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FIRST AID GUIDE FOR USDA EMPLOYEES

Agriculture Handbook No. 227
United States Department of Agriculture

FOREWORD

This First Aid Guide is for use in emergencies by all employees of the Department of Agriculture. It should be particularly helpful for employees who work in areas where medical facilities are not readily available. The guide reflects the current concepts of physicians, the American Red Cross and others in the field. As first-aid concepts change and are found valid, new editions or corrections will be made.

It has been said, in truth, that the only good that can come from any accident is knowledge of how to prevent similar accidents and injuries. Every employee in this Department is involved in our accident prevention program. Working together we can make the Department a safe and healthy place for all to work.

This guide replaces several that have been published by various agencies of the Department. Information and sketches have been freely used from the agency guides, especially the Forest Service guide, and from the American Red Cross First Aid Text Book.

Special acknowledgment is made to Melvin T. Johnson, M.D., former Chief of the Health Division, now Assistant Director of the Medical Division of the U.S. Civil Service Commission, who planned the publication before transferring to the Commission.

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For forms to be filled out, see inside back cover.

This First Aid Guide presents instructions for use in a wide variety of emergency situations. The guide is not, however, intended to cover some of the specialized needs for emergency medical care that might arise in the event of a nuclear attack.

We recommend that employees of the Department and their families also have and become familiar with publications especially geared to nuclear emergencies. One such recommended publication is "Family Guide—Emergency Health Care" (published by the Office of Civil Defense, Department of Defense, and the Public Health Service, Department of Health, Education, and Welfare).

PRINCIPLES OF FIRST AID

DO THESE THINGS FIRST:

1. Restore breathing.

2. Stop severe bleeding.

3. Treat shock.

4. Call a doctor immediately.

SERIOUS BLEEDING

Cut Artery or Vein

Symptoms

1. Cut artery, bright red blood spurts or wells up

2. Cut vein, dark red blood flows steadily or oozes

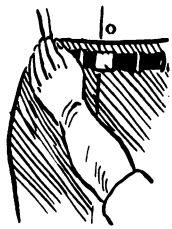
First Aid

1. Remove or cut clothing from wound

2. **Always apply pressure at once.** Seconds count. Loss of 2 pints of blood can be fatal.

   a. Apply direct firm strong pressure preferably on sterile dressing over wound first. Direct pressure on the wound will seldom fail to control bleeding if enough pressure is used.

   b. If this fails to stop flow, apply firm strong pressure to nearest pressure point. See sketches.



   c. A tourniquet should only be used for cut arteries that cannot be controlled by a. or b.

Internal Bleeding

Symptoms

1. Restlessness
2. Anxiety
3. Thirst
4. Pale face
5. Weak, rapid pulse
6. Weakness

First Aid

1. Keep victim flat on back. Exception: If he cannot breathe because of lung puncture.
2. Turn his head to side for vomiting.
3. Keep him quiet, reassured.
4. Move him only in lying position to a hospital.

Nose Bleed

1. Have victim sit with head thrown back, breathing through mouth, clothing at neck loosened.
2. Press nostril continuously to middle portion for 5 to 10 minutes. This will stop nearly all bleeding in front of the nasal bones.
3. If bleeding continues pack gauze into nostril and take victim to doctor.

SHOCK

SHOCK is a depressed state of body functions caused by injury. Unless treated, the condition often results in death, although the injury itself would not be fatal.

TREAT FOR SHOCK IN ANY INJURY CASE.

Factors Contributing to Shock

1. Exposure
2. Pain
3. Rough handling
4. Improper transportation
5. Loss of blood
6. Fatigue
7. Broken bones and internal injuries

Symptoms

1. Symptoms usually develop gradually and may not be noticeable at first
2. Skin pale, cold, moist, clammy
3. Eyes vacant, lackluster, pupils dilated
4. Breathing shallow, irregular; air hunger
5. Nausea, faintness, or even unconsciousness
6. Pulse weak, irregular, rapid, or absent in extreme cases

First Aid

1. Position: Keep victim lying flat. Raise legs 12 to 18 inches, unless head is injured or chest is punctured.

2. Heat: Keep victim only warm enough to prevent shivering. Conserve body heat by blanket underneath.

3. Fluids: If conscious, give water or dilute salt solution (½ teaspoon of table salt to quart of water) as tolerated.

STOPPAGE OF BREATH

Smoke, Gases, Drowning, Low Concentration of Oxygen, and Respiratory Paralysis.

Rescue Operations

1. Consider hazards in rescue operations.

2. Provide for minimizing hazards.

3. Use anything which will float to assist in rescue from drowning.

4. Use rope on rescuer when entering gas or smoke filled area.

Basic Principles of Artificial Respiration

1. To obtain and maintain airway freedom.
2. Increase and decrease the size of the chest—alternately.
3. Move air in and out by external or internal methods.

ALL OTHER CONSIDERATIONS ARE SECONDARY

First Aid Artificial Respiration by Mouth-to-Mouth Method

1. Place victim on his back, if possible.

2. Turn his head to one side and clear his mouth of any foreign matter.

3. Place your hands at the base of the victim's jaw. Lift jaw up so that the lower teeth are in front of the upper teeth. A free air passage must be provided.
4. Place your mouth over the victim's mouth. Pinch his nostrils to close off his nasal passages.

5. Blow into the victim until you see his chest rise. Take your lips away and let his lungs empty themselves. Repeat this procedure as rapidly as lungs empty themselves for the first few minutes. Then, 12–16 times per minute.

6. Keep his neck arched backward at all times to maintain free air passage.

7. If you use an artificial respirator and mask follow the foregoing instructions with the exception of mouth-to-mouth method. Remember you must see the chest rise to be successful.

Stopped Hearts

Closed Heart Massage

CLOSED HEART MESSAGE REQUIRES SPECIAL MEDICAL TRAINING. THE METHOD HAS NOT BEEN ADOPTED BY THE AMERICAN RED CROSS. ARRANGE TO TAKE COURSES OFFERED TO SPECIAL RESCUE GROUPS.

If, in spite of mouth-to-mouth breathing, the injured persons fails to respond, it may be because his heart has stopped. If no pulse is felt at the wrist, no sound heard with the ear to the chest, if the color is poor, or if the pupils are dilated, you can be fairly certain the heart has stopped. These steps taken promptly may save a life:

1. Place the victim on his back on a firm surface and raise his legs to drain leg blood toward heart.
2. Raise his chin by extending his neck (same as with mouth-to-mouth breathing).
3. Place the heel of one hand on the lower part of the breastbone and the other hand directly on top of the first hand.

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4. Press down firmly with both hands, then raise both hands from the chest to allow it to expand.

5. Repeat 60–80 times per minute.

6. If alone, stop every 30 seconds to do mouth-to-mouth breathing 3 or 4 times.

7. With two persons, one does the heart massage for 5 times, then the other does mouth-to-mouth once, and repeat.

8. Check the pulse periodically. Some will start to beat on their own in a few seconds; others won't until treated by a doctor with electricity.

9. When calling for the ambulance and hospital, alert them that the heart is stopped so preparations can be made.

Smoke Exposure

Symptoms

1. Unconscious

2. Breathing stopped

3. Face and lips blue, flushed or pale

4. Pulse weak or absent.

First Aid

1. Rescue breathing.
2. Treat for shock.
3. Keep victim lying down, quiet and warm 24 hours.

Electric Shock and Lightning

Symptoms

Same as for smoke above, except there may be burns, and body may be rigid at first

First Aid

1. Always protect yourself against shock.
2. If victim is on pole and rescue may take several minutes, start rescue breathing while rescue tackle is being adjusted.
3. If victim is on wire on ground, remove wire with dry pole or rope before touching him.
4. Use mouth-to-mouth artificial respiration as above, then treat burns.

Choking

Drowning

1. If victim is not breathing start artificial respiration at once.
2. Do not waste time attempting to remove water from lungs. Little, if any, can be drained out.

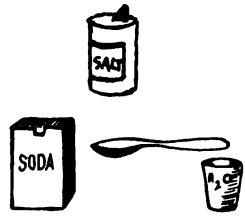
POISONING BY MOUTH

Objectives

To dilute the poison as fast as possible. Then except as advised induce vomiting.

Symptoms

1. Pain in stomach and vomiting; diarrhea with food poisoning
2. Flushed or bloated face
3. Mouth may be burned
4. Convulsions
5. Unconsciousness



Poisons not Acid or Alkali

1. DILUTE: Give large amounts of fluid, 4 to 7 glasses of solution of 1 teaspoon of either baking soda or salt in 1 glass of warm water, or milk.

2. WASH OUT: Induce vomiting by tickling throat.

3. Give antidote, if one is known.

4. When poison is unknown give antidote of 1 part strong tea, 1 part milk of magnesia, 2 parts burnt toast.

5. Give heaping tablespoon of Epsom salts in water.

6. If petroleum products, don't induce vomiting—dilute only.

Acids

1. Avoid vomiting if possible.
2. Neutralize with alkali such as baking soda, magnesia, chalk in water.
3. Give milk, olive oil, or egg white.

Alkalies

1. Avoid vomiting if possible.
2. Neutralize with weak acid such as lemon juice or vinegar.
3. Give milk.

Skin Contamination

1. Drench with water.
2. Apply stream of water on skin while removing clothing.
3. Cleanse skin thoroughly with soap and water. Rapidity in washing is most important in reducing extent of injury.

Food Poisoning

Symptoms

1. Uncomfortable feeling in upper abdomen
2. Pain and cramps
3. Nausea and vomiting
4. Diarrhea

5. Prostration

6. Unconsciousness in severe cases

First Aid

1. Call doctor.
2. Never give a physic unless ordered by doctor.
3. Save samples of food, vomitus, or excreta for analysis.
4. Keep victim warm, in bed.
5. If vomiting persists, give small drinks from glass of water containing teaspoon of soda.
6. May give him sweetened strong tea.

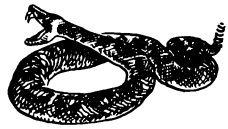
POISON SNAKES, INSECTS, PLANTS

Snake Bites

Prevention

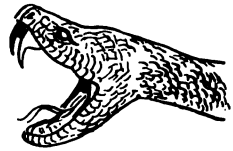
1. Wear high shoes.
2. Watch for snakes.
3. Carry snakebite kit.
4. Differentiate poisonous snakes with typical fang punctures and nonpoisonous variety with multiple teeth marks.

Symptoms



1. Immediate pain
2. Swelling, purple color

3. 1 or 2 fang puncture points



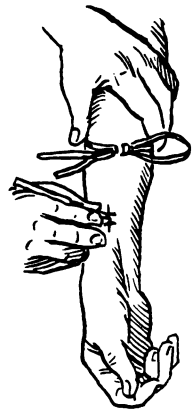
4. Weakness, short breath

5. Rapid, weak pulse

6. Vomiting, faintness

First Aid

1. With competent medical centers available in the area within 2 hours, the preferred first aid is to put the person, or at least the part, to rest, apply a tourniquet above the injury, and transport immediately to the nearest hospital or doctor.

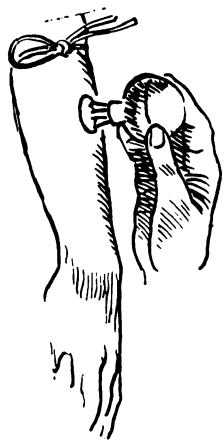


2. If professional help is not available within a few hours—

   a. Apply tourniquet above bitten part or area of swelling.

   b. Immobilize part. Keep victim quiet and warm.

   c. If antivenom is available, use as directed. If antivenom is not available, make two incisions as deep as two-thirds the distance between fang marks and about 1/8 to 1/4 inch long through the fang marks in the same direction as the limb (not crosswise). Wash out blood, lymph, and venom and use suction every 15 minutes for 2–3 hours.



This procedure is only valuable if done within an hour—and preferably within a very few minutes after the bite. Then keep injured part in ice bath. After an hour remove from ice bath but keep cool for 24 to 96 hours.

d. Treat for shock; give plenty of drinking water.

e. In places more than 8 to 12 hours from nearest hospital or doctor, persons might be equipped and trained to use antivenom.

Insect Sting

PERSONS SENSITIVE TO INSECT STINGS SHOULD GET VACCINE BEFORE INSECT SEASON.

1. Remove stinger if possible.
2. Apply paste of baking soda and cold cream.

3. Cold applications will relieve pain.
4. Calamine lotion will relieve itching.

5. If multiple, an unusual reaction, or history of a severe reaction, take victim to a doctor.

Black Widow Spider Bites

Symptoms

1. Slight swelling, redness, tiny red spots
2. Immediate burning, spreading pain
3. Abdominal pain and rigidity, nausea and vomiting
4. Fever, sweating, severe headache
5. Rarely fatal in adults but often so in infants and children

First Aid

1. Keep victim lying down, quiet and warm. If he must be moved, use a stretcher.
2. Get doctor immediately.

Scorpion Sting

Less dangerous than black widow spider except in infants

Symptoms

1. Severe pain and swelling

First Aid

1. Cold packs
2. Get to doctor

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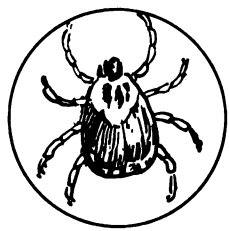
Chigger, Red Bug Bites

Symptoms

1. Localized itching, redness, usually under belt or other tight clothing

First Aid

1. Apply calamine lotion.
2. As a preventive rub dimenthyl phthalate or flowers of sulphur on ankles and socks.



Rocky Mountain Spotted Fever Tick Bites

Prevention and First Aid

1. Examine body and clothes after any exposure and always remove ticks after each shift.
2. Have partner inspect back.
3. Remove ticks by gentle traction with forceps. If mouth parts break off, remove them from flesh.
4. If forceps method unsuccessful try covering with thick oil for awhile first.
5. Then gently scrub area with soap and water.

Symptoms of Disease

1. Chills and fever
2. Sweating
3. Pains in bones, muscles, joints
4. Back and head aches
5. Coughing, vomiting, weakness
6. Rash appears in 2 to 4 days

First Aid

1. Early medical treatment
2. Complete rest

Poison Oak, Ivy, Sumac

Prevention

1. Wash thoroughly with thick soap suds.
2. Wash clothing and shoes in thick hot suds.
3. Destroy plants wherever practicable.
4. Avoid smoke from burning plants.
5. Wear protective clothing.
6. If very sensitive obtain vaccine before the season.

Symptoms

1. Skin red, swollen
2. Small blisters, which may form large blisters later
3. Violent itching

First Aid

1. Wash as above under PREVENTION.
2. Make paste by heating soap and water to consistency of lard, apply thickly to rash, allow it to dry, and leave on overnight.
3. Or use calamine solution.
4. Or if in the field the extract of the plant "Jewel Weed" also called "Touch-me-not" may be used both as a preventive and as a treatment.
5. Consult doctor about extracts of poison ivy or oak to reduce sensitivity to these poisons.
6. Commercial preparations are available.

HEAT INJURIES

Burns and Scalds

Symptoms and Classification

1. First degree—skin reddened
2. Second degree—skin blistered
3. Third degree—skin cooked or charred, may extend to underlying tissue

First Aid

For small first and second degree burns covering up to 1 percent of body surface (size of hand):

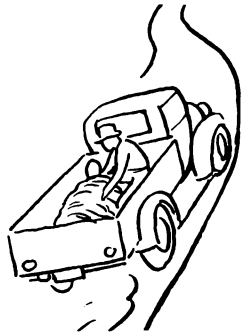
1. If ice water is available, soak the part 20 to 30 minutes.
2. Wash and/or use antiseptic (povidone-iodine complex suggested).
3. Place sterile gauze over burned area.
4. Bandage entire area snugly.

For large burns of any degree:

1. If doctor or hospital is available within 30 minutes or less:

   a. Treat for shock.

   b. Rush to hospital, untreated.



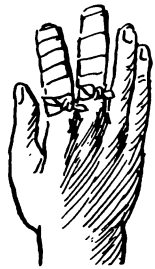
2. If in isolated area:

   a. Remove clothing from burn, cut around cloth that sticks to burned area.

   b. May apply antiseptic (povidone-iodine complex suggested).

   c. Cover burn with sterile dressing.

   d. Cover this with 8 to 10 layers of loose sterile or clean dressing.



   e. Dress burn so it cannot touch other burned or unburned skin.

   f. Bandage snugly so there is moderate pressure on burn.

   g. Treat for shock.

   h. If victim is conscious, he should drink all he wishes of solution containing 1/2 teaspoon baking soda and 1/2 teaspoon of salt to 1 quart of water.

i. DO NOT

(1) Touch burn with fingers.

(2) Breathe on burn.

(3) Apply antiseptic other than as indicated above.

(4) Break or drain blisters.

(5) Change dressing. Doctor should do this.

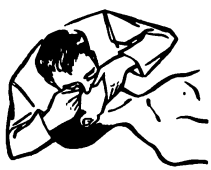
Chemical Burns

1. Flush thoroughly with water to remove all of chemical.

2. Treat like other burns.

3. If eye is burned by creosote or other chemicals, after flushing with water, cover with sterile compress and see doctor.

Inhalation Burns



1. Carry patient to fresh air immediately.

2. Apply artificial respiration if breathing has stopped or is inadequate.

3. Prevent chilling.

4. Do not give alcohol in any form.

Electric Burns

Treat like other burns, but cover wider area with dressing because these burns are usually more extensive than they appear to be.

Sunburn

Use petrolatum or cold cream for mild cases. For severe sunburn treat as other burns.

Excessive Heat

Some of the adverse effects of excessive heat and copious sweating may be lessened by the regular use of ample drinking water and liberally salted foods, rarely salt tablets.

Sunstroke

Cause

Exposure to heat, particularly the sun's rays

Symptoms

1. Headache
2. Dizziness
3. Red face
4. Hot, dry skin

5. Strong, rapid pulse

6. Very high temperature

7. Usually unconscious

First Aid

1. Put victim in shade, lying on back, with head and shoulders raised, clothing removed.

2. Cool the body with ice, water or "rubbing alcohol" or fanning.

3. Give cool drinks, no stimulants.

4. Call doctor.

Heat Exhaustion

Cause

Exposure to heat either outdoors or indoors

Symptoms

1. Pale face

2. Dizziness

3. Vomiting

4. Profuse sweating

5. Moist cool skin

6. Weak pulse

7. Low temperature

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8. Faint but seldom unconscious for long

9. May have cramps in abdomen or limbs

First Aid

1. Lay victim down with body level or head slightly lowered.

2. Give several glasses of solution of ½ teaspoon salt in glass of water.

3. Remove victim to circulating air and out of direct sun rays.

INJURIES DUE TO COLD

Frost Bite

Symptoms

1. Considerable pain and redness in fingers, toes, cheeks, ears, or nose

2. Later grayish-white color due to frozen tissues

First Aid

1. Until victim can be brought indoors, cover part with woolen cloth or warm skin of victim or first aider.

2. Thaw out frozen part rapidly in warm room, or in warm water 100°–105° F. or electric blankets at 100° F.

3. May give warm drinks.

4. Get early medical attention.

Prolonged Exposure to Cold

Symptoms

1. Victim becomes numb, drowsy

2. He staggers, eyesight fails, and he becomes unconscious

First Aid

1. Place him in warm room and apply artificial respiration if breathing has stopped.

2. If only chilled and not unconscious, put him in warm bed and give hot drinks.

Snow Blindness

Prevention

Wear good quality, dark glasses in snow country, particularly in early spring and at high elevations.

Symptoms

1. Burning, smarting, sandy feeling in eyes
2. Pain in eyes or forehead
3. Sensitivity to light, eyes watering

First Aid

1. Cold compresses on eyes.
2. Use mild eye drops or mineral oil.

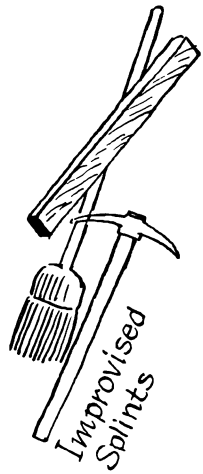
   Wear dark glasses.

FRACTURES

Fracture of Arm or Leg

Symptoms of Simple Fracture

1. Victim may hear or feel bone snap, and grating
2. Pain and tenderness at break
3. Inability to use injured part or to move adjacent joints
4. Broken part may be swollen and deformed, discolored



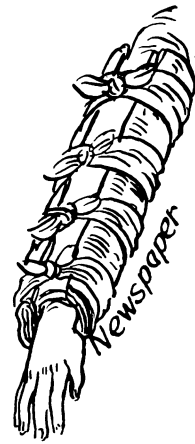
Symptoms of Compound Fracture

1. Same as above, plus presence of wound extending from fracture through the skin
2. Fractured bone may protrude
3. Frequently there is severe bleeding

First Aid

1. If doctor is nearby, do not move broken limb or patient. Keep broken ends and adjacent parts quiet.
2. If bleeding, cut away clothing and control flow by sterile compress and pressure, then bandage. Use tourniquet only as last resort to save life when severe bleeding cannot be con-

trolled otherwise. Tourniquet should be loosened only by physician (unless over 2 to 3 hours).

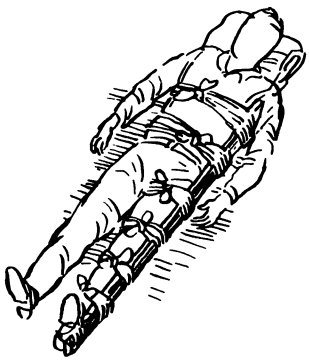


3. If necessary to move, have splints, pads, and ties ready, then:

   a. Give complete immobilization to fractured bone and next joint in either direction from fracture, by well padded splints.

   b. If the long leg bones are broken and victim must be moved some distance to doctor, apply traction splint, unless bone is protruding, in which case immobilize leg by placing sterile dressing over wound and splinting in place.

4. After splint is in place, examine every 20 minutes to be sure limb swelling has not cut off circulation.



Skull Fracture and Concussion

Symptoms

1. Bump or cut on head
2. Victim dazed or unconscious
3. Bleeding or fluid from ears, mouth, nose
4. Pupils of eyes may be unequal in size

First Aid

1. Keep victim lying down, warm.
   a. If face normal color or flushed, raise head and shoulders.
   b. If face is pale, lower head slightly.
2. Move only if necessary, and then horizontally.
3. Give no stimulants.
4. Apply sterile gauze and bandage to open scalp wound.
5. If strangling from blood and mucous, lower head and turn to drain.
6. Get doctor as soon as possible.
7. Do not leave victim alone.

Spine Fracture

Symptoms

1. Pain in neck or back

2. There is no interference of hands or feet unless spinal cord is injured. If victim cannot open and close fingers readily, or grasp your hand firmly, his neck may be broken. If he can move fingers, but not feet or toes, his back may be broken.

3. Severe shock

4. If victim is unconscious and and spinal injury is suspected, treat as neck fracture.

First Aid

1. Get doctor. Victim should not be moved without medical supervision unless no doctor is obtainable.

2. Don't let victim move or lift head.

3. Cover with blankets according to temperature.

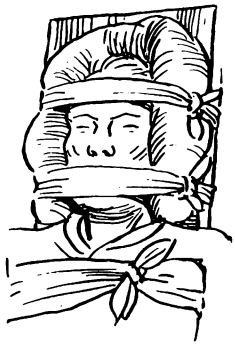
4. If no doctor is available and victim must be moved, the method will depend on materials available. Face up on rigid surfaces, face down on non-rigid surfaces. Transport all neck injuries face up.

a. Do not tilt head forward, backward, or sideways under any circumstances.

b. Slide him onto support in the direction of support.

c. Head should be well padded at sides to prevent motion.

d. Tie hands across chest, and tie head and body rigidly to board. Pad under neck to keep head neutral.



5. When moving victim with fractured back, tie to rigid support with pad under lower spine.

6. Blanket lift can be used if victim stays face down. The blanket lift should be used only when a rigid support cannot be obtained or improvised.

Pelvis Fracture

Symptoms

1. Much pain around pelvis if standing or walking
   May have little or no pain if lying down

2. May have severe shock

First Aid

1. Move victim on back on rigid stretcher, door, or board.
2. Bandage knees and ankles together.
3. Bend or straighten knees, whichever is most comfortable.

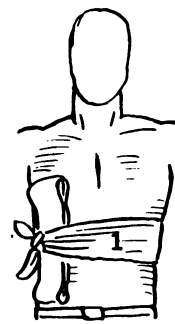
Rib Fracture

Symptoms

1. Severe pain on deep breathing or coughing
2. Break may be felt by fingers on rib
3. Shallow breathing
4. If lung punctured, frothy bright red blood may be coughed up.

First Aid

Objective is to control pain, and restrict rib motion.

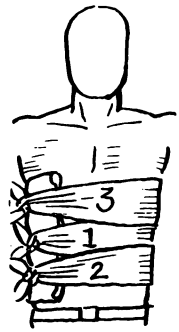


1. If chest is punctured, apply airtight dressing only. Have victim lie quietly; move him lying down to doctor.

2. If chest is not punctured, apply 2 or 3 triangular cravat bandages around body.

   a. Tie first one loosely over break with knot over a pad, on side opposite break. As victim exhales, tighten knot.

   b. Repeat a. above with 2 more cravats, one above, one below, first one.



3. Six-inch elastic rubberized roller bandage makes excellent splint.

Nose Fracture

1. Do not splint.

2. Apply sterile compress if open wound, held lightly in place with 4 tail bandage.

3. Get to doctor for X-ray and possible reduction of fracture.

Lower Jaw Fracture

1. Place palm of hand below jaw and raise it gently to bring teeth together.

2. Support jaw with bandage under chin, tied on top of head.

3. If victim vomits, release bandage immediately, support jaw with hand, and rebandage when vomiting stops.

Collar Bone Fracture

Symptoms

1. Fracture can sometimes be felt by finger
2. Injured shoulder may be lower
3. Victim usually cannot raise arm above shoulder

First Aid

1. Put arm in triangular bandage sling, with hand raised above elbow level and ends of fingers uncovered.
2. Tie arm snugly to side of body.

Elbow Fracture

1. If arm straight, apply fixation splint entire length of arm.
2. If arm bent, apply arm sling and bind upper arm snugly to side of body.

Hand or Wrist Fracture or Crushing Injury of Hand

1. Apply padded splint to front of hand, from elbow to beyond finger tips.

2. Place arm in triangular bandage sling with hand in most comfortable position.

Finger Fracture

1. Immobilize by splints and ties.
2. Support hand, slightly raised, in sling.

Kneecap Fracture

1. Straighten limb.
2. Tie limb to well-padded 4-inch board reaching from buttock to heel, leaving kneecap exposed. In emergency a pillow or blanket can be used instead of board

Foot and Toe Fracture or Crushing

1. Apply several dressings padded with cotton, or a small pillow, bandaged snugly in place.

DISLOCATIONS, SPRAINS, STRAINS, BRUISES

Dislocations

Symptoms

1. Intense pain
2. Deformity
3. Swelling
4. Loss of movement

First Aid

1. Apply cold compresses and elevate injured part.
2. If necessary to move victim, support dislocated elbow or shoulder in loose sling; if hip dislocated, place pillow under knees.

3. Gentle traction may be tried to reduce the dislocation of finger joints. If it fails, do not persist. This should not be tried for a dislocated thumb.
4. Keep other dislocations immobilized in the dislocated position until medical help can be had.

Sprain

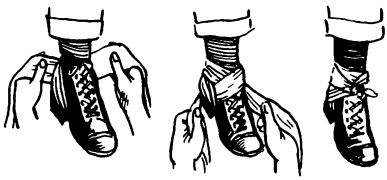
SPRAINS ARE TEARS OF LIGAMENTS SUPPORTING A JOINT

Symptoms

1. Pain at joint
2. Swelling
3. Discoloring

First Aid

1. Elevate the part, if practical, by putting wrist in sling, ankle on pillows.
2. Apply cold applications, ice, or running water, in early stage up to 6 or 8 hours; hot applications after 24 hours.
3. If 1 and 2 cannot be done, immobilize part as much as possible by bandaging. Keep injured part quiet.
4. If person must walk with sprained ankle, support it as shown in the sketch.



Strains

STRAINS ARE INJURIES TO MUSCLES OR TENDONS.

Symptoms

Pain in muscles, increasing stiffness

First Aid

1. Rest injured muscle.
2. In first 24 hours, cold packs to anesthetize and avoid swelling.
3. After 24 hours, heat to reduce muscle spasm and increase circulation.
4. Massage to loosen up muscles.

Bruises

Symptoms

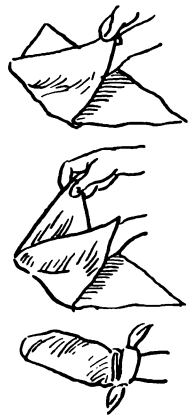
Pain, swelling, discoloration.

First Aid

1. Apply ice or cold cloths immediately to reduce swelling and relieve pain.
2. Elevate injured part.
3. If skin is broken, treat as any open wound.

WOUNDS AND BANDAGING

ALL WOUNDS, NO MATTER HOW SMALL, SHOULD BE TREATED TO PREVENT INFECTION. WHEN BLEEDING IS NOT SEVERE, INFECTION IS THE CHIEF DANGER. UNCLEAN FIRST AID IS MORE DANGEROUS THAN NO TREATMENT AT ALL.



First Aid

1. If wound is severe and doctor is nearby, cover wound with sterile pad, then bandage and take victim to doctor.

2. In isolated areas, if possible thoroughly wash wound with soap and water; then cover with sterile pad and bandage. Otherwise cover and bandage until washing can be done later.

3. If wound is so large that it will have to be sewed up:

   a. After washing, cover with sterile gauze, then bandage and take victim to doctor.

   b. If doctor cannot be reached for several hours, after washing, close wound by finger

pressure and apply butterfly taping, then bandage.

4. If wound is well washed, no antiseptic is needed. If one is used, povidone-iodine complex is suggested.

Bandaging

1. Always apply sterile gauze pad directly on wound, then bandage over this.

2. Never use absorbent cotton or adhesive tape directly on a wound, except a narrow bridge of adhesive, sterilized over flame, to hold wound edges together.

3. Bandage snugly but not tightly; ends of fingers and toes uncovered, if possible, to check on circulation.

Puncture Wound

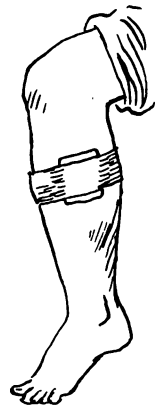
1. Encourage bleeding by mild pressure at edge of wound.

2. Apply sterile pad and bandage.

3. Always get doctor to clean wound to prevent tetanus.

4. Doctor should determine need for tetanus vaccine.

Gunshot Wounds



1. Stop blood flow.
2. Apply sterile dressing and bandage.
3. Immobilize fractures.
4. Treat for shock.
5. Get victim to doctor for thorough examination and lockjaw prevention.
6. Depending on local laws, report to authorities.

Abdominal Wounds

1. Keep victim warm, on back.
2. Give him nothing to drink.
3. Do not clean wound. Cover with sterile dressing and bandage.
4. If intestine is protruding, don't push it back in:
   a. Cover with sterile dressing kept moist with warm salt water, 1 teaspoon to a pint.
   b. Raise knees.
5. Get to hospital quickly, treating for shock enroute.

Animal Bite

Dog, Cat, Wildlife, Any Mammal

1. Wash wound thoroughly with soap and water.
2. Apply sterile pad and bandage.
3. Consult doctor about rabies or tetanus shots.
4. Confine animal for observation. If necessary to kill, do not damage its brain, so that it may be examined.

Eye Wound

Object imbedded in eye or surrounding tissues:

1. Do not rub the eye.
2. Tell patient to look down.
   a. Grasp edge of upper lid, make slight pressure on the skin surface of the lid with the side of a blunt pencil or the edge of a match stick, and turn the inner surface of the lid upward.
   b. Remove foreign body with the corner of a piece of gauze or a clean handkerchief.

3. If the foreign body is seen on the clear front part of the eye have patient wink several times and see if it can be dislodged.

4. If the foreign body is imbedded and cannot be dislodged do not attempt to remove it. Have the patient close the eye, place a pad or piece of moist cotton over the closed lid, bandage and obtain medical attention.

Objects under Skin and Nails

1. Apply antiseptic—povidone-iodine complex recommended.

2. Sterilize needle, knife, or tweezers in flame, then remove object.

2. Encourage bleeding by gentle pressure.

4. Apply sterile pad and bandage.

5. If splinter breaks off under nail, scrape nail thin, then cut V-piece over splinter, remove as above, if patient cannot be taken to doctor within 12 hours.

Blisters

1. Wash with soap and warm water.
2. Sterilize needle over open flame.
3. Puncture blister at edge.
4. Gently press out water or blood with sterile pad.
5. Apply small adhesive dressing.
6. If blister has broken, wash and dry with sterile gauze; apply sterile dressing.
7. If blister develops infection see doctor at first indication.
8. Small blisters—merely wash and cover with sterile bandage; only puncture when large and must to get shoe on, etc.

Infected Wounds

Symptoms

1. Throbbing pain and heat
2. Extreme swelling, redness
3. Pus and red streaks
4. Tenderness, fever
5. Swollen glands

First Aid

1. Rest in bed.

2. Hot applications of 2 level teaspoons of salt in 1 quart of water, preferably by putting infected part directly in the solution.

3. Change application often enough to keep hot, and continue for an hour.

4. Elevate part, then repeat hot application in 3 or 4 hours.

5. Repeat process until doctor can be seen.

MEDICAL EMERGENCIES

Insulin Reaction—Diabetics

Symptoms (usually sudden onset)

1. Skin—moist and pale

2. Rapid pulse

3. Tremor or even convulsions

4. Victim becomes weak; may become unconscious

First Aid

1. If conscious, give sugar, candy, or orange juice

2. If unconscious, get to doctor for injection

Heart Attack

Symptoms

1. Pain—heavy and excruciating under the breastbone; may radiate to neck, jaws or arms; may be in upper abdomen
2. Shortness of breath, may feel he has to sit, stand, or walk to breathe
3. May perspire freely
4. May be in shock
5. Often severe anxiousness
6. Often history of previous bouts of pain behind the breastbone, especially with exertion

First Aid

1. Call doctor.
2. If victim has medication for pain have him take it.
3. Put at rest and make comfortable.

4. Give oxygen if available.

5. Stay with him and reduce his anxiety.

6. Treat shock.

7. Transport only if necessary—preferably lying down with head level (head down in cases of shock).

Apoplexy-Stroke

APOPLEXY OR STROKE RESULTS FROM RUPTURE OF A BLOOD VESSEL IN THE BRAIN OR A BLOOD CLOT

Symptoms

1. May follow over-exertion

2. Face may be red, but sometimes ashen gray

3. Slow pulse and heavy breathing

4. One eye pupil may be larger than other

5. One side of body may be paralyzed or victim may have difficulty speaking

6. May be unconscious

7. May be very minor, especially in older persons, with only headache and dizziness; sudden memory loss, change of mood, numbness or difficulty using body part.

First Aid

1. Lay victim on back with head and shoulders raised.
2. Nothing by mouth.
3. Keep warm and comfortable.
4. Call doctor.
5. If doctor is not available, transport lying down with head raised.

Fainting

Prevention

Victim should sit down and put head between knees, or lie down immediately.

Symptoms

1. Pale face, drooping eyelids
2. Perspiration
3. Dizzy
4. Shallow breathing
5. Weak pulse
6. Unconsciousness finally

First Aid

1. Keep victim lying down, with head lower than body.
2. Loosen tight clothing.
3. Can use ammonia inhalant.
4. Keep him resting until fully recovered.

Epilepsy

Symptoms

1. Convulsion may or may not come with warning
2. Pale face, eyes roll up
3. Victim utters hoarse cry, falls to ground
4. Turns blue, bites tongue, loses consciousness
5. Jerks head, arms, legs wildly
6. Froths at mouth
7. May become conscious, or else pass into deep sleep in 2 to 30 minutes

First Aid

1. Prevent victim injuring himself by pushing objects out of the way.
2. If anticipated, place soft object between teeth.
3. Let victim rest undisturbed after attack. Do all you can to keep embarrassment at a minimum.

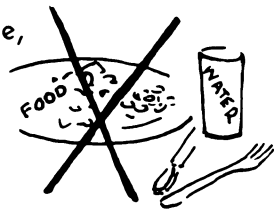
Appendicitis

Symptoms

1. Cramping pain over all or part of abdomen continuing and changing to localized pain, tenderness and rigidity usually in lower right part of abdomen
2. May be fever, nausea, or vomiting

First Aid

1. Put victim in bed.
2. Don't give food or medicine, and only sips of water.
3. Call doctor.



Hernia

Prevention

1. Get firm footing and handholds when lifting.
2. Lift with your leg and arm muscles, not your back; keep back straight.
3. Don't twist when you lift.
4. Get help with heavy loads.
5. Avoid heavy lifting and straining.

Symptoms

1. Swelling in groin appears suddenly, or after a delay

2. Swelling may disappear when victim lies on back

3. May develop pain, soreness or swelling may not disappear when lying down; if so

First Aid

1. Lay victim on back.

2. If hernia does not go back into place, lay him on stomach and bring his knees up under his chest.

3. Lay on back again and apply cold compresses to hernia, whether or not it went back into place.

4. Move him lying on back to doctor.

Diarrhea

1. Put victim on tea or hot water and dry toast diet until he has no bowel movement for 24 hours.

2. If continues, refer to a physician.

Internal Injuries

Symptoms

1. Nature and extent of injury usually is not clear

2. Severe shock is often present

First Aid

1. Get a doctor.
2. Keep victim lying down, treat for shock.
3. Do not give him liquids or food.
4. Transport him carefully in a lying position.

Colds

1. Rest in bed is best cold treatment.
2. If gargle is needed, use ½ teaspoon of salt and ½ teaspoon of soda in glass of hot water.
3. Drink extra fluids.
4. Take aspirin or cold tablets.
5. Eat light, easily digested foods.
6. Call doctor if you have fever, chills, aches, or hard cough for over 24 hours.

Boils and Pimples

1. Do not squeeze.
2. Treat as an infected wound, with hot salt applications to draw.
3. Wipe off discharge with sterile gauze; apply sterile pad and bandage.

Earache

1. Do not allow victim to blow nose hard.
2. Apply hot water bottle to ear.
3. Drop in warm mineral oil to relieve pain.
4. Persistent earache should always be treated by a physician.

Foreign Bodies in Ear or Nose

Insert warm mineral oil and let only doctor remove.

Hives

Sponge area with strong baking soda solution or apply calamine lotion. If hives persist, see doctor.

Toothache

1. If no cavities are visible, apply heat or cold to outside of jaw.
2. If there is cavity in tooth, clean out with cotton on end of toothpick.
3. Dip another piece of cotton in oil of cloves and insert in cavity.

Styes and Red Eyes

1. Apply warm compresses several times a day.
2. See doctor if no improvement in 2 or 3 days.

EMOTIONAL STRESS

Signs of Emotional Distress

ALL INVOLVE CHANGE IN BEHAVIOR.

I. Early

Person's usual manner may be overemphasized. Quiet person may become more withdrawn. A conscientious person becomes even more concerned with details. The outgoing person goes into "high gear" and becomes overly active. These are examples of too much stress. All persons have had them for short periods. If they persist they need attention.

First Aid

Act as a friend. Let victim realize you know he is under stress. Hear him out. Don't give advice. If his problem has a solution that you can do something about, fine. If nor, refer him to your supervisor, personnel officer, or employee relations officer or suggest he see his doctor.

II. Intermediate

With increased stress, instead of the earlier behavior, he may become increasingly restless or agi-

tated. He may be unable to concentrate. He may become tense and jittery, perspire freely, feel panicky. He may be drinking excessively. He may begin to use up his sick leave.

First Aid

Alert your supervisor, personnel officer, or employee relations officer. They are better trained to help and direct him. In the meantime show him you are his friend and hear him out.

III. Serious Emotional Stress

A radical change in behavior. The quiet person becomes noisy and aggressive. He may show unusual blueness with thoughts of suicide. He may show excessive activity and talkativeness with loose association of thoughts. He may have irrational thoughts.

First Aid

Get him to a doctor. Be quiet and deliberate and friendly. Don't leave him. Don't become angry or frightened, this will only frighten him. He is not dangerous, just very frightened and alone.

TRANSPORTING VICTIMS

DO NOT BE HURRIED INTO MOVING AN INJURED OR ILL PERSON. POOR TRANSPORTATION METHODS CAN RESULT IN INCREASED INJURIES. VICTIMS OFTEN MUST BE MOVED LONG DISTANCES UNDER PIONEERING CONDITIONS, SO PLAN AND EXECUTE THE JOB CAREFULLY TO AVOID AGGRAVATING INJURY OR SHOCK. CONSIDER POSSIBILITY OF HELICOPTER EVACUATION WHERE DIFFICULT TRAIL TRANSPORTATION IS THE OTHER ALTERNATIVE. IF VICTIM MUST BE PULLED TO SAFETY, PULL IN DIRECTION OF LONG AXIS OF BODY, NOT SIDEWAYS.

Preparation

1. Always give essential first aid before transporting, then there is not so great a hurry to move.

2. Make victim as comfortable as possible; loosen tight clothing, and always treat for shock.

3. To put a blanket under victim pleat in folds and lay along side of body, working it under as shown in the illustrations. For head and spine injuries, insert lower end under victim's head, hold head and shoulders against pull of blanket as it is pulled under the body of the victim from head to foot.

4. Be sure fracture cases are well padded.

5. If a compound fracture case has to be carried a long distance, traction splints on legs will help

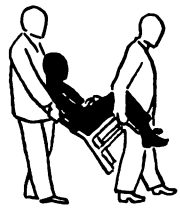
to decrease serious shock and make victim more comfortable. Watch for dangers of dislocation with too much traction.

6. Improvised stretchers are satisfactory for short distances, but for longer travel, especially through rough country, use the best equipment and manpower available, allowing for extra men to spell off the others.

   a. Folding type canvas or metal cots, or even chairs in some cases, are good emergency stretchers.

   b. An air mattress provides for greater comfort on a stretcher and therefore less danger of shock.

   c. Wheel or wire stretchers should be flown in and dropped if possible for back country stretcher cases.



Loading

1. To load or unload a stretcher, 3 bearers are needed, and a fourth is desirable.
2. Place stretcher close to victim, who is on back with feet tied.
3. Three bearers face victim's uninjured side, one at shoulder, one at hips, one at feet.

4. Bearers kneel on knee nearest victim's feet, place arms under victim, at neck, shoulder, back, thighs, legs, feet.
5. Bearer in command says "lift," all lifting victim together up on their knees. Bearer in command pushes stretcher under the victim.

6. At his command, "lower", the bearers gently lower victim to stretcher.
7. Assure that victim is properly covered, padded, and firmly bound to stretcher in a comfortable way that will not aggravate injury but will prevent further injury, slippage, or roll.
8. Unloading procedure is reversed.

Carrying

1. To lift and carry stretcher, bearers are on ends, and usually two on each side if terrain permits.
   a. Stretcher is raised and started off on given signals.

b. The front and side bearers start on left foot, rear bearer starts on right foot.

c. Victim is carried feet first except when carrying up hills, steep grades or stairs.

4. Leg fracture victims are carried uphill feet first and downhill head first.

2. Rescue crew with a several-mile carry should have 10–12 men, paired off according to size, with each pair carrying stretcher for 10–15 minutes.

3. Watch victim for increased signs of shock, and check his dressings.

4. Victim is usually transported with head lower than body, unless head is injured or if breathing is difficult.

5. Victim should be able to see where he is going.

6. Serious cases should be transported lying down.

7. Be particularly careful with head injury cases. Victim with injury to back of head should be laid on his side.

8. Never jackknife an injured person when it is absolutely necessary to transport the victim in the back seat of a car.

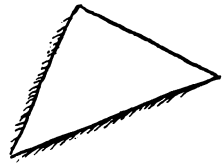
FIRST AID KITS:

MINIMUM STANDARDS FOR FIRST AID KITS

Item	No. 1 (1-Man)	No. 2 (10-Man)	No. 3 (Over 24-Man)
Bandage, triangular, 40″ sterile, incl. 2 safety pins	.....	3	8
Bandage, compress, 2″ sterile:			
1 per unit pkg	1 unit	.....	.....
4 per unit pkg	.....	1 unit	2 units
Bandage, compress, 4″ sterile, 1 per unit pkg	.....	1 unit	2 units
Adhesive compress, 1″ sterile:			
1 per unit pkg	6 units	.....	.....
16 per unit pkg	.....	2 units	4 units
Antiseptic soap (or povidone-iodine complex, ointment or swabs), plastic squeeze tubes with 2″ gauze pads:			
1 tube per unit pkg	2 units	.....	.....
1 pad per unit pkg	4 units	.....	.....
3 tubes and 6 pads per unit pkg	.....	1 unit	2 units
Eye dressing kit, sterile, incl. boric oint., 3 per unit pkg	.....	.....	1 unit
Aspirin, box of 12 five-grain tablets	.....	.....	2 boxes
Tweezers, approximately 3″	.....	1	1
First Aid Guide	1	1	1
Snake bite kit (optional)	.....	Optional	Optional

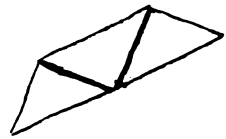
Uses for First Aid Materials

TRIANGULAR BANDAGES 40″



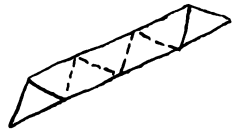
Bandages over sterile dressings

If sterile, for direct application over wound



Arm and hand sling

Pressure bandage for sprains and strains



Head, trunk, and large area bandaging

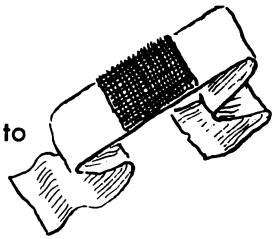
Padding for serious burns, freezing and splints

Ties for splinting broken bones

Traction ties for broken legs

Tourniquets for stopping bleeding

BANDAGE COMPRESS, STERILE

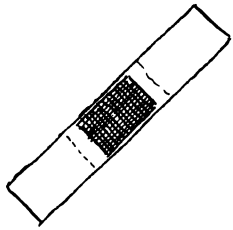


Direct application on wounds

For applying direct pressure to stop bleeding

ANTISEPTIC—POVIDONE-IODINE COMPLEX SUGGESTED

ADHESIVE COMPRESS, 1" STERILE



Direct application on minor wounds
Taping foot or hand abrasions to prevent blistering and infection

SOAP, BAR OR TUBE

To cleanse first aider's hands before applying first aid to wounds

To cleanse wounds

EYE DRESSING KIT

For loose bandaging of eyeball injuries

ASPIRIN

To counteract pain and relieve shock

OTHER FIRST AID SUPPLIES

Outlying stations not accessible to a doctor or drug store may want these materials, depending on their work hazards:

MINERAL OIL, for eye, ear, nose injuries

EPSOM SALTS for poison treatment

SODA, SALT for burns and poison

OIL OF CLOVES for toothaches

RUBBING ALCOHOL for aches, sprains, strains

SCISSORS, FORCEPS, NEEDLES, SPLINTS

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Report all accidents with or without injury on USDA Form AD–278 (Supervisor's Report of Accident).

Consult your administrative officer for Bureau of Compensation Forms.

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Growth Through Agricultural Progress