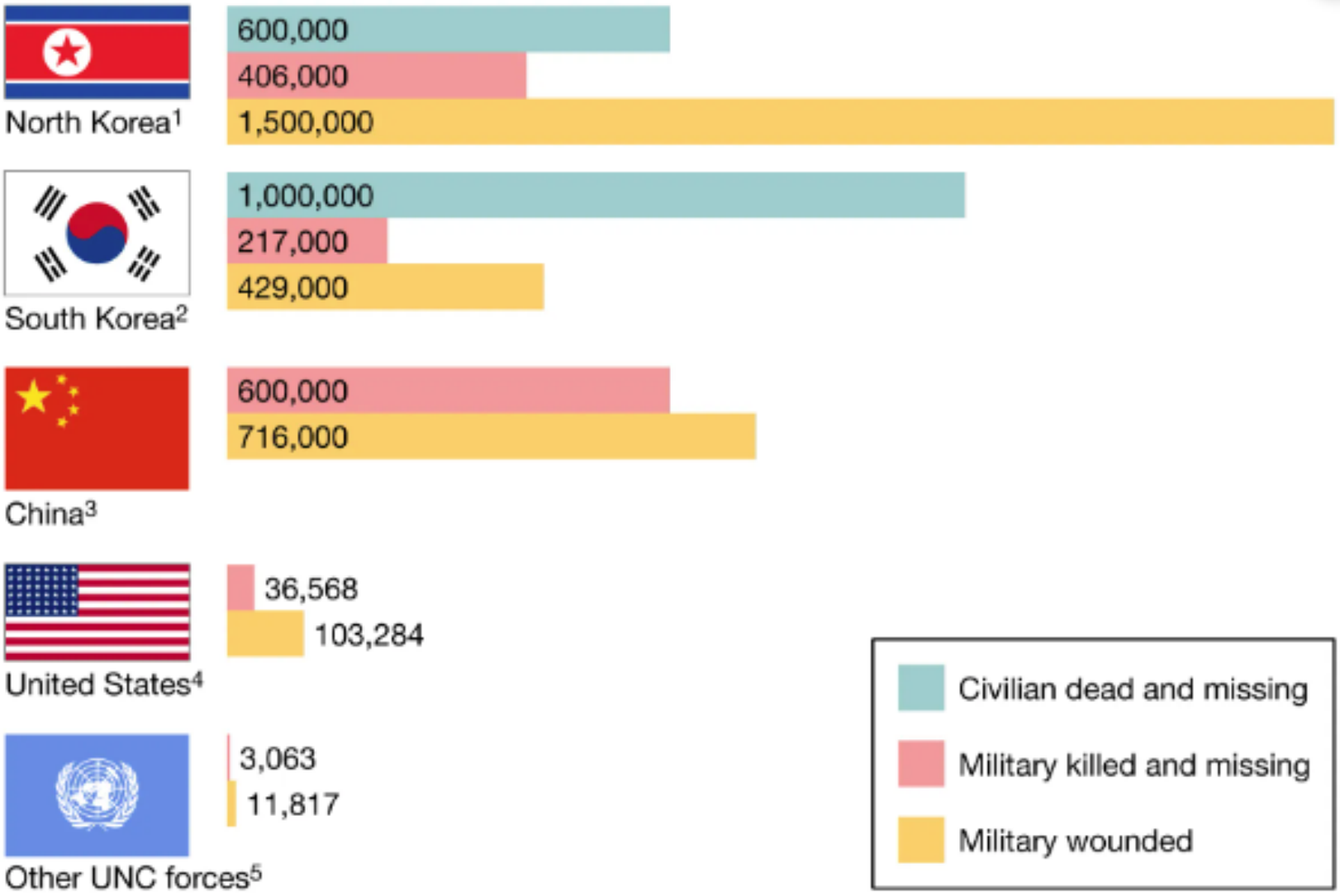
- In June 1950, U.S. military was ill-prepared for war, and caught by surprise.
- Downsizing after World War II had shrunk the ranks, dismantled transportation and logistics, and slowed both research and the fielding of new developments.
- Military medicine was short on personnel and not ready for war.
- The early part of the war was an exercise in retreat, terror, and panic.

Korean War

Preparedness

- In the early days, training in combat and military casualty care for medical personnel was scarce.
- Casualty levels were very high, facilities seriously understaffed, and shortages prevailed.
- The doctors, nurses, medics, and corpsmen had to improvise and improve during ever-changing conditions while under constant enemy pressure.

Battle casualties of the Korean War (1950–53)



Korean War

Historical Background

- The fighting ended on 27 July 1953 when the Korean Armistice Agreement was signed.

- The agreement created the Korean Demilitarized Zone (DMZ) to separate North and South Korea, and allowed the return of prisoners.

- However, no peace treaty was ever signed, and the two Koreas are technically still at war, engaged in a frozen conflict.

MOBILE ARMY SURGICAL HOSPITALS (MASH)

Korean War

MASH Units

- The Mobile Army Surgical Hospital evolved out of the Portable Army Surgical Hospital and the forward surgical teams of World War II.

- It was a fully equipped and staffed hospital capable of following an army in its campaign.

- Conceived as 60-bed hospitals, as a result of the large numbers of wounded received by the Korea MASH Units, this soon expanded to 200 beds.

Korean War

MASH Units

- Each MASH operated 5 surgical tables in shifts and had an ambulance platoon and 4 helicopters attached to it for resupply, and evacuation.

- It had a 200-bed capacity with a surge capacity of a further 140 beds.

- Rearward evacuation by strategic medical evacuation (STRATEVAC) was to Japan, Europe or the continental United States of America.

Korean War

M.A.S.H. Units

Korean War

MASH Units

- The Army drafted civilian doctors, many of whom were residents or interns, and assigned them to the newly organized MASH units.

- After being drafted, they had only three days of formal army training in the field and in the hospital.

- Training in battle medicine was on-the-job.

Korean War

MASH Units

- Most of the young doctors coming to Korea had not been given the simple fundamentals of the care of the wounded man, or of the problems involved in the management of battle casualties.

- Not only were doctors unfamiliar with the particulars of battle medicine, there was no guarantee that they were trained as surgeons.

Korean War

MASH Units

- The first nine doctors to arrive for service in the 8076th MASH were tissue pathologists.
- The chief surgeon laughed and said that they had just been promoted to battalion surgeons.
- “In military medicine, all doctors become surgeons”, he said.

Korean War

MASH Units

- The 8076th unit received orders to “bug out”, meaning that the hospital had to pack up and move.
- Relocation was to Kunuri, about 150 miles to the north.
- The weather was the coldest on record, with falling snow and temperatures plunging to 30 degrees below zero.
- The tents had space heaters to keep them warm, but engineers struggled to keep them working.

Korean War

MASH Units

- In the 6 days after the 8076th's arrival in Kunuri, the hospital admitted 1,836 patients, 661 of them in a single day.

- The tents were completely packed with no place to put incoming patients; the ambulances had no choice but to leave them in the snow.

- Outside the hospital, soldiers froze waiting for treatment.

Korean War

MASH Units

- The medical officers had to make the most difficult decision any doctor can ever face.

- The most seriously injured patients were given palliative medicine and allowed to die so that others could be saved.

- It was reverse triage in its most dire form.

Korean War

MASH Units

- The 8076th, like all of the MASH units in Korea, was an ad hoc hospital.
- Most people probably think of a hospital as a location: a building staffed by professionals where treatment happens.
- The hospital is NOT the location.
- The hospital IS the people, the doctors, nurses, and support personnel, working in cooperation and dedicated to the care of their patients, as best they can.

Korean War

MASH Units

44th MASH 1954

Korean War

MASH Units

- The “4077th TV MASH” unit was smaller than real MASH units.
- The fictional 4077th had 4surgeons, 10 nurses, and 50–70 enlisted men; in an average 24-hour period, they could go through 300 wounded soldiers.
- By comparison, the 8076th MASH had 10 medical officers, 12 nursing officers, and 90 soldiers of various categories.
- U.S. Army deactivated the last MASH unit on February, 2006.

Korean War

M.A.S.H. Units

- Surgical techs, orthopedic surgeons, more nurses, and other enlisted personnel, were added to those originally planned for the MASH.

- More vehicles and trailers were also added.so they could stay “mobile”.

- Almost all the doctors in the MASH units were draftees, who took their work seriously, but they had a more relaxed attitude about Army rules, regulations, and discipline.

Korean War

MASH Units

Korean War

MASH Units

- They were a major advance in military medicine and battlefield care.
- The goal was to give surgical care as close to the battlefront as possible.
- Data from WWII showed that wounded did better if treatment was not delayed.

Korean War

MASH Units

Brigadier General Dr. Elliott Cutler, consultant to the Surgeon General said:

"I would even urge an extension of this forward surgery, because I believe surgery should be brought to the soldier, not the soldier to the surgeon."

MEDICAL INNOVATIONS

Korean War

Medical Innovations

- Korean War fatality rate for seriously injured soldiers was 2.5%, compared to 4.5% for WWII.
- In WW II and the Korean War, surgeons created and implemented circulation-restoring surgical techniques.
- While the war itself may have been considered a failure, the medical field's advance was a success.

Korean War

Medical Innovations

- The War allowed study and testing of new equipment and procedures, many of which would become standards of care in both the military and civilian medicine.

- These included:
  - vascular reconstruction
  - the use of artificial kidneys
  - development of lightweight body armor
  - research on the effects of extreme cold on the body

Korean War

Medical Innovations

- Newer antibiotics and other advances in medical care included the anticoagulant heparin, the sedative Nembutal, and serum albumin and whole blood to treat shock cases.

- Computerized data collection (on computer punch cards) of the battle and non-battle casualties was used for the first time.

Korean War

Blood Supply

- The development of plastic bags for storage, shipping, and administration was a great development.
- Replacing glass bottles improved the efficiency and safety of preparation of and eliminated breakage.
- A plastic bag containing 500 cc of blood occupies only ½ the space of a bottle holding the same amount.
- Shipping containers fit 48 bags instead of 24 bottles.

HELICOPTER TRANSPORT

Korean War

Evacuation and Transport

- The system of treating soldiers, called the relay system, was highly effective.
- Injured soldiers would first be taken to a battalion aid station where initial diagnoses were made and soldiers were given quick triage.
- If injuries were bad enough the soldiers would be taken to larger treatment centers behind the front lines.

Korean War

Evacuation and Transport

- The most severely injured soldiers were airlifted to hospitals in Japan.
- This system effectively separated the degrees of injury and took those with severe injuries off the front lines.
- Soldiers were quickly treated for minor injuries and transported elsewhere for the more severe.

Korean War

Helicopter Transport

- Prior to the war, leaders in all the branches believed that the best way to transport wounded was by ground-based vehicle or by ship.

- Evacuation by rotary-wing (helicopter) was considered a means of last resort.

- The Air Force deployed the 3rd Air-Sea Rescue (ASR) Squadron, a unit trained to rescue downed aircrews behind enemy lines or in the sea.

Korean War

Helicopter Transport

- In August 1950, the Army requested flying a seriously wounded soldier, by helicopter, from a forward aid station atop a 3,000 foot mountain.
- The mission of the 3rd ASR was a success, and the soldier's life was saved.
- This started a doctrine change in evacuations

Korean War
Helicopter Transport

- The medevac helicopters used in the Korean War were the Sikorsky H-5, the Bell H-13, and the Hiller H-23.

- They were fragile, high-maintenance aircraft with limited range, and the early models had no radio or instrument lights in their cockpits.

- They couldn't operate in bad weather, were limited on where they could land, and were fatally vulnerable to enemy ground fire.

Korean War

Helicopter Transport

Korean War

Helicopter Transport

- Even though they were not supposed to fly Medevac missions at night, in emergencies many pilots did, holding a flashlight between their knees in order to see their instruments.

- The lack of a radio forced the implementation of a routine using colored smoke grenades, marker panels, and hand signals to identify locations and landing sites.

Korean War

Helicopter Transport

- Troops on the front knew that if they got seriously wounded, they could still be evacuated.

- Once casualties were strapped into a litter pod they tended to develop a “the worst is over” feeling, which contributed to their recovery.

Korean War

Helicopter Transport

- Helicopter medevacs transported more than 20,000 casualties during the war.

- 1st Lt. Joseph L. Bowler, set a record of 824 medical evacuations over a 10-month period.

- The 8th Army surgeon estimated that ½ of the 750 critically injured evacuated on Feb. 20, 1951, would have died if air transport hadn't been used.


VIETNAM WAR
1955-1995

Vietnam War

Historical Background

- The French withdrew from Indochina in 1954 after being defeated in the 1st Indochina War.

- Vietnam was divided into North and South:
  - The communist-led Viet Minh took control of North Vietnam.
  - The U.S. assumed financial and military support of the South Vietnam anti-communist government.

Vietnam War

Historical Background

- It was the 2nd Indochina War, officially fought between North Vietnam and South Vietnam.

- The north was supported by the Soviet Union, China, and other communist states, while the south was supported by the United States and other anti-communist allies.

- The Us never declared war on North Vietnam.

Vietnam War

Historical Background

- Direct U.S. involvement ended in 1973.
- It exacerbated the Laotian Civil War and the Cambodian Civil War, and these countries became communist by 1975.
- It was a Cold War-era proxy war.

EVACUATION and TRANSPORT

Vietnam War

Pre-hospital Care

- The Vietnam War accelerated advancements in pre-hospital care.

- Medics and corpsmen performed
  - opening surgical airways (tracheostomy)
  - thoracic needle decompressions (thoracentesis)
  - aggressive circulatory shock resuscitation
  - transport to field hospitals

- The term “golden hour” became a standard.

Vietnam War

Evacuation and Transport

- The most significant change from the Korean War was transporting the wounded by helicopter.
- Previously, it had taken hours to get a severely injured soldier to a medical center.
- During the Vietnam War a soldier could receive medical attention in less than 1 hour, and 98% of soldiers transported to the hospital survived.

Vietnam War

Evacuation and Transport

- Used larger, faster helicopters configured to evacuate up to 9 wounded and provide them with emergency medical care en route to hospitals.
- The UH-1 Iroquois helicopter, commonly known as the “Huey,” transported the wounded to treatment faster than in any previous war.
- “Dust Off” was a nickname for Army helicopter ambulance missions.

OTHER DISEASES

Vietnam War

Malaria

- The fight against malaria is a prime example of managing a tropical disease in its environment.
- The 2 *Plasmodium* species that pose the greatest threat to humans are *P. falciparum* and *P. vivax*.
- In 1965, *P. falciparum* incapacitated service members for an average of 5 weeks, while *P. vivax* caused soldiers to miss an average of 21 days of duty.

Vietnam War

Malaria

- Initially, soldiers took daily *dapsone* and weekly doses of *chloroquine-primaquine* to prevent malaria.

- In 1967, the Walter Reed Army Institute of Research developed the antimalarial drug *mefloquine*.

- By 1969, patients with *P. falciparum* returned to duty in 17 to 19 days (5 weeks) and patients suffering from *P. vivax* returned in 5 to 8 days (21 days).

Vietnam

Meningococcal Meningitis

- In 1963 doctors realized that despite treating recruits with sulfa antibiotics, many of them became carriers of sulfa-resistant *group B meningococci.*

- In 1968, the Walter Reed Army Institute of Research produced a vaccine against *serogroup C meningococci*.

- Today, all U.S. military recruits receive a vaccine to prevent the 4 most common types of *meningococcal meningitis* before they begin basic training.

MEDICAL INNOVATIONS

Vietnam War

Anesthesia

- Anesthesiologists and nurse anesthetists were stationed at MTFs, where they helped evaluate patients in the triage area and worked in OR's administering anesthesia.

- Two anesthetic gases commonly used during the war were *methoxyflurane* and *halothane* .

Vietnam War

Anesthesia

- In 1964 MTF's were equipped with the World War II-era Heidbrink anesthesia machine.
- In 1967, the Ohio Model 785, capable of administering *halothane*, *methoxyflurane*, *ether*, and *nitrous oxide* replaced the Heidbrink.
- Army developed a standardized field anesthesia chest, with a 3-day supply of anesthetic drugs.
- Standardization allowed MTF's to better meet the needs of the wounded.

Ohio model 785

Vietnam War

Anesthesia

- Ketamine, an ideal anesthetic for hypovolemic trauma patients, was discovered in the 1960's, and approved by the FDA in 1970.

- Major C. Blitt, chief of anesthesia at the 85th Evacuation Hospital in Phu Bai, had colleagues from UCLA mail it to him because he couldn't get it through military channels.

- "We had good surgeons, we provided good care, and we had to illegally use a drug that was good for our patients".

Vietnam War

Behavioral Health

- The military established the first amnesty and drug treatment programs to address the rise of illicit drug use among uniformed personnel.

- Soldiers who voluntarily admitted drug use to their commanding officer, chaplain, or unit surgeon received treatment and sometimes avoided punishment.

- In 1970, Maj. M. Grossman, chief of medicine at the 85thEvac Hospital in Phu Bai, developed a drug treatment program for heroin, opium, and other widely-abused drugs like hashish.

Vietnam War

Behavioral Health

In 1980, the American Psychiatric Association recognized Post-traumatic Stress Disorder (PTSD) as a mental malady caused by the stresses of combat or similar traumatic incidents.

Vietnam

Physician Assistants

- By the 1960's, there was a shortage of primary care doctors, especially in rural regions of the country.
- In 1965, to help alleviate the shortage, Duke University in NC began a 2-year Physician Assistant training program.
- Corpsmen and medics returning from the Vietnam War had many skills, which made them ideal applicants for this new field.
- The 1st Duke University physician assistant's class was 4 veteran Navy corpsmen.

Vietnam

Vascular Surgery

- Vascular surgeons at the 2nd Surgical Hospital in Lai Khe, pioneered venous repair techniques that helped save badly wounded limbs.
- They started the Vietnam Vascular Registry, a database of more than 7,500 records of surgical cases, still used by surgeons.
- Innovative vascular reconstruction led to an amputation rate in Vietnam 25% lower than the amputation rate in World War II.
- Venous repair techniques established in Vietnam became the new standard of practice employed by civilian vascular surgeons.

Vietnam War
Blood Supply

- In 1962, the DOD established the Armed Services Blood Program (ASBP) to provide blood for the US military.

- During the War, the ASBP created a system to ensure that the blood supply was sufficient to meet demand.

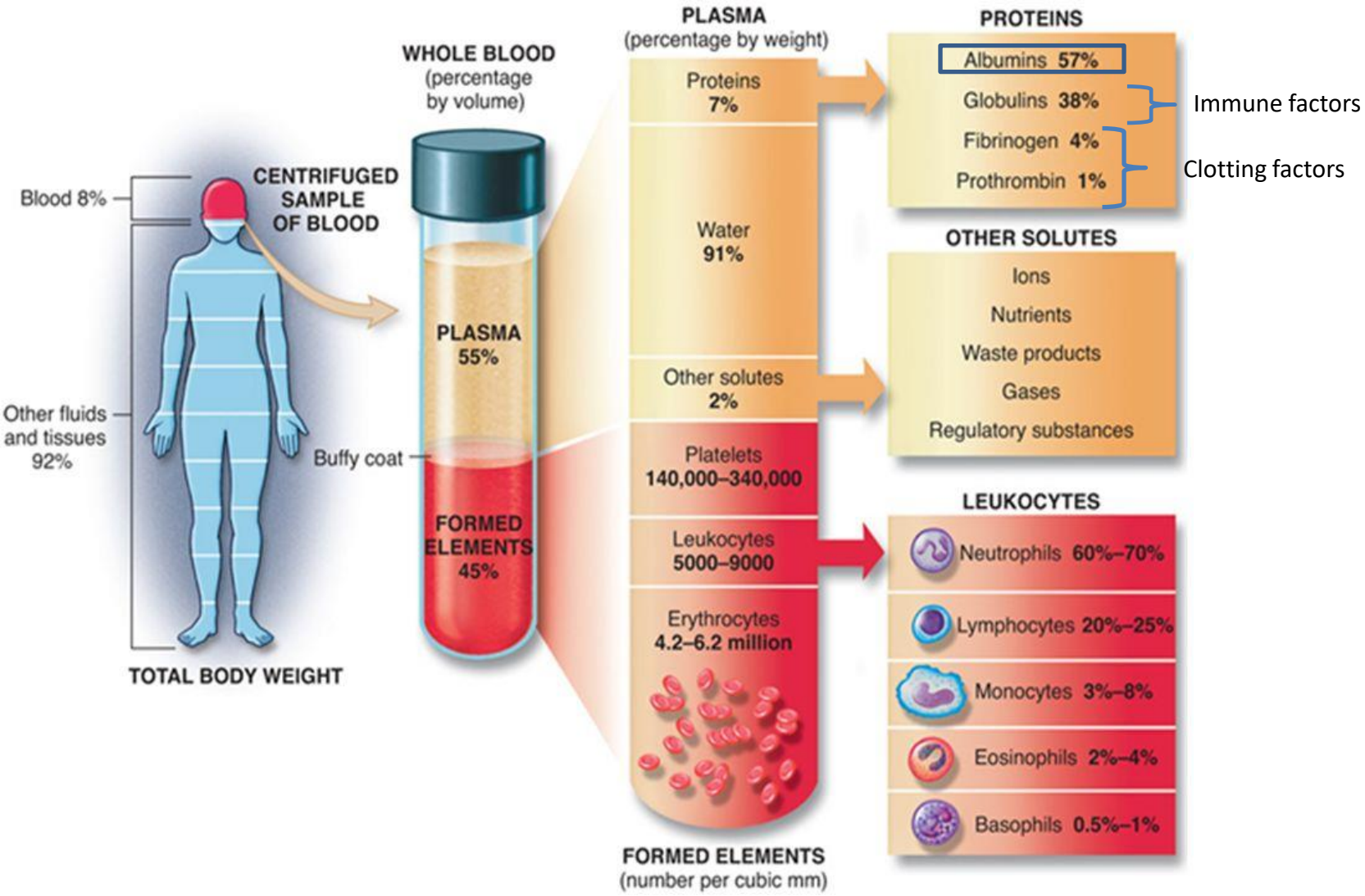
- 1 of the main reasons severely wounded patients survived their wounds was the prompt administration of whole blood at forward aid stations.

Vietnam War

Blood Supply

- During the war, a styrofoam container which allowed storage of blood for several days in the field was developed.
- Fresh frozen plasma (FFP) helped with volume replacement and bleeding control in patients.
- By 1969, at the peak of the War, the ASBP provided 36,000 units of blood per month to 100 surgical teams.

Components of Blood



VIETNAM WAR DEATHS

Vietnam War

Deaths

- More than 3 M people (including over 58K Americans) were killed in the Vietnam War, and more than half of the dead were Vietnamese civilians.

- President Nixon signed the Paris Peace Accords and ordered the withdrawal of U.S. forces in 1973.

- Communist forces ended the war by seizing control of South Vietnam in 1975, and the country was unified as the Socialist Republic of Vietnam the following year.

Vietnam War
Deaths

- In 1995 Vietnam released its official estimate of war dead: as many as 2M civilians on both sides and 1.1M North Vietnam and Viet Cong fighters.

- In 1982 the Vietnam Memorial was dedicated in Washington, D.C., inscribed with the names of 57,939 U.S. armed forces who had died or were missing as a result of the war, but additions have brought the total past 58,200. *

Vietnam War

Deaths

Other deaths:

- South Vietnamese soldiers: 200K to 250K
- South Korea: more than 4K
- Thailand about 350
- Australia more than 500
- New Zealand about three dozen

INJURIES by BOOBY TRAPS

Vietnam War

Booby Traps

- Their goal was not to kill, it was to maim, slowing troops down to deal with their wounded comrades,
- Secondary traps targeted those helping the injured.
- 11 % of deaths and 17 % of wounded US troops in 1969-70 were from traps and mines, and in 1965 alone, this number was at 70%
- They also had a devastating psychological effect on soldiers, greatly reducing morale.

Vietnam War

Booby Traps

- American forces were largely unprepared for guerilla warfare.
- The Viet Cong were on their home turf and used this to their advantage when it came to creating and laying booby traps.
- Traps were cheap, and bamboo didn’t register on the US mine detectors.

Vietnam War

Punji Sticks (1)

- Also known as punji stakes, were an extremely common booby trap used by the Viet Cong.

- Sharpened bamboo or wooden stakes were often coated in feces, urine, or poisonous substances from animals and plants to cause an infection in the victim.

- They were placed pointing upwards at the bottom of a hole, then covered with material to camouflage them.

Vietnam War

Punji Sticks

Vietnam War

Punji Sticks (2)

- When a US soldier's foot broke through the cover, they would land on the spikes at the bottom and suffer injuries to their feet and legs.

- The trap could be made worse by placing other stakes at a downward angle, along the sides of the hole.

- It was then difficult for the victim to get themselves out without causing further injury and often resulted in slowing down their unit while trying to free them.

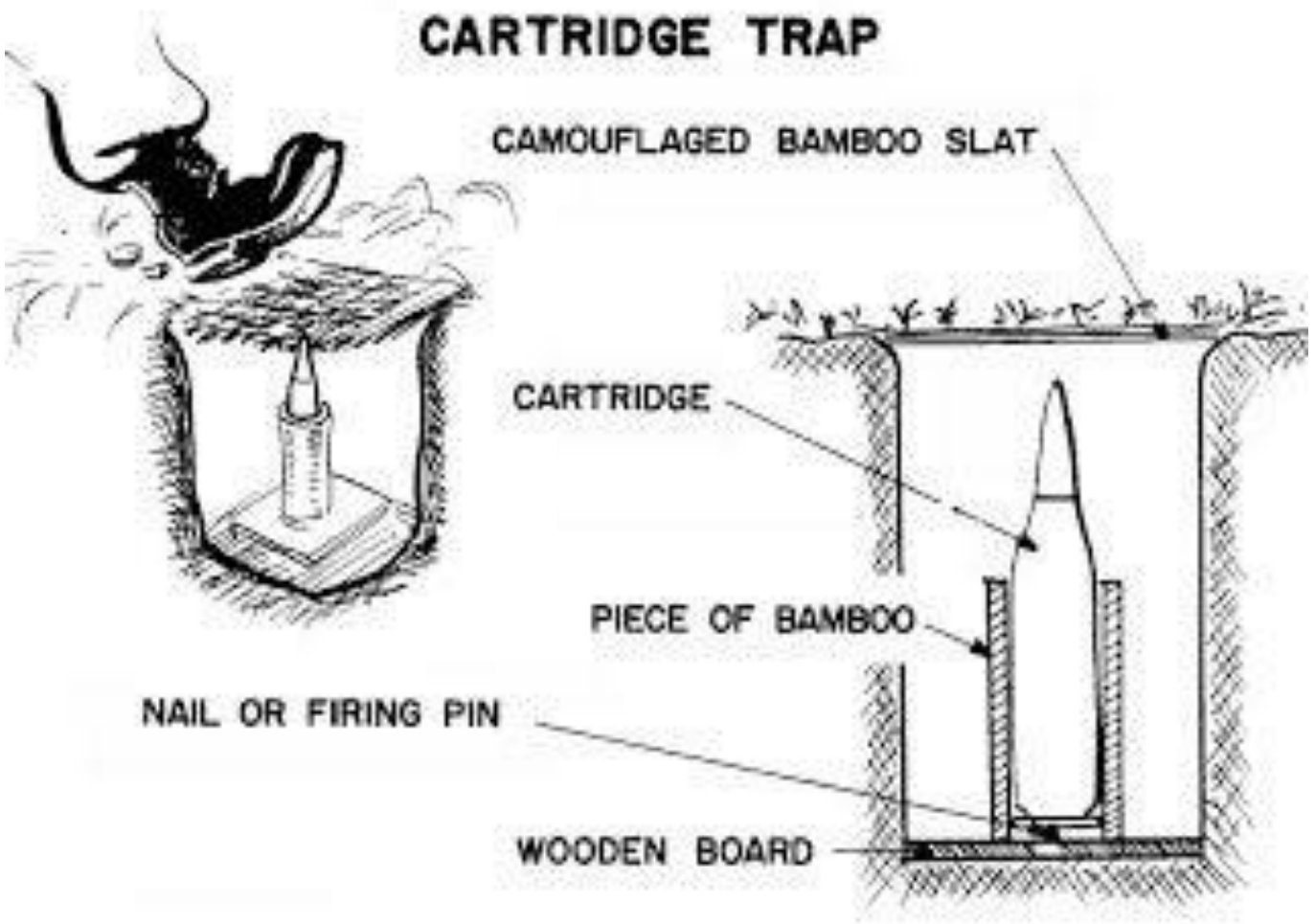
Vietnam War

Cartridge Trap

- Within a hole in the ground, a round of ammunition would be set with a nail to act as a firing pin, and foliage placed over the hole to avoid detection.
- When a soldier stepped on the foliage, and fell in the hole his weight would activate the ammunition and fire it through their foot.
- These traps were sometimes called “toe-poppers.”
- Injury depended on the size of the shell: smaller shells often left men permanently disabled, while larger ones could be fatal.

Vietnam War

Cartridge Trap



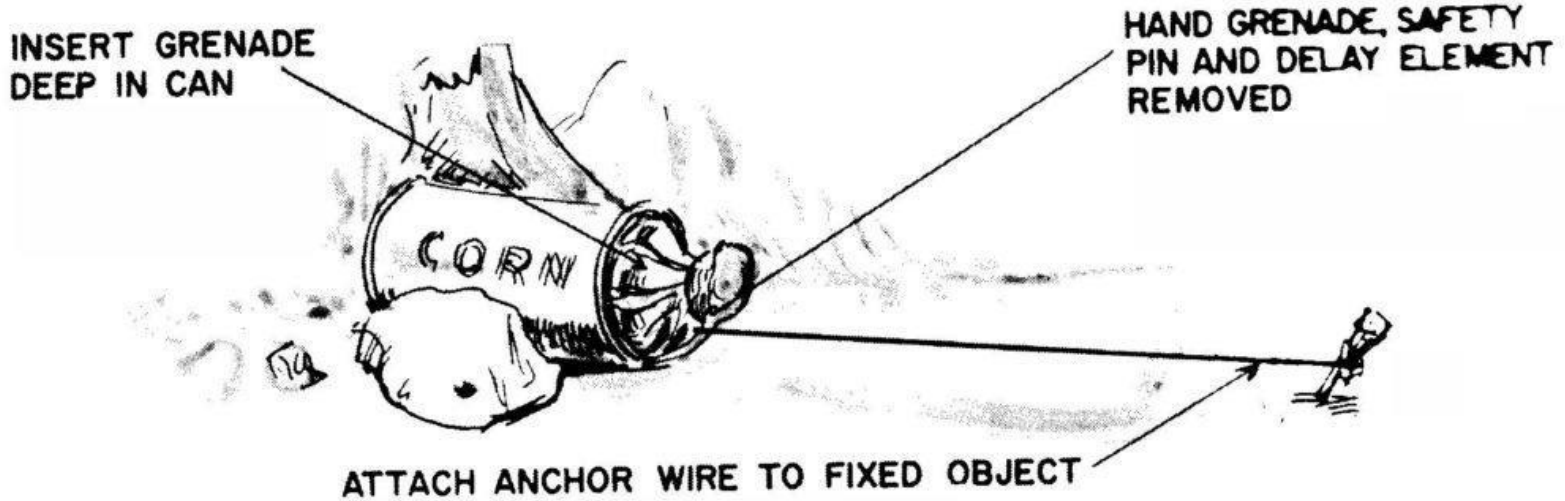
Vietnam War

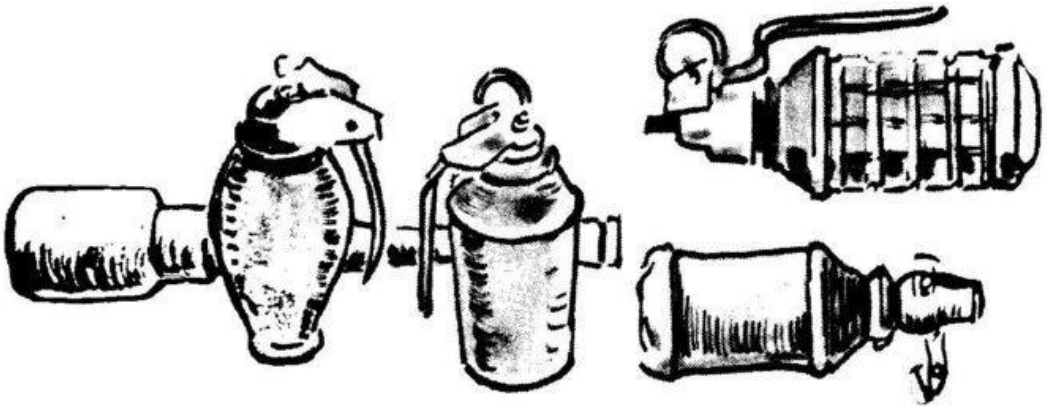
Grenade-in-a-Can

- It was built by placing a grenade, with the safety pin removed, into a can.
- The can held down the striker lever.
- A tripwire was then attached and, when tripped, would pull the grenade out of the can and cause it to detonate.

Vietnam War

Grenade-in-a-Can





Vietnam War

The Swinging Mace

- The swinging mace had spikes on a heavy clay ball, which was triggered by a tripwire.

- When the hidden ball was triggered, the force of gravity made it swing down and inflict terrible wounds to a soldier's upper body.

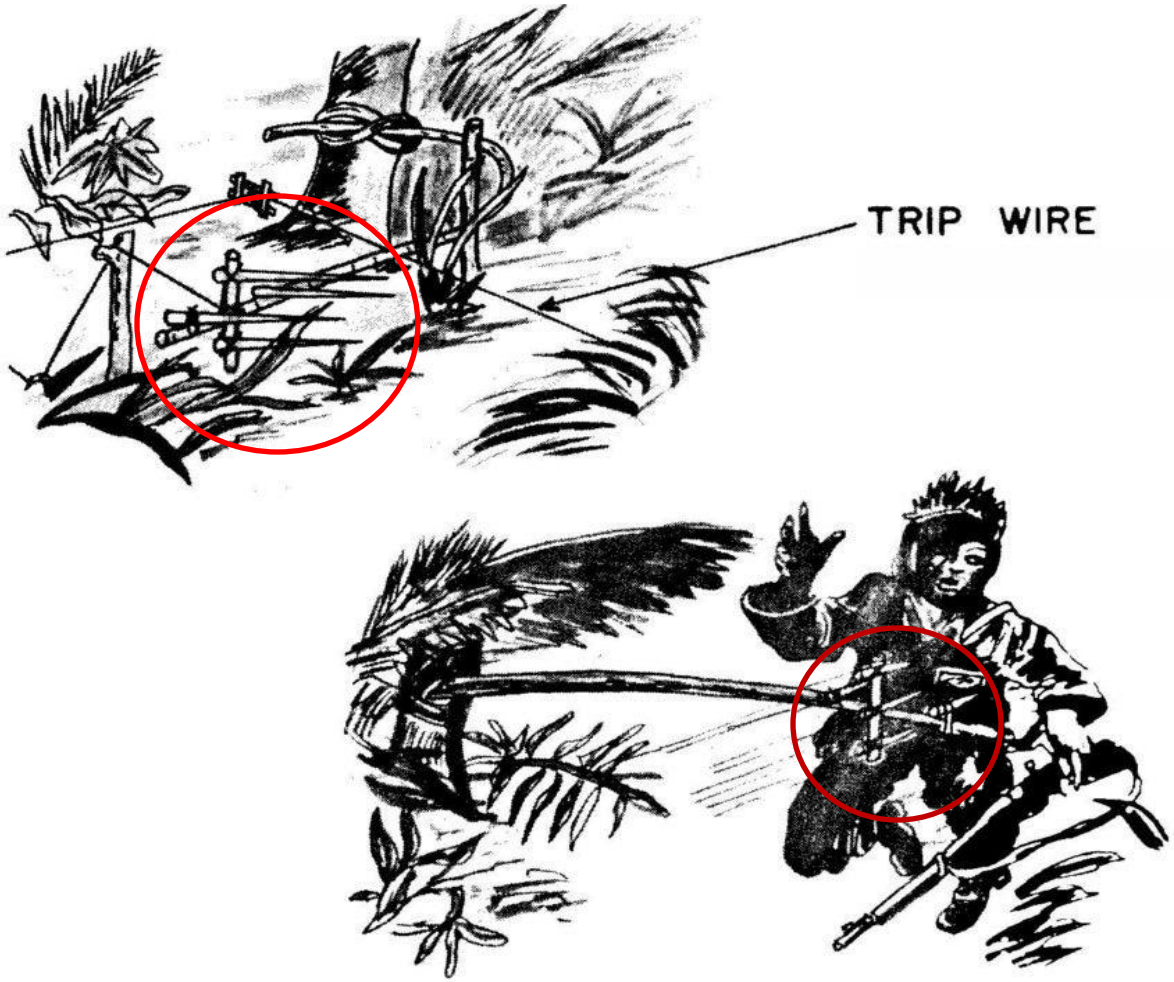
Vietnam War

The Bamboo Whip

- A bamboo pole with spikes on it was attached to a tripwire and pulled back with a lot of tension.
- When the tripwire was triggered, whoever tripped it would be impaled by the spikes on the pole as it whipped forward.
- According to reports, the pole could travel up to 100 mph.
- The spikes could be covered in poisonous material to further impair the victim's ability to heal.

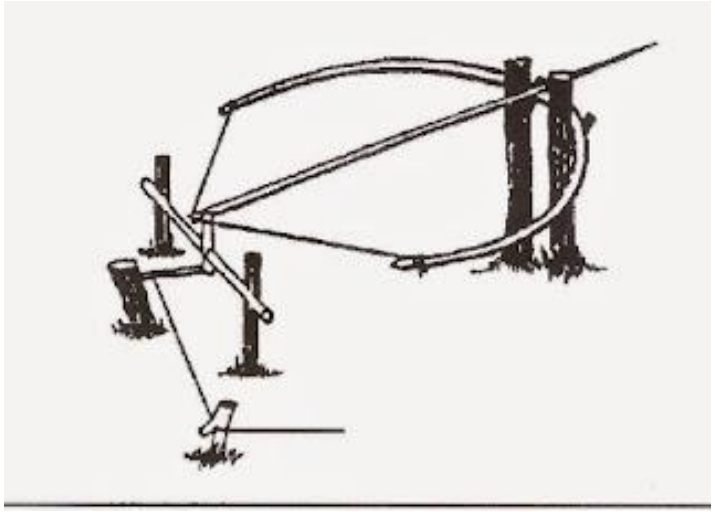
Vietnam War

Bamboo Whip



Vietnam War

Bow Trap



- The bow trap was a simple, yet effective booby trap used by the Viet Cong.
- A bow, loaded, pulled back and ready to launch, was attached to a tripwire.
- When a US soldier set it off, the bow fired its dart, resulting in a hit to the chest/abdomen.

Vietnam War

Snake Pits

- Viet Cong guerrillas often carried Bamboo Pit Vipers in their packs to (hopefully) kill anyone who searched through them.
- The deadly snakes would be tied to bamboo and hidden throughout their tunnel complexes; when the bamboo was tripped, the snake was released.
- U.S. “tunnel rats” had to be specially trained to navigate and disarm these traps.
- The snakes were nicknamed “three-step snakes,” because three steps was all you could take before the venom kills you.

Vietnam War

Flag Bombs

- The NVA and VC loved to fly flags and they knew U.S. troops enjoyed capturing enemy flags.

- When leaving a base or location, VC rigged the flags with an explosive, so when US troops tried to take down the flag, it would set off the charge.