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Personnel

SELF AID AND BUDDY CARE



STUDENT HANDBOOK



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I. ANATOMY AND PHYSIOLOGY

Objectives: By the end of this lesson, the participant will be able to:

- (1) Define anatomy and physiology
- (2) Identify basic facts and principles about the human body

A. Definition:

- (1) Anatomy - the study of body structure
- (2) Physiology - the study of body functions

B. The Language of Anatomy and Physiology:

- (1) Direction Terms
 - (a) Anatomical position - The human body, standing erect, facing you with the arms down at the sides and palms facing forward. Unless otherwise indicated, all references to body structures are made when the body is in the anatomical position.
 - (b) Anterior and posterior -
 - (c) Midline -
 - 1 Medial -
 - 2 Lateral -
 - (d) Superior and inferior - terms used to compare structures and locations
 - 1 Superior -
 - 2 Inferior -
 - (e) Proximal and distal - terms used primarily for the extremities, with the shoulder and hip as the points of reference
 - 1 When describing a limb, the closer the injury is to the trunk of the body, the more proximal the injury is
 - 2 When the injury is farther away from the trunk of the body, the more distal it is

C. Introduction to Anatomy:

- (1) Anatomy is the study of body structures
- (2) Body regions
 - (a) Head
 - (b) Neck
 - (c)

- (d) Upper extremities
- (e)
- (3) The spine
 - (a) Cervical
 - (b) Thoracic
 - (c) Lumbar
 - (d) Sacrum
 - (e) Coccyx

D. Body Systems:

- (1) A group of organs that carry out specific body functions
- (2) Knowing the different body functions can be useful when trying to determine the extent of injury
- (3) The major body systems

E. Nervous System:

- (a) Consists of the brain, spinal cord and nerves that control and permit all body activities and sensations (such as eating, walking, and conscious movement)
- (b) Controls unconscious muscle movement and certain other bodily functions (heart beat, blood pressure)
- (c) Controls responses to stressful and relaxed environments (fight or flight, and digestion etc.)
- (d) A muscle

F. Structures of the Nervous System:

- (1) Brain - composed of many structures which are essential for human function and is surrounded by the skull
- (2) Brain stem -

G. Circulatory (cardiovascular) System:

- (1) Consists of the heart, vessels, and blood
- (2) Oxygen is transported to all body systems through arteries
- (3) Removes waste products and carbon dioxide from the body
- (4)
- (5) The circulatory system is composed of the heart which pumps approximately 5 liters of blood throughout the body

- (a) The heart is a muscle that pumps blood through the blood vessels to body tissues and cells
- (b) Located mid-lower sternum, toward the left side of the chest

H. The heart rate can be measured by feeling certain arteries (pulse points):

- (1) Brachial
- (2) Radial
- (3)
- (4) Ulnar
- (5) Femoral
- (6) Dorsalis pedis
- (7) Posterior Tibial
- (8) Carotid (right and left)

I. Respiratory System:

- (1) Consists of organs that permit
- (2) Provides a means for oxygen intake and the elimination of carbon dioxide and other waste products
- (3) The major structures of the airway include:
 - (a) Nose and mouth -
 - (b) Pharynx -
 - (c) Larynx -
 - (d) Trachea -
 - (e) Lungs - the spongy, elastic organs containing microscopic air sacs where oxygen and carbon dioxide exchange takes place
- (4) Physiology of respiration:
 - (a) The entire act of breathing would not be accomplished without the diaphragm (main muscle of respiration). When the diaphragm contracts, we inhale, as it relaxes, we exhale.
 - (b) Then the air enters the throat, the trachea, bronchioles and into the lungs where the exchange of oxygen and carbon dioxide takes place

J. Skeletal System:

- (1) The skeletal system is made up of all the bones and joints in the body
- (2) The skeletal system provides the body with four major functions:

- (a) Bones support -
- (b) Bones articulate -
- (c) Bones provide protection for the internal organs (skull protects the brain; spinal cord encloses and protects the spinal cord; ribs protect the heart, lungs, liver, stomach and spleen; and bones of the pelvis protects the urinary bladder and the internal reproductive organs)
- (d)

K. Muscles (Musculoskeletal system):

- (1) Muscles are involved with body movement, moving food, fluids, or blood through structures in the body, and with body posture
- (2) Most of the emergency care of muscle injury is associated with care of soft tissues injury and possible fractures
- (3) Basic care procedures for serious muscle injuries include:
 - (a) Dressing open wounds
 - (b)
 - (c)

II. COMMUNICABLE DISEASES/UNIVERSAL PRECAUTIONS

Objectives: By the end of this lesson, the participant will be able to:

- (1) Define communicable diseases
- (2) Define universal precautions
- (3) Recognize situations that would necessitate use of universal precautions

A. Definition:

- (1) Communicable Disease
- (2) Four ways to transfer communicable diseases
 - (a) Contact transmission
 - (b)
 - (c) Vehicle transmission
 - (d) Vector transmission

B. Universal precautions - Protective measures developed by the Centers for Disease Control (CDC) for use when dealing with objects that might accidentally puncture the skin of a healthcare worker.

C. Identification of Communicable Disease Patients:

- (1)

(2)

D. Diseases that cause concern for transmission:

- (1) Hepatitis
- (2) Meningitis
- (3) Tuberculosis
- (4) HIV

E. To minimize contracting communicable diseases:

- (1) Employ universal precautions where possible and feasible
- (2) Use protective barriers located in the SABC Equipment/supply Kit located in mobility bag, Kit #NSN 6545-01-094-8412
 - (a) Pocket Mask
 - (b) Latex gloves

III. AIRWAY MANAGEMENT

Objective: By the end of this lesson, the participant should be able to demonstrate the steps in opening a victim's airway using the head-tilt chin-lift technique.

A. Introduction:

IV. RECOGNITION AND CONTROL OF BLEEDING

Objectives: By the end of this lesson, the participant should be able to:

- (1) Recognize external arterial, venous, and capillary bleeding
- (2) Describe signs and symptoms of internal bleeding
- (3) Correctly perform methods of controlling external bleeding

A. Definition:

- (1)
- (2) May be internal or external

B. Circulatory System:

- (1) Blood is transported within the circulatory system through blood vessels
- (2) Three types of vessels:
 - (a) Arteries
 - (b)
 - (c)
- (3) Types of external bleeding:
 - (a)
 - (b)
 - (c) Capillary

C. Internal Bleeding:

- (1)
- (2) Causes
 - (a) Bleeding ulcers
 - (b)
- (3) Signs and Symptoms
 - (a) Pulse
 - (b) Skin
 - (c)
- (4) Control

- (a) Bleeding within chest
- (b) Abdominal bleeding
- (c) Bleeding into extremities (arms or legs)

D. External Bleeding:

- (1) Causes
 - (a) Bullet wounds
 - (b)
 - (c) Open fractures
- (2) Treatments
 - (a)
 - (b) Pressure point
 - (c) Tourniquet

V. SHOCK MANAGEMENT

Objectives: By the end of this lesson, the participant will be able to:

- (1) Recognize signs and symptoms of shock
- (2) Correctly provide basic treatment to shock victim

A. Definition:

Collapse of cardiovascular system -

B. Major Causes:

- (1) Failure of heart as a pump - heart attack.
- (2) Decreased amount of circulatory volume - hemorrhage and burns.

C. Signs and Symptoms:

- (1) Restlessness and anxiety -
- (2) Pulse -
- (3) Skin -
- (4) Sweating -
- (5) Respirations -

D. Treatment:

- (1) Open airway and initiate CPR if necessary and if you know how
- (2) Control obvious bleeding
- (3) Elevate lower extremities at least 12" unless injured
- (4)

VI. DRESSING AND BANDAGING

Objectives: By the end of this lesson, the participant will be able to:

- (1) State main functions of:
 - (a) Dressings
 - (b) Bandages
- (2) Correctly apply:
 - (a) Dressings
 - (b) Bandages

A. Definitions:

- (1) Dressings - sterile pads or compresses used to cover a wound
- (2) Bandages -

B. All Wounds are Considered Contaminated (Dirty).

C. Application:

- (1)
- (2) Place dressing over wound
- (3) Secure dressing with bandage

D. Two Special Types of Wounds:

- (1) Chest wound
 - (a) Place hand or something airtight (ID card cellophane from cigarettes) over wound
 - (b)
 - (c) Observe for shock
- (2) Abdominal wound
 - (a) If abdominal contents lie outside abdominal cavity, do not replace them
 - (b) Cover contents with sterile/clean dressing - moist if possible
 - (c)
 - (d)

VII. FRACTURES AND SPLINTING

Objectives: By the end of this lesson, the participant should be able to:

- (1) Recognize fractures
- (2) Identify functions of splints
- (3) Apply splints

A. Purposes:

- (1) Prevent movement of fractured bone
- (2) Reduce pain of fractured area
- (3) Prevent

B. Signs and Symptoms of Fracture:

- (1) Deformity
- (2) Tenderness
- (3) Swelling and discoloration (due either as result of hemorrhage or edema [increased fluid in tissues])

C. Principles of Splinting:

- (1) Remove clothing from fractured area
- (2)
- (3)
- (4)

D. Improvisations:

- (1) Splints can be improvised from:
- (2) To immobilize a fractured arm you can use the chest wall
- (3) To immobilize a fractured leg you can use the other leg
- (4) Padding
- (5) Bandages
- (6) Slings

E. Spinal/Neck Injuries:

- (1) Spinal column
- (2) Neck
 - (a) Fractured neck is extremely dangerous
 - (b) If prepared for transportation before medical personnel arrive:

VIII. THE CHEMICAL ENVIRONMENT (NERVE AGENTS AND NERVE AGENT ANTIDOTES)

Objectives: By the end of this lesson, the participant should be able to:

- (1) State the contents of the nerve agent kit
- (2) State the use of the nerve agent kit
- (3) State the signs and symptoms of nerve agent poisoning

NOTE: NATO's definition of a chemical agent: A chemical which is intended for use in military operations to kill, seriously injure or incapacitate man because of its physiological effects.

A. History:

- (1) First used in WWI (1914-1918) - into favorable winds chlorine gases released

B. Physical and Chemical Properties:

- (1) Persistency - agents are divided into two main categories:
- (2) Characteristics:
 - (a) physical:
 - (b) chemical:

C. Nerve Agent Protection:

- (1) Steps to take if your buddy is severely incapacitated with nerve agent poisoning.
 - (a) Ensure you are protected from the gas
 - (b) Put their mask on for them
 - (c)
 - (d)
 - (e)

D. Nerve Agent Pretreatment:

- (1) Pyridostigmine Pretreatment Tablet Set
 - (a) consists of
 - (b) taken only when
- (2) Taking the tablets

E. Nerve Agent Antidote Kit:

- (1) Contents
 - (a)

(b)

F. Use of Kit:

- (1) Mild nerve agent poisoning
- (2) Casualty with severe nerve agent poisoning
 - (a) Put the mask on the casualty
 - (b)

G. Purpose of Antidote Injectors:

- (1) Injectors are individually issued antidotes used to counteract the lethal effects of nerve agent exposure
- (2) Injectors are used when nerve agent symptoms occur
- (3) Description of the automatic injector
 - (a) Injector tube
 - (b) Safety cap
 - (c) Pressure sensitive injection end
- (4) Procedure
 - (a) Remove protective wrapper from the injector
 - (b) Remove the injector safety cap
 - (c) Press the injector
 - (d)
 - (e)
 - (f)
- (5) Issue instructions
- (6) Use the buddy system in chemical threat conditions

H. Signs and Symptoms of Mild Nerve Agent Poisoning:

- (1) Unexplained runny nose
- (2) Unexplained sudden headache
- (3) Excessive sudden drooling
- (4) Dimness of vision (due to pinpointing of pupils)
- (5) Tightness of the chest

I. Signs and Symptoms of Severe Nerve Agent Poisoning:

- (1) Strange and confused behavior
- (2) Wheezing and difficulty breathing and coughing
- (3) Pinpointed pupils
- (4) Red eyes with tearing
- (5) Vomiting
- (6) Severe muscular twitching and generalized weakness
- (7)
- (8)

IX. HEAT RELATED INJURIES

Objectives: By the end of this lesson, the participant should be able to:

- (1) Describe signs and symptoms of heat cramps, heat exhaustion and heat stroke
- (2) List first aid treatment for those conditions listed above.

A. Definition:

The human body is absolutely dependent upon water to cool itself in hot environments. In severe heat it's possible for a person to lose a quart of water each hour. Water loss must be replaced or an individual can suffer a heat injury. Activity, temperature and acclimatization will determine the amount of fluid necessary to maintain proper body functions.

B. The 4 basic factors that determine the degree of heat stress exerted by the environment are:

- (1)
- (2) Relative humidity
- (3)
- (4) Heat radiation

C. Signs and Symptoms of Heat Related Injuries:

- (1) Heat cramps
- (2) Heat exhaustion
- (3) Heat stroke

D. Treatment for Heat Related Injuries:

- (1) Heat cramps
- (2) Heat exhaustion
- (3) Heat stroke

X. COLD RELATED INJURIES

Objectives: By the end of this lesson, the participant should be able to:

- (1) State the signs and symptoms of frostnip and frostbite
- (2) State the signs and symptoms of hypothermia
- (3) State the treatment for cold injuries

A. Definition:

- (1) Frostnip -
- (2) Frostbite -
- (3) Hypothermia - A gradual lowering of the internal body temperature, below 95 degrees, due to over exposure to the cold

B. Frostnip:

- (1) With early exposure to the cold the skin begins to turn red
- (2)

C. Frostbite:

- (1) Occurs when frostnip goes untreated
- (2)

D. Hypothermia:

- (1) Common causes
 - (a) Wind chill factor
 - (b) Inadequate clothing
 - (c)
- (2) Recognition or early detection
 - (a) Use an ungloved hand
 - 1 If the victim's body is cold
 - 2 If warm
 - (b) May be violently shivering
 - 1
 - 2
 - (c) No shivering

- 1 The body has lost this function
 - 2
 - 3
 - (d) They may act confused
 - 1
 - 2
 - (e) May appear dead
 - 1
 - 2
 - 3
 - 4 Remember, they're not dead until they're warm and dead
- (3) Treatment
 - (a) Treat very gently
 - (b)
 - (c)
 - (d) Prevent further heat loss
 - 1 Move to warm environment
 - 2
 - (e) Don't rub body parts
 - (f) Do not give alcohol
 - 1 Alcohol is a depressant type drug
 - (g) CPR may be required
 - 1 Attempt to feel for a pulse for 5-10 seconds
 - 2 Do not attempt CPR if:
 - You see ice crystal formations in the back of the throat.

XI. BURN INJURIES

Objectives: By the end of this lesson, the participant should be able to:

- (1) Describe signs and symptoms of first degree burn, second degree and third degree burns
- (2) List first aid treatment for those conditions listed above.

A. Definition:

A burn is an injury that results from a heat source. It may be thermal, electrical, chemical or radiation. It will vary in depth, size, and severity causing injury to cells in the affected area.

B. Causes:

- (1) Thermal
- (2) Electrical
- (3) Chemical
- (4) Radiation

C. Classification is Done by Depth of Burn and Amount of Damage to the Skin:

- (1) 1st degree burn
 - (a) Only the top layer is burned
 - (b) Painful
 - (c) Example
- (2) 2nd degree burn
 - (a) Top 2 layers of skin is burned
 - (b) May have some or all of the signs and symptoms of 1st degree burn plus blisters will appear
 - (c) Example
- (3) 3rd degree burn
 - (a) All layers of the skin are burned
 - (b)
 - (c) Example
- (4) Critical Burns

D. Treatment for the Burn Injury:

- (1) Thermal injuries

- (a) 1st degree burn
 - (b) 2nd degree burn
 - (c) 3rd degree burn
- (2) Electrical burns
 - (3) Chemical burns
 - (4) Radiation burns
- (a) Remove from source

XII. PSYCHOLOGICAL EMERGENCIES

Objectives: By the end of this lesson, the participant should be able to: List first aid treatment for the psychologically impaired victim

A. The Goal of Treatment for the Psychologically Impaired Victim:

- (1) Return the victim to duty ASAP
- (2)
- (3)

B. Principles of Treatment:

- (1) Respect everyone's right to their own feelings
- (2)
- (3)

C. Treatment:

- (1) Use things that are familiar to the victim like name and friends to aid in the ability to overcome fear
- (2) Encourage the victim to talk

XIII. LOCAL AREA PROTOCOLS FOR ENVIRONMENTAL EMERGENCIES

XIV. VICTIM ASSESSMENT

Objectives: By the end of this lesson, the participant should be able to: List the steps needed to perform a patient assessment

A. The Primary Assessment:

- (1) Purpose is to correct life threatening, quickly correctable emergencies affecting:
- (2)

B. The Secondary Assessment:

- (1) Purpose is to uncover all other injuries and attempt to stabilize and treat the problems found.
- (2)

XV. TRIAGE

Objectives: By the end of this lesson, the participant should be able to: List the steps needed to perform triage.

Definition: A French word meaning "to sort".

A. Grouping of Victims According to:

- (1) Seriousness of injury
- (2)
- (3)
- (4) Priority system assures greatest good to largest number

B. Using This System Will Enable Orderly and Efficient Use of:

- (1) Personnel
- (2)
- (3) Facilities

C. Wartime Casualties Will Be Triageed as Follows:

- (1) Minimal
- (2) Immediate
 - (a) Victims whose conditions are so urgent that immediate treatment is needed to save life or limb
highest priority for treatment
- (3) Delayed victims
- (4) Expectant
 - (a) Survivability poor even with prolonged and complicated treatment

XVI. PATIENT TRANSPORTATION/MANUAL LIFTING AND LITTER CARRIES

Objectives: By the end of this lesson, the participant should be able to:

- (1) Perform one and two-person manual carries
- (2) Improvise a litter from blankets, poles, and shirts
- (3) Carry a victim on a litter

A. Two-Man Types of Transportation:

- (1) Manual
- (2) Litter

B. Before Moving Victim You Must:

- (1) Check airway and respirations
- (2) Evaluate type and extent of injury
- (3)
- (4)

C. If Victim is Conscious:

- (1) Explain what you're doing
- (2) Allay fear of movement
- (3)

D. Manual Carries:

- (1) Accomplished by 1 or 2 bearers
- (2) Use two-person carries whenever possible
- (3) Distance carried depends upon
- (4) One and Two person carries
 - (a) Clothes Drag -
 - (b) Ankle Drag -
 - (c) Fireman's carry -
 - (d)
 - (e)

(f)

(g)

E. Improvised Litters.

F. Techniques for Carrying Litter Over Rough Ground:

- (1) Preferable to have 4 bearers
- (2) Each side-bearer holds side of litter
- (3) All bearers face same direction
- (4)
- (5)
- (6)

G. Techniques for Carrying Litter Over Smooth Ground:

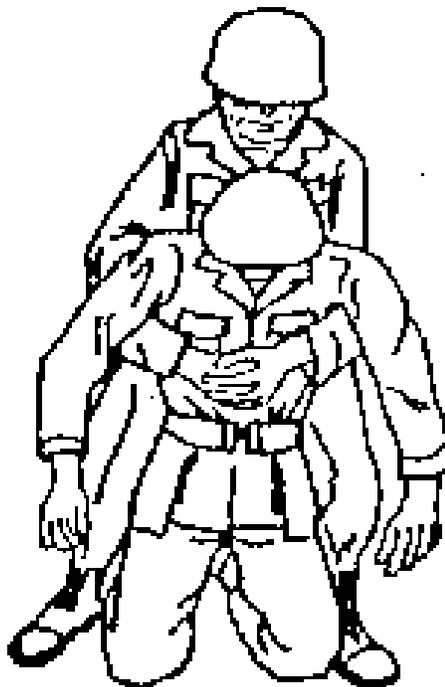
- (1) Preferable to have four bearers
- (2)
- (3)

XVII. SCHEMATICS OF MANUAL LIFTING AND LITTER CARRIES AND VEHICLE TRANSPORTATION

Figure 1. Fireman's Carry.



1.1. Roll the casualty into the prone position. Straddle the casualty and lock your hands under the casualty's chest.



1.2. Pull the casualty to the knees by moving backward.

Figure 1. Continued.



1.3. Continue to move backward until the casualty's legs are straight and knees are locked.

1.4. Walk forward while lifting with your arms until the casualty is in a standing position, leaning slightly back.



1.5. Maintaining constant support with your left arm, use your right arm to hold the casualty's right arm high. Step under the right arm and turn to face the casualty.

Figure 1. Continued.



1.6. Using your left hand, grasp the casualty's right wrist and raise it over your head.



1.7. Bending at the waist and knees, pull the casualty's right arm over your shoulder and pass your right arm between the casualty's legs.



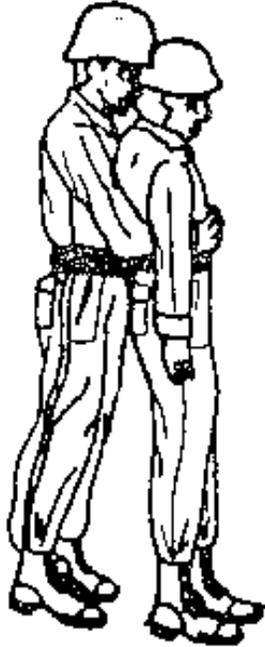
1.8. Grasp the casualty's right wrist with your right hand. Place your left hand on your left knee for support in rising.



1.9. Position the casualty and then stand. Your left hand is free for use as needed.

ONE/TWO-MAN SUPPORT. Used for conscious casualties who are able to support their own weight on one leg. Since the casualty will be using the bearer(s) only as a crutch, it is not very tiring for the bearer(s). When performing the one-man support, position yourself on the casualty's affected side.

Figure 2. One/Two-Man Support.



2.1. Raise the casualty from the ground the same way as the fireman's carry.

2.2. Standing on the injured side, grasp one of the casualty's wrists and draw his/her arm around your neck. Place your other arm around the waist of the casualty.



2.3. For Two-Man Support, the second bearer will perform Step 2 on the other side of the casualty.

NECK DRAG. A one-man carry used to transport conscious casualties behind low walls or shrubbery, under a vehicle or through a culvert. Use the helmet to protect the casualty's head from the ground.

Figure 3. One/Two-Man Support.



1. Place casualty on back.
2. On hands and knees, bearer then straddles the casualty.
3. Casualty locks hands behind the bearer's neck.
4. Bearer then crawls, dragging casualty.

SADDLEBACK CARRY. A one-man carry used to transport conscious casualties.

Figure 4. Saddleback Carry.



4.1. Raise casualty to upright position in the same way as Fireman's Carry. Once raised, move in front of the casualty with your back to the casualty.



4.2. Have casualty place arms around your shoulders for support.

Figure 4. Continued.



4.3. Bending at the knees with one foot in front of the other, hook your arms on the casualty's lower thighs.



4.4. Clasp your hands across your abdomen and stand.

TWO-HAND SEAT CARRY. A two-man carry used for conscious and unconscious casualties. Casualties with injuries to the thighs, hips or knees should not be transported using this carry because the casualty's weight is on the lower extremities during the carry.

Figure 5. Two-Hand Seat Carry.



5.1. With the casualty lying on back, one bearer kneels on either side of casualty at the hips. Note the bearer's knee closest to the casualty's feet is on the ground.



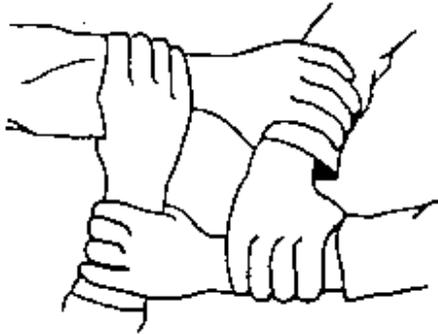
5.2. Each bearer places arms beneath casualty's upper back and thighs, then grasps the other bearer's wrists.



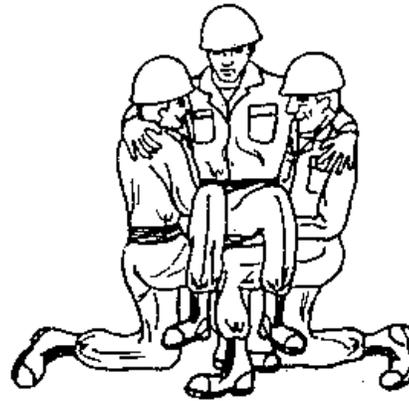
5.3. Team leader gives lifting commands to raise casualty.

FOUR-HAND SEAT CARRY. Because the casualty must hold onto the bearer's neck during this two-man carry, it can be used only for conscious casualties.

Figure 6. Four-Hand Seat Carry.



6.1. Each bearer grasps own wrist and one of the other bearer's wrists, forming a seat.



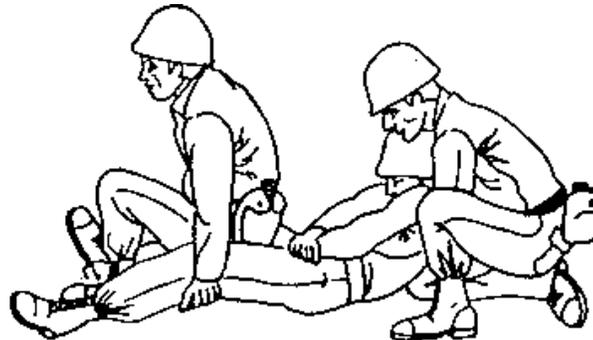
6.2. Bending at one knee, lower the seat until casualty can be seated. Have the casualty place an arm around the neck of both bearers.



6.3. Team leader gives lifting commands to stand.

FORE-AND-AFT CARRY. A two-man carry used for conscious and unconscious casualties. Used for rapid movement of casualty.

Figure 7. Fore-and-Aft Carry.



7.1. One bearer kneels between the casualty's legs, facing the casualty's feet, and positions his/her hands beneath the casualty's knees. The remaining bearer runs his/her hands under the casualty's armpits and locks hands across the casualty's chest. **NOTE:** The taller bearer should be at the casualty's head.



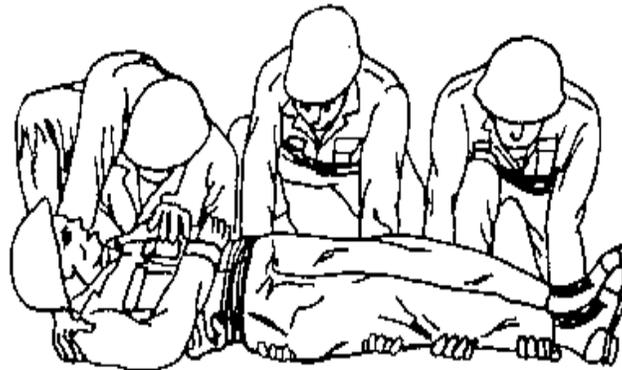
7.2. Bearer at the casualty's head gives lifting commands to stand.

THREE-MAN LIFT. Although any type of injury can be transported using this carry, it is the only carry which should be used to transport casualties with spinal or neck injuries. When sufficient bearers are available, and short distances need to be covered, it is the carry of choice for any type of injury. It is also particularly useful for transporting abdominal injuries and placing casualties on a litter.

Figure 8. Three-Man Lift.

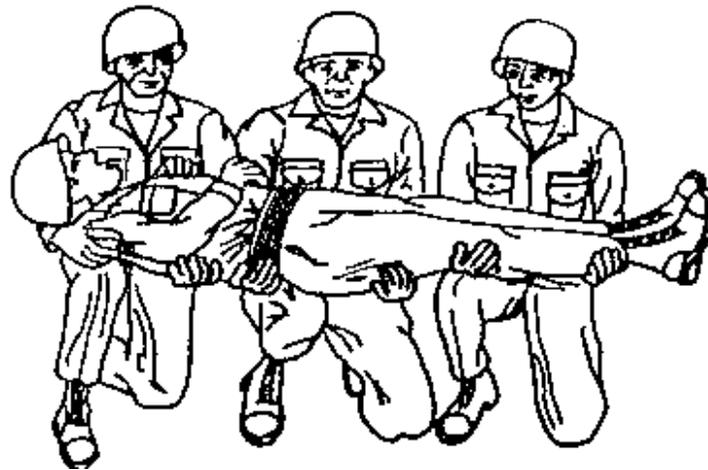


8.1. Three bearers kneel on the uninjured side of the casualty with the knee closest to the casualty's feet on the ground.



8.2. Bearer #1 (at the casualty's head) places one arm under the head, neck, and shoulders and the other under the upper back. Bearer #2 places one arm beneath the lower back and one beneath the upper thighs. Bearer #3 places one arm beneath the lower thighs and one beneath the ankles.

Figure 8. Continued.

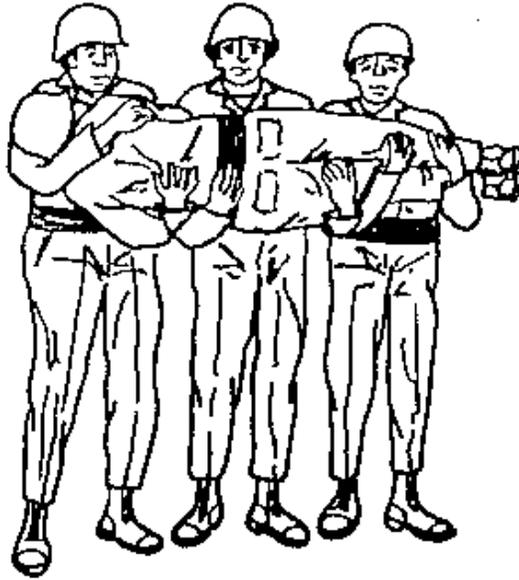


8.3. The team leader (at casualty's head) gives lifting commands and the casualty is brought to the bearer's knees.



8.4. The team leader gives lifting commands and bearers stand.

Figure 8. Continued.



8.5. Casualty can be rolled so that his/her chest rests against the bearer's chests. This will allow the casualty to vomit without danger of aspiration.

Figure 9. Opening the Standard Field Litter.

9.1. Stand litter on end and step downward with boot toe.



9.2. Invert the litter and repeat the procedures.

NOTE: To close the litter, place it on its side and, using both hands, grasp the pole that is not on the ground; next, tap inward on the spreader bars with the heel of your boot until the tension is released. When both spreader bars have been released, the litter will collapse. Fanfold the canvas, secure the tie straps and the litter is ready for storage. **NEVER USE YOUR HANDS ON THE SPREADER BARS!**

TERMINOLOGY:

FRONT OF THE LITTER: The end of the litter pointed in the direction of travel.

REAR OF THE LITTER: The end of the litter pointed away from the direction of travel.

HEAD OF THE LITTER: The end of the litter where the casualty's head is located.

DIRECTION OF TRAVEL: The direction which you intend to move the casualty. It is important to understand that although a casualty is transported in the feet-first position on level ground, changes in the terrain encountered mean that the litter may have to be rotated to a head-first position; or the number and position of bearers on the litter team may have to be changed.

TRANSFERRING THE CASUALTY TO THE LITTER: The 3-man lift is the manual carry of choice for placing the casualty on the litter. To modify this carry for litter transfer, a fourth member, usually the litter team leader, is required. He/she is responsible for placing the litter beneath the casualty while the casualty is resting on the bearer's knees (see figure 10).

Once the casualty is in place on the litter, a minimum of two litter straps should be used to secure the casualty to the litter. Litter straps are normally placed across the chest and mid thigh. The arms should be enclosed only if the casualty is unconscious or restraining the arms will facilitate treatment (i.e., splints or IVs).

Figure 10. Transferring the Casualty to the Litter.



10.1. Litter is placed on the ground, alongside the casualty, between three aligned bearers and the team leader.



10.2. Team leader gives lifting commands. The casualty is raised to bearer's knees. Team leader positions the litter under the casualty.

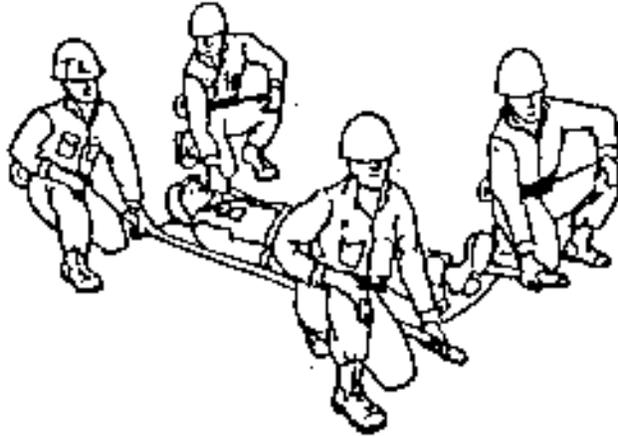
Figure 10. Continued.



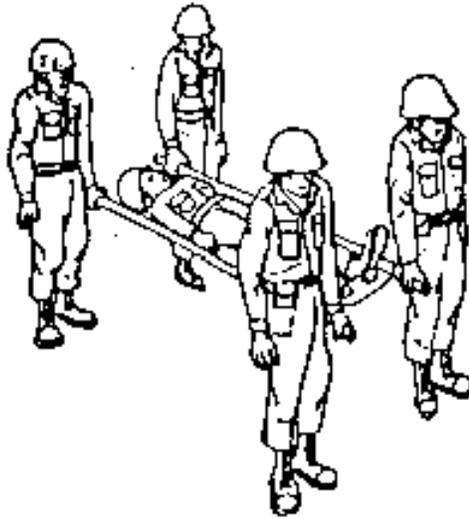
10.3. Team leader gives lowering commands and casualty is lowered to litter and secured.

FOUR-MAN CARRY. Used when the terrain is smooth and level. The litter team leader, usually the senior individual or, if the team is composed of non-medical members, the individual with the most medical training, is positioned at the rear of the litter, on the casualty's right, with a full view of the casualty and equipment.

Figure 11. Four-Man Carry.



11.1. At the preparatory command, "Prepare to lift," each bearer kneels on the knee closest to the litter, grasps the litter handle, and places the free hand on the upright knee.



11.2. At the command of execution, "Lift," all bearers rise together, keeping the litter level.

LITTER POST CARRY. Used to carry the litter when changing direction of travel (uphill or downhill) or to improve litter stability when moving through rough terrain (i.e., foot entanglements). This is a complicated carry involving several changes in position for the bearers. Good communication between all team members is a must.

Figure 12. Litter Post.



12.1. With commands "Litter post carry, move," change into a two-man carry. Team leader and free front bearer then grasp litter at sides, with team leader on the casualty's right.

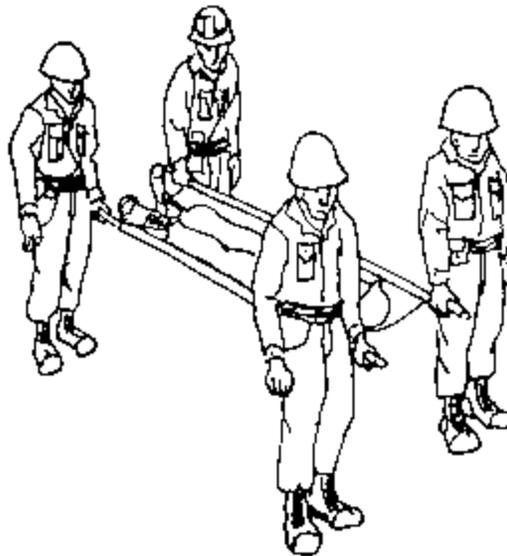


12.2. Front and rear bearers release weight of litter and step away. Commands are, "Prepare to rotate, rotate." Side bearers rotate litter counter-clockwise 180 degrees.

Figure 12. Continued.



12.3. Front and rear bearers resume their original position and take the weight of the litter. Team returns to four-man carry with commands, "Four-man carry, move."



12.4. Note that the litter team leader is still on the casualty's right at the rear of the litter.

UPHILL CARRY. When traveling uphill, rotate the litter into a head first position. Once the litter is rotated for an uphill carry, the foot of the litter is in the rear. This keeps the casualty's head closest to the ground in case the litter is dropped.

Figure 13. Uphill Carry.



13.1. When front and rear team members assume original position, team leader commands, "Uphill carry, move."



13.2. Left side bearer moves to foot of litter and takes left post. Rear center bearer takes right post. Team leader steps in front of front bearer.

NOTE: Rear members are responsible for keeping the litter level as they move uphill. Upon reaching the top of the hill, the team leader calls the team to a halt.

Figure 13. Continued.



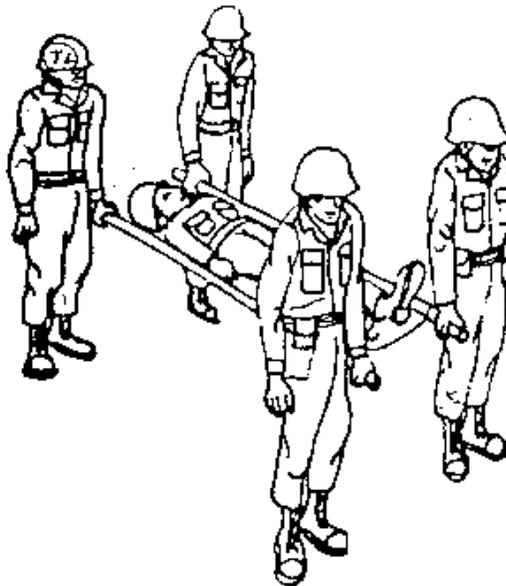
13.3. Team leader commands, "Litter post carry, move." Team leader steps to R side, R rear bearer moves to center rear and L rear bearer moves to L side position.



13.4. Team leader gives command, "Prepare to rotate, rotate." Team leader gives command, "Four-man carry, move." Members then move to correct positions.

DOWNHILL CARRY. When traveling downhill, rotate the litter into a feet-first position. Once the litter is rotated for a downhill carry, the foot of the litter is the front.

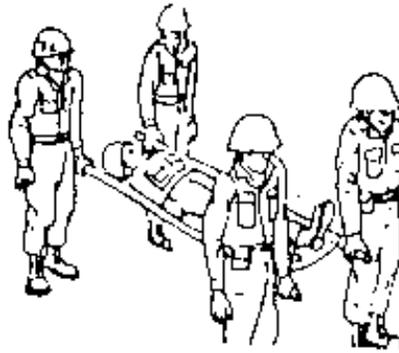
Figure 14. Downhill Carry.



14.1. With the litter team in four-man carry position, the team leader gives the command, "Downhill carry, move." R rear bearer takes full support of the litter at the patient's head and the front bearers turn and face each other.



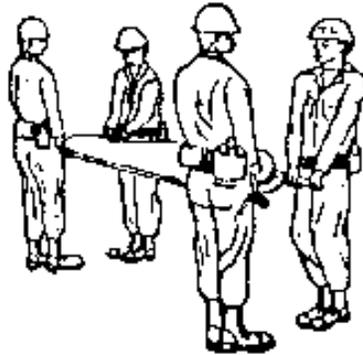
14.2. Team leader moves to the front, facing the team. He supports the front bearers at the waist and hip area, and insures that they keep the litter level as they move downhill.

Figure 14. Continued.

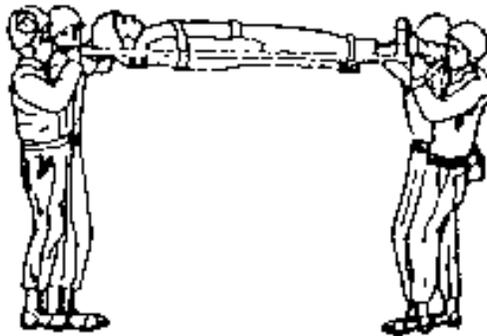
14.3. Upon reaching level ground, the team leader calls the team to a halt and moves back to the R rear position and the team proceeds as necessary.

OVERHEAD CARRY. Used to move over high/low walls. When attempting to cross obstacles (walls, trenches, etc.), bearer alignment must be changed to facilitate moving over and through the obstacle.

Figure 15. Overhead Carry.

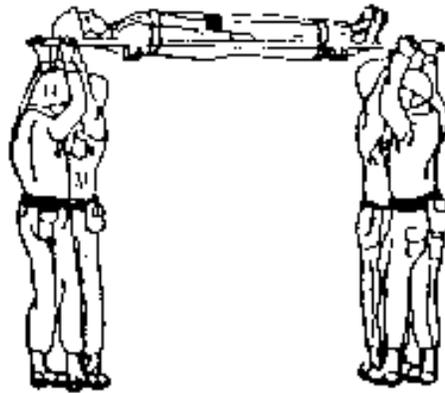


15.1. At command, "Overhead carry, move," team members turn inward, facing each other.



15.2. Team leader gives lifting commands and litter is raised to the shoulder height of shortest team member.

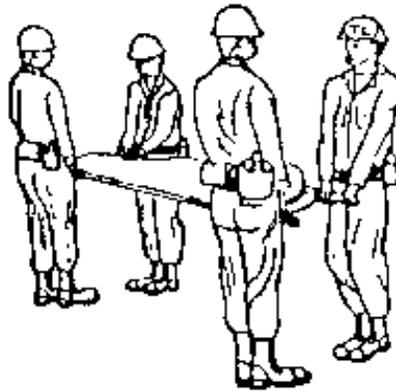
Figure 15. Continued.



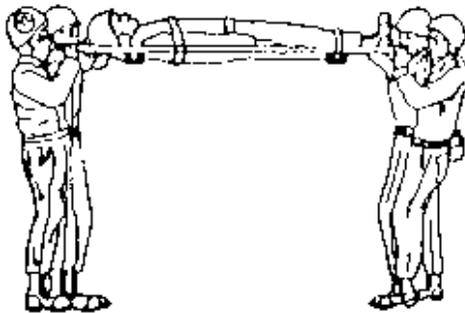
15.3. Team leader repeats lifting commands and litter is lifted to height of obstacle.

FULL OVERHEAD CARRY. Used to move litters across streams deep enough to prevent safe carries at waist height, and through low brush which might cause additional injury to the casualty.

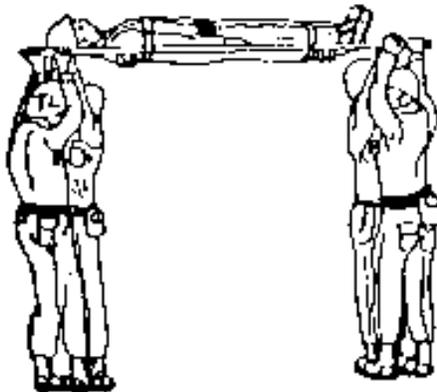
Figure 16. Full Overhead Carry.



16.1. At command, "Overhead carry, move," team members turn inward, facing each other.

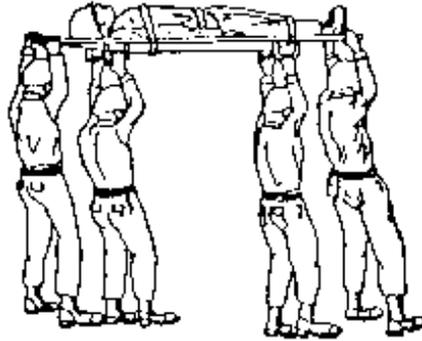


16.2. Team leader gives lifting commands and litter is raised to the shoulder height of shortest team member.



16.3. Team leader repeats lifting commands and litter is lifted overhead.

Figure 16. Continued.



16.4. Taller team members take control of litter at each end of litter poles. Shorter team members move under the litter and remain prepared to catch litter if taller bearers stumble.

LOW CARRY. Used to move under low obstacles, or to move the litter under hostile fire. Take care to protect the casualty's face by covering it with a helmet. Do not push or drag the litter as this can result in injuries to the bearer's hands or collapse of the litter.

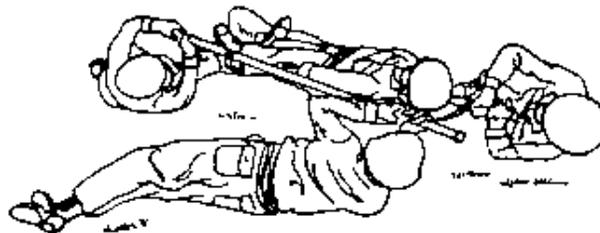
Figure 17. Low Crawl.



17.1. Beginning with the four-man carry, lower litter quickly and safely at command, "Low crawl."



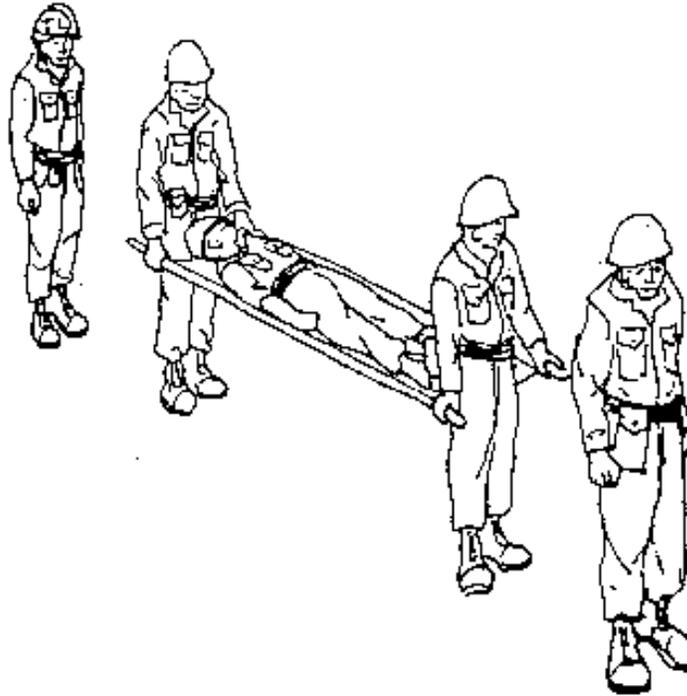
17.2. Each team member lies on shoulder facing litter with front members at a 45 degree angle and rear members aligned straight back.



17.3. Using lifting commands to move litter in a "hopping" motion. The litter should be raised approximately 6" with every forward move. Team members should move only while litter is on the ground.

TWO-MAN CARRY. Used to enable the litter team to pass through or over narrow passages, such as trails, bridges, gang-planks or catwalks.

Figure 18. Two-Man Carry.



With the litter team in the four-man carry position, the team leader gives the command, "Two-man carry, move." The right front and left rear bearers grasp both handles and assume responsibility for the weight of the litter.

Litter team leader steps to the rear and the left front bearer steps in front of the lead bearer to act as a guide.

LOW CROUCH. Used when moving through tunnels where the bearers must keep their heads down. On command, "Low crouch, move," all bearers bend at the knees and waist, keeping their heads down.

Figure 19. Low Crouch.

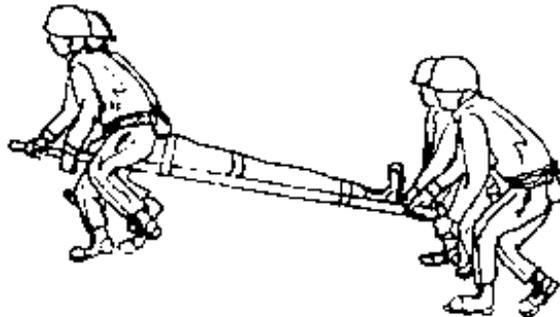
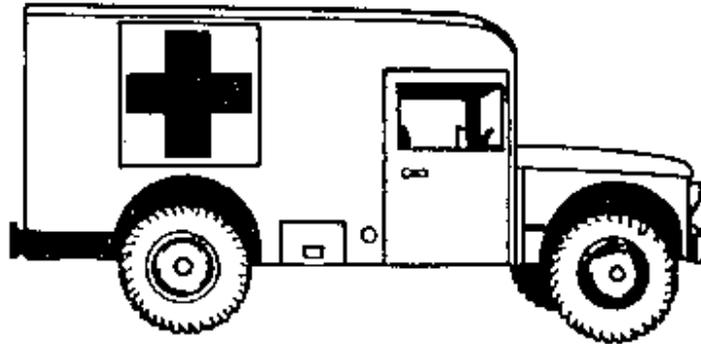


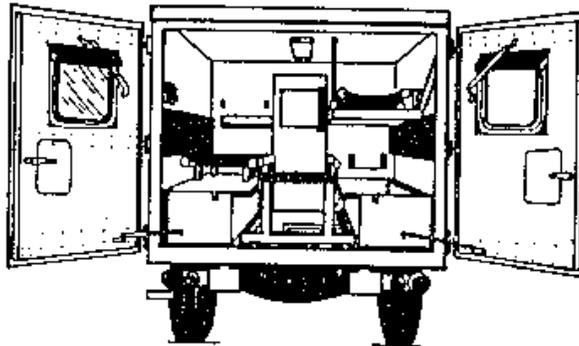
Figure 20. Field Ambulance (Vehicle Exterior).



Loading Sequence:

1. Load the top right berth with the least injured casualty.
2. Load the lower right berth with a casualty requiring more immediate care.
3. Load the top left berth with a casualty whose priority of treatment is higher than the casualty on the lower right berth.
4. Finally, load the casualty requiring the most immediate care onto the lower left berth.

Figure 21. Field Ambulance (Vehicle Interior).

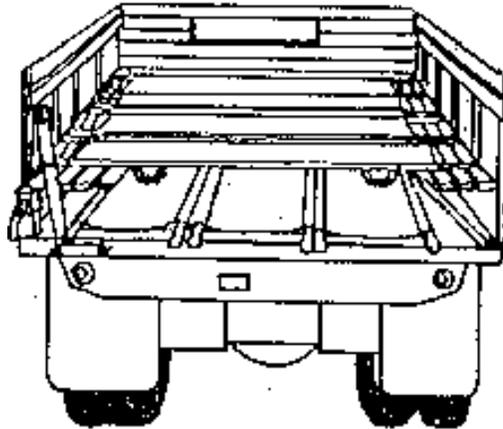


Unloading Sequence:

Casualties are unloaded beginning with the lower left berth, reversing the loading sequence. This allows the casualty requiring the most immediate care to be unloaded first and the one requiring the least immediate care to be unloaded last.

2½ TON CARGO TRUCK. Normally used to transport general cargo and personnel. It has a canvas-covered cab and tarpaulin braces and sideboards. It has a maximum capacity of twelve litter casualties. It is loaded in two layers from front to rear, beginning with the front-upper layer. Loading must be done carefully so as not to obstruct the placing of one litter by the premature loading of another. Most seriously injured casualty is loaded last.

Figure 22. 2½ Ton Cargo Truck.



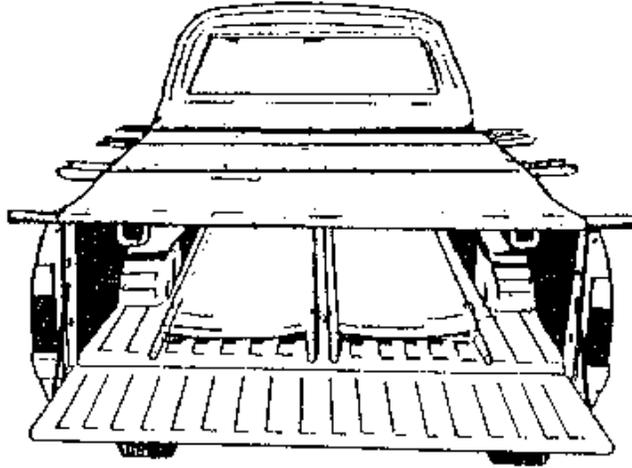
Loading Sequence:

1. Lower the seats. Remove canvas, it is in place.
2. Move to driver's side of truck. Load litters feet first on driver's side.
3. Place three litters crosswise on the seats at the front of the truck.
4. Place three litters lengthwise on the floor of the truck. Loading sequence is right side, left side, then center. Load casualty's head first.
5. Place three additional litters crosswise on the seats. Secure last litter in place on the seat with rope, safety strap, or anything available.
6. Extend tailgate and secure. Load last three litters, using same sequence as in Step 4.
7. Secure the last three litters with rope, safety strap, or anything that is available.

UNLOADING SEQUENCE. Casualties are unloaded by reversing loading procedures, taking the most seriously injured off first.

PICKUP TRUCK. This vehicle is a lightweight, open top, cab type truck used to transport personnel or light general cargo. This is a common vehicle for most units and can be adapted for casualty carrier with a five litter capacity.

Figure 23. Pickup Truck.



Loading Sequence:

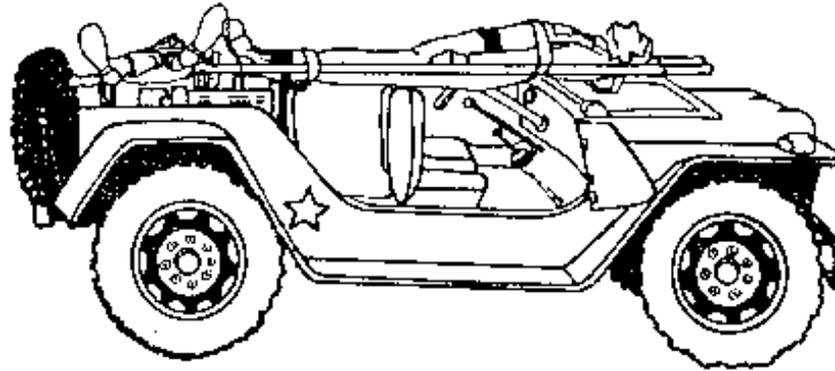
1. Place three litters side by side across the truck bed side rails.
2. Secure the third litter with materials available (rope, safety strap, etc.).
3. Place two litters lengthwise head first on bottom of the truck. Load from right to left.
4. Secure bottom litters by raising and securing the tailgate.
5. Load least seriously injured first, most seriously injured last.

Unloading Sequence:

1. Reverse loading procedures.
2. Most seriously injured (bottom left) will be taken off first.

¼ TON UTILITY TRUCK, “JEEP”. A general purpose personnel or cargo carrier designed for close-in support in forward areas. Commonly called a “jeep.” Generally available and can be easily converted to a casualty carrier. The vehicle can be open or have a cab-type cover. If the jeep has cover, it must be removed to place litters on the vehicle. The jeep has the capacity to hold two litter patients. If altered with a field ambulance kit, it has the capacity to hold three or four litter patients.

Figure 24. ¼ Ton Utility Truck, “Jeep”.



XVIII. STUDENT CHECKLIST

YES NO NA

NAME: _____ RANK: _____

Objectives: Given various scenarios, demonstrate proper SABC techniques IAW all items on this checklist

Criteria: At the completion of this checklist the member will be able to perform all skills listed on this checklist

1. DRESSING/BANDAGES

Given materials with which to improvise dressings and bandages apply them to simulated wounds on a fellow student IAW SABC checklist.

- a. Apply dressing and bandage to wound of head.
- b. Apply dressing and bandage to wound of chest.
- c. Apply dressing and bandage to wound of upper leg.
- d. Apply dressing and bandage to wound of abdomen.

2. BLEEDING

Using simulated materials and a fellow student as a victim control simulated bleeding IAW SABC checklist.

- a. Use direct pressure.
Upper arm
- b. Position victim's body.
- c. Use tourniquet (apply loosely and do not tighten for evaluation!)
Upper arm

3. FRACTURES/SPLINTS

Given materials with which to improvise splints, apply them to simulated fractures on a fellow student IAW SABC checklist.

- a. Apply splint to fracture of upper arm.
- b. Apply splint to fracture of lower arm.
- c. Apply splint to fracture of upper leg.

4. SHOCK

Using a fellow student as a victim perform procedures to control shock IAW SABC checklist

- a. Position victim's body.
- b. Prevent loss of body heat.

5. **VICTIM TRANSPORTATION**

Transport the sick, injured or deceased victim

- a. Given suitable materials, improvise a litter IAW SABC checklist
- b. Using an improvised litter and a fellow student as a victim, transport him/her IAW SABC checklist
 - (1) Transport victim 10 feet, using fireman's carry.
 - (2) Transport victim 10 feet, using fore-and-aft carry.
 - (3) Transport victim 10 feet, using two hand seat carry.
 - (4) Transport victim 10 feet, using four hand seat carry.
 - (5) Transport victim 10 feet, using improvised litter.

I certify that _____ has/has not successfully completed prescribed techniques above

Date Signature - Trainee

Date Signature - Trainer

Comments:

XIX. COURSE EVALUATION

Course Title: _____ Date:

Instructor:

1. Did this course meet your training needs? If not, explain.

2. What was MOST helpful in this course?

3. What was LEAST helpful?

4. What area(s) would you like to have spent MORE time on?

5. What area(s) would you like to have spent LESS time on?

6. Please comment on instructor qualities/skills that ENHANCED this course?

7. Please comment on instructor qualities/skills that DETRACTED from course?

8. What other suggestions do you have for improving this course?

EDGAR R. ANDERSON, JR., Lt General, USAF, MC
Surgeon General