
Oregon Agricultural College Extension Service

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Emergency First Aids

By

ALICE MARKS DOLMAN



CORVALLIS, OREGON

Oregon Agricultural College and
United States Department of Agriculture cooperating

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OREGON AGRICULTURAL COLLEGE

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Particular attention is called to the fact that counties desiring to organize for agricultural field and demonstration work, under the provisions of Chapter 110, Laws of 1913, must make an initial appropriation in order to secure the State aid. Those interested in promoting this work should communicate with the Director of Extension, or the State Leader, at the Oregon Agricultural College, with reference to the best methods of procedure.

ACKNOWLEDGMENT

My thanks are due to Dr. A. D. Browne, Director of Physical Education, and to Dean Adolph Ziefle, of the School of Pharmacy, for valuable suggestions and criticisms. Due acknowledgment is made also for information derived from many other sources.

ALICE MARKS DOLMAN.

EMERGENCY FIRST AIDS

By

ALICE MARKS DOLMAN,

Assistant Professor of Household Administration

The first things to do in case of accidents are:

1. Keep cool—don't lose your head.
2. Loosen all tight clothing.
3. Don't let a curious crowd close in around an injured person, for that prevents the patient from getting sufficient air.
4. Handle an injured person gently and quietly, placing the patient in as comfortable a position as possible.
5. Always be on the lookout for shock. (Shock is depression of the nervous system.) It may be brought about by injury or fright. Even sorrow may produce symptoms of shock.

Symptoms of Shock

Dizziness and paleness because of lack of blood in the head.

Cold clammy skin; cold sweat; subnormal temperature.

Weak heart action; shallow breathing.

Dilation of the pupils of the eyes.

Treatment

Place the patient flat on the back, with the head slightly lower than the rest of the body, unless the head is injured. In the latter case do not lower the head.

Apply artificial heat; extra clothing, blankets, hot water bottles, or hot rocks. Rub legs and arms.

Loosen all tight clothing; stimulate patient by giving a hot drink or aromatic spirits of ammonia. Dose: 15 drops to $\frac{1}{2}$ teaspoonful, or 1 teaspoonful (according to age) in water every 20 to 30 minutes up to four doses, if necessary. Apply hot water bottle over the heart.

HINTS TO BE REMEMBERED

Do not give liquor stimulants unless ordered by the physician, and then give but once, for if given often liquors will depress instead of stimulate. Sometimes it is necessary to give an enema of warm salt solution (1 teaspoonful salt to 1 pint hot water may be used; or hot coffee may be used, being careful not to use it hot enough to burn.)

A mustard plaster may be applied to the soles of the feet and to the wrists. Remember that heat is of great importance in combating shock. In any severe injury do not delay in calling the doctor, telling him what has happened.

No matter how insignificant an accident may seem, always be on the lookout for shock. Many a person has died from shock when the injury itself would not have caused death. Shock may occur immediately after the accident, or it may not occur for several hours. In either case, there may or may not be unconsciousness.

Materials for the emergency box and some of their uses:

Sterile gauze. Used as a dressing over a wound (at home the gauze can be made sterile by boiling for 20 minutes).

Alcohol (for bathing the body to reduce fever, or to bathe bruises or injuries to joints. Used also by some physicians in carbolic-acid poisoning).

Styptic gauze (to check bleeding).

Picric acid gauze (for burns).

Soda (for burns).

Carbolized vaseline (for small burns or wounds).

Boric acid (antiseptic wash).

Witch Hazel (for contused wounds and to relieve soreness of muscles).

Iodine 5 percent (in rubber corked bottles). Used to paint a wound to prevent infection.

Arnica (for bruises).

Zinc oxide ointment (used as a salve).

Aromatic spirits ammonia (stimulant).

Epsom Salts (used as a purgative. Used also in carbolic-acid poisoning).

Sirup ipecac (an emetic. Useful in croup. Dose: 1 to 4 teaspoonfuls taken until vomiting occurs).

Ground mustard (with tepid water as an emetic. Also to make mustard plaster. Used in hot foot bath).

Spirits of turpentine (in punctured wound. Used in enema to relieve flatulence).

Camphor (for fainting. Used also as external stimulating application in rheumatism, sprains, and neuralgia. A few drops are sometimes taken internally to relieve flatulence).

Soda mint tablets (for nausea).

Sirup of Ginger (to prevent griping in cramps or colic. Dose: $\frac{1}{2}$ teaspoonful to 3 teaspoonfuls in water).

Collodion (to use over cotton to act as a seal).

Zinc oxide adhesive.

Several sizes of bandages.

Hot water bottle.

Ice bag.

Scissors.

Pins.

Absorbent cotton.

HEMORRHAGE.

Hemorrhage is the escape of blood from its containing vessel. In arterial hemorrhages the blood spurts with each beat of the heart. In venous, the blood flows or drips. In capillary hemorrhage the blood oozes.

How Checked. Hemorrhages may be checked by elevating the part affected and by pressure. It requires firm steady pressure of the fingers, or of some firm object, to be of any use in checking hemorrhages. When there is enough pressure to check the flow, however, DO NOT add any more. Whatever the means of pressure employed, it must NOT be

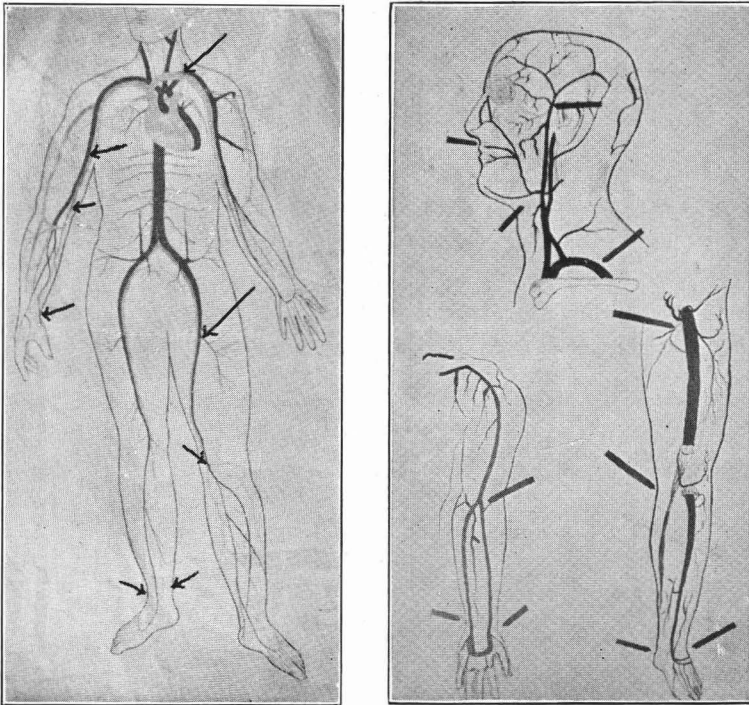


Fig. 1. (a) and (b). Showing location of large blood vessels and points for pressure to check hemorrhage (indicated by arrows).

continued for more than three-quarters of an hour. Gradually remove the pressure even though the bleeding may commence again, and then later re-apply the pressure if necessary. In Fig. 1 (a) and (b), the points for applying pressure are indicated by points at the ankle, knee, thigh, shoulder, inner arm, elbow, wrist, neck, and head.

Another method of producing pressure is by the tourniquet, which may be a strap with a buckle on it, a handkerchief wrapped around the part with a stone or some other object that will press in tightly over the artery or vein. With a stick or scissors or some other strong object,

twist the handkerchief until enough pressure is exerted to check the bleeding. See Fig. 2.

Arm. For bleeding of the arm, the pressure may be put upon the inner part of the arm by pushing the large muscle aside and grasping the arm firmly. For bleeding below the elbow, place a roll or stick in the bend of the elbow, then close the arm over it and tie tightly, elevating the arm. See Fig. 2.

Hand. For bleeding of the hand, produce pressure at the wrist in line with the thumb and the little finger.

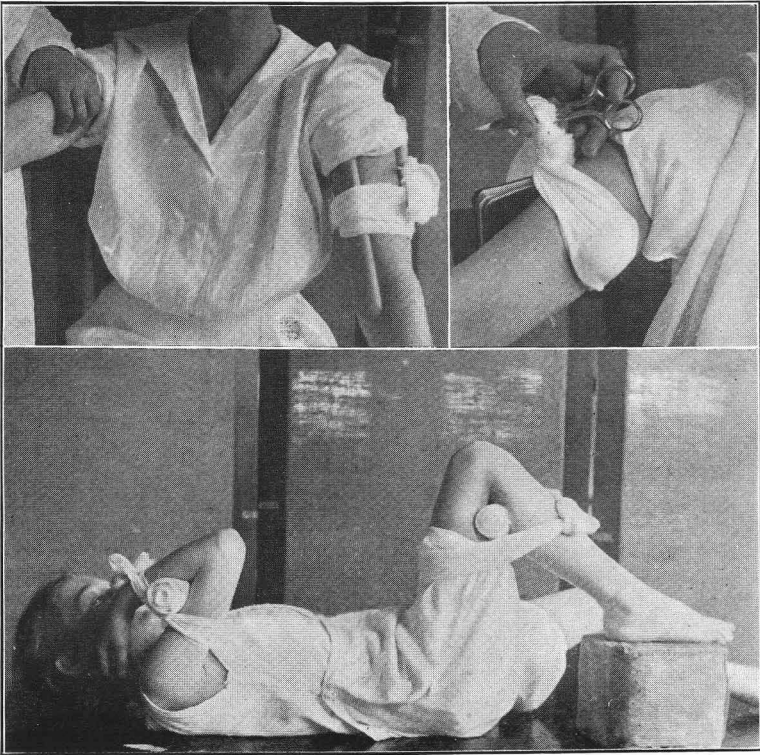


Fig. 2. Methods of producing pressure to check hemorrhage.

Shoulder. For bleeding of the shoulder, produce pressure on the collar bone, about one-third of the way between the hollow of the neck in front and the shoulder. Stand behind the person and push forward with considerable force.

Leg. For bleeding of the leg, pressure may be placed on the inner side of the leg, as explained under bleeding of the arm.

Knee. For bleeding below the knee, place a roll beneath the knee, bend the leg and tie it back. Elevate. See Fig. 2.

Foot. For bleeding of the foot, pressure may be placed around the ankle, both front and back.

Head or Face. For bleeding of the head or face, pressure may be applied on the neck or about half way between the angle of the jaw bone and the chin, or by pinching the cheek between the fingers by placing the thumb on the inside and the fingers on the outside of the cheek and producing pressure.

Scalp. For bleeding of the scalp, produce pressure in front of the ears, slightly below the temple.

Nose. For bleeding of the nose, keep the person sitting upright, not allowing him to bend over. Keep the arms above and behind the head. Press the nose firmly below the bridge; give plenty of fresh air. Apply cold applications to the neck.

If bleeding is severe call the doctor.

Tooth. For bleeding after the extraction of a tooth, place a plug of cotton that has been dipped in strong tea or salt water over the bleeding part and close the jaws tightly.



Fig 3. Drawing to show that firm pressure is necessary to close a blood vessel.

Apoplexy. In apoplexy or bleeding into the brain, place the patient flat on the back with the head and shoulders slightly raised. Loosen the clothing; apply COLD to the head and heat to the feet. Do not give stimulants. Call the doctor.

INTERNAL HEMORRHAGE

Symptoms. The symptoms of internal hemorrhage are the same as for shock. Send for the doctor immediately.

Treatments. Apply heat to the extremities. Place the patient on his back and keep him absolutely quiet. Place ice bags over chest or stomach or abdomen. Have a piece of flannel between the ice bag and the skin. Finely cracked ice or strong iced tea is sometimes given the patient to swallow. It is sometimes necessary to lay small sandbags over the abdomen.

TRANSPORTING THE PATIENT

To Lift an Unconscious Person. Fold the arms over the chest. Three people kneel on the knee nearest the patient's feet. All place their hands underneath the patient and together lift the patient to their knees. They roll the patient toward them, then arise. See Fig. 4.

A stretcher may be made by turning the sleeves of a coat wrong side out, slipping some rough sticks through the sleeves, and buttoning the coat. If the person is tall, it may be necessary to use a vest with the coat, or to use two coats, to make the stretcher long enough. A stretcher may also be made by folding a blanket in the middle across a stick, placing another stick on top the folded blanket about 20 inches

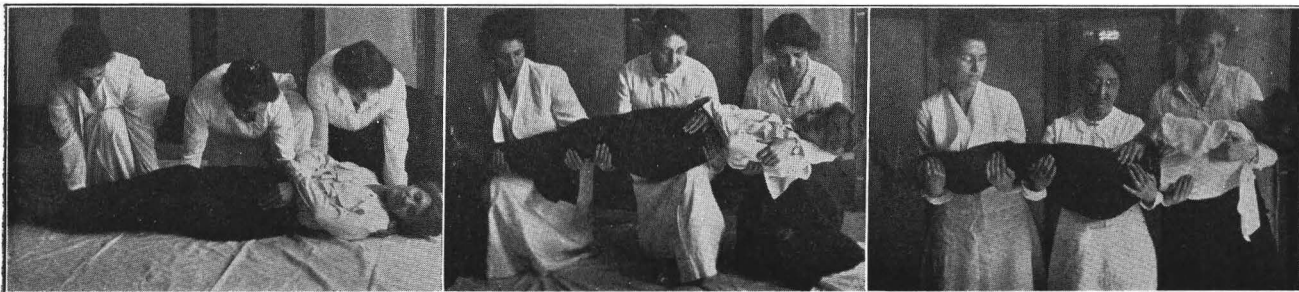


Fig. 4. Lifting an unconscious person.

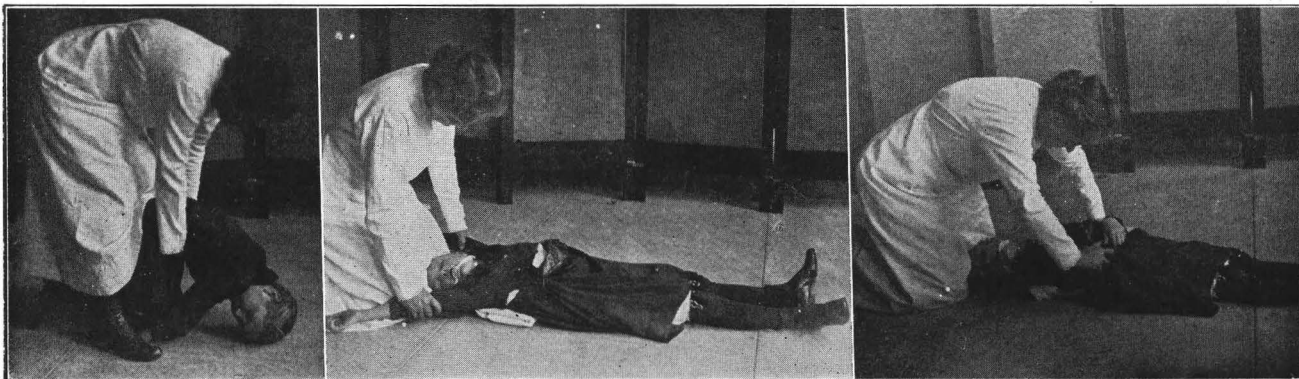


Fig. 19. Showing Method No. 1, Artificial respiration.

from the first one, and again folding the blanket over, with the folded side up so that the weight of the person upon the stretcher will prevent the blanket from slipping. Carry the person with the feet in the direction in which you are walking, except when going uphill. See Fig. 5 and 6.

Another Method of Carrying an Unconscious Person. Grasp the person under the arms and across the chest. An assistant should step between the knees and grasp each knee. See Fig. 7.

To Get a Person on the Shoulder for Carrying. Turn patient face-down on the ground; step astride; slide your arms underneath the arms of the patient and lift the body to the knees, holding it in position.



Fig. 5. Stretcher made by using coat.

Get in front of the patient and kneel upon one knee, allowing the patient to rest over your shoulder. Place your right hand around the legs or around the right leg and take hold of the patient's right hand with your right hand; grasp the left hand with your left hand and rise. See Fig. 8.

To Carry on Back. When the patient is able to get in position on your back, slip your arms over and under the legs and hold the patient's arms around your neck.

To make a three-hand seat, using one arm as a back or support. See Fig. 9. A four-hand seat can be used where the injured person is able to grasp an arm around each bearer's neck. See Fig. 10.

To assist a person to walk, have the patient place one arm around your neck, then give support by placing an arm around the patient's waist.

To Tie a Knot That Will Not Slip. Wind the end of the cloth or bandage held in the right hand over the end in the left hand, then wind the end held in the left hand over that in the right hand and pull it through the loop formed.

A gauze dressing is sterile gauze that may be placed directly over a wound. It may have some kind of medicine or other application upon it.



Fig. 6. Stretcher made by using a blanket.

BANDAGES

Bandages are used as slings or to give support to a part, as a means of checking hemorrhage or bleeding by pressure, to hold dressing in place, and as a means of holding splints in proper position. The bandages in general use are: the triangular bandage and the roller bandage.

Triangular Bandage. The triangular bandage may be of gauze or muslin usually cut from such material a yard square, or a large handkerchief, folded, may be used. A "cravat" is made by folding a triangular bandage over itself until the desired width is obtained. Begin at the point opposite the broad side, and fold towards the broad or longest side of the triangle. See Fig. 11.

Roller Bandage. The roller bandages are of several widths and lengths; they may be purchased at the drug store or they may be made at home by tearing sheets or muslin into the desired width and length and then rolling them into a very tight roll. To make a bandage by

hand, tear or cut the material the desired width and length. Remove the ravelings and the selvage. Fold one end several times upon itself until a small, stiff, hard roll is formed; then hold the loose end tightly between the first and second fingers of the left hand. Hold the roll in the right hand with the thumb on one end; and with the finger on the opposite end, turn the roll over and over until the bandage is completed into a tight, firm roller.

The widths in common use are the one-inch used for finger bandages; the two- and three-inches widths, used for the head and the extremities.



Fig. 7. Carrying an unconscious person without a stretcher.

A bandage should be placed sufficiently tight to hold it in place and to exert some pressure, but not so tight as to hinder circulation, or cause pain. In bandaging the hand or foot, the fingers or toes are usually left uncovered, unless they are involved in the injury. By leaving them uncovered it can be easily seen if the bandage is too tight, for the fingers or toes will become blue. When a bandage is in place it must be securely fastened—usually it is pinned with safety pins or ties, but if the bandage is on a child it is well to sew the end.

To tie a bandage, tear a few inches of the bandage through the center, lengthwise, twist the ends around each other, then pass them in opposite directions around the extremity and tie over the twist.

The common ways of applying the bandage are the circular method, the spiral, spiral reverse, the figure eight, and the recurrent.

The circular bandage is used around the throat or wrist or ankle, and consists of several turns round, each turn completely covering the preceding one.

The spiral reverse is applied to parts that are not of uniform circumference, such as the arm or leg. To make the spiral reverse

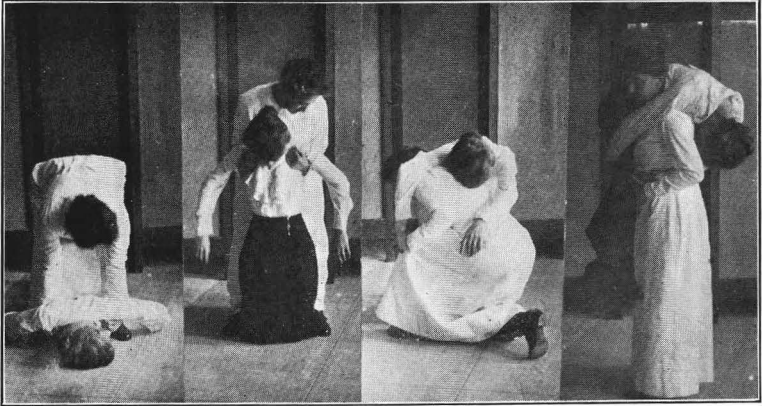


Fig. 8. Method of getting unconscious person on shoulder for carrying.

for the arm or leg, give the bandage several turns around the wrist or ankle, then place the thumb of the left hand where the reverse is to be made, and make a sharp fold in the bandage as though it were going to be cut on the bias; this will make the bandage fit closely. See Fig. 12.

To use the figure-eight bandage for the hand, make several turns around wrist, carry the bandage up and around the hand near the base

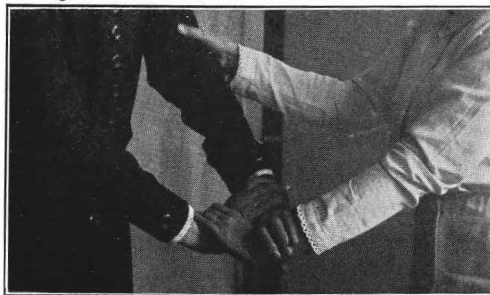


Fig. 9. Three-hand seat with arm for back support.

of the fingers, then obliquely across the back of the hand and around the wrist, up obliquely across the back of the hand crossing the other oblique turn in the center; around the palm of the hand and again across the back of the hand, making each turn lower on the hand yet overlapping the preceding turn about half of its width. If the fingers

are to be covered, each may be covered separately, or a bit of gauze or cotton may be put between each finger and all bandaged together by using the recurrent. Place the end of the bandage in the palm of the hand, then carry it back over the fingers to the back of the hand, hold in position and carry the roll over the fingers to the palm and continue until all the fingers are under cover. Fix the bandage by a few circular



Fig. 10. Carrying a person on four-hand seat.

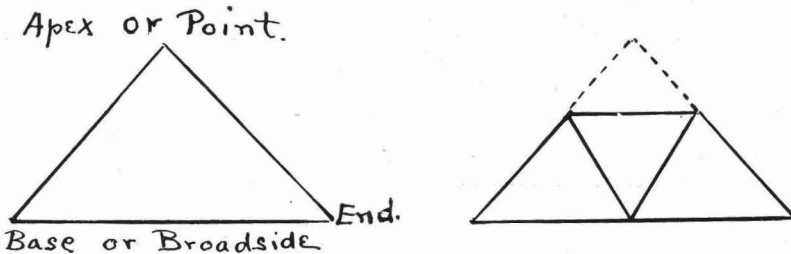


Fig. 11. Triangular bandage and method of folding a "cravat."

turns and proceed with the rest of the hand as described for the figure eight. The foot can be bandaged in the same manner.

To bandage the fingers separately, make several recurrent turns from the base of the finger on the palm side of the hand to the base of the finger on the back of hand, then bring the roll to the end of the

finger and use either the simple spiral or the spiral reverse to the base of the finger, carry the roll to and around the wrist. If more than one finger is to be bandaged carry the roll from the wrist to the base of the second finger to be bandaged and repeat as already directed.

To bandage the eye carry the roll first around the head at the temples; then pass the roll behind the head, up under the ear, across the cheek and over the bridge of the nose; again around the head until



Fig. 12. Spiral reverse of leg and arm, and method of making reverse.

the eye has been covered. Both eyes may be bandaged together by starting the bandage from the right temple, across the left eye and cheek, under the left ear, around the nape of the neck, under the right ear, across the right cheek and over the right eye. Then a turn around the head will bring the bandage to the right temple from where it can again start. See Fig. 13.

The recurrent of the head is applied by making two or three circular turns around the head, and when the turn comes to the center of the forehead reverse the bandage and (have some one hold the reverse in place) carry it back across the middle of the head and again reverse and (hold the reverse in place) carry across head to forehead—reverse and carry across head on opposite side—continue carrying the bandage back and forth until the top and sides of the head are completely covered, then take two circular turns around the head and pin securely on the forehead.

The Triangular bandage does not give as much support or pressure as the roller bandage, but it has the advantage of being easily made, easy to use, and temporary dressings may be applied with it. Altogether it is an excellent emergency bandage, and can be used for the head, hand, foot, thigh, and shoulder.

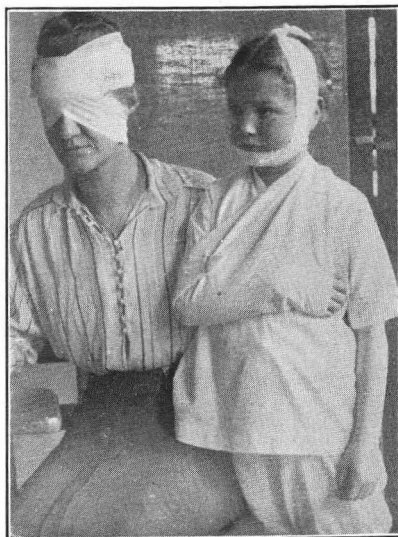


Fig. 13. Showing bandage for both eyes, four-tailed bandage for jaw and triangular sling for arm.

To apply the triangular bandage for the head, the broad side of the triangle is placed to the part of the head that needs the greatest support or pressure. If the pressure is needed to the back of the head, place the broad side of the triangle back, leaving the point of the triangle fall over the face, bring the ends around the head and over the point and back again and tie at the back of the head and pin the point up.

Triangular bandage for the hand. Place the broad side of the triangle at the wrist with the hand on the bandage, palm side down. Fold the apex or point of the triangle over the back of the hand and fold the sides down alongside of the hand, then cross the ends over and around the wrist and tie. See Fig. 14.

Triangular bandage for the foot. Place the broad side of the triangle toward the heel, the foot on the triangle with the toes toward the apex.

Draw the apex over the top of the foot, draw the ends over the top of the foot, cross them, carry them back of the ankle, crossing them, bring to the front and tie. See Fig. 14.

Triangular bandage for the chest. Place the broadside of the triangle around the body and tie. Draw the point of the triangle over the shoulder and tie it to the rest of the bandage. See Fig. 14.

A four-tailed bandage is made by using muslin the desired width and length, cut lengthwise from each end to within four or five inches of the center.

A four-tail to the top of the head is convenient for holding a dressing in place.

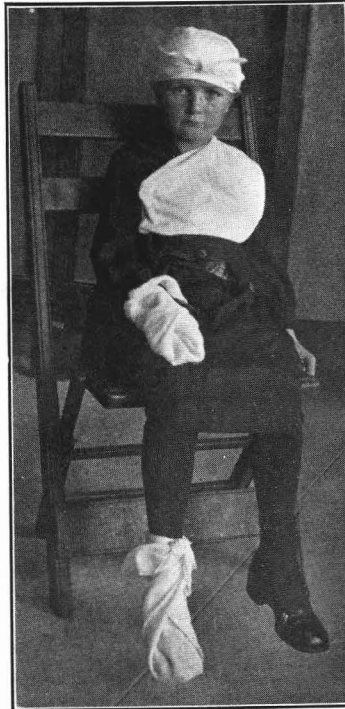


Fig. 14. Showing triangular bandage for head, chest, hand and foot.

To put on a four-tail on the head place the body of the bandage on top of the head, draw the two back tails under the chin and tie or pin securely and fasten the two front tails at the nape of the neck. The tail bandage for the forehead is the same, only draw the bandage down over the forehead. The tail bandage for the back of the head is put on by placing the body of the bandage at the back of the head. The back tails are fastened across the forehead and the front tails are fastened under the chin. A four-tail is applied to the chin by placing the body of the bandage on the chin and fastening the top tails at the back of the neck. The lower tails are drawn up the sides of the face and fastened at the

top of the head; then tie all of the tails together at the top of the head. This last tie prevents bandage from slipping. Fig. 13.

A **bruise** is usually a slight injury to the tissue because of striking some object. It may be severe enough to break some of the smaller blood vessels causing swelling and discoloration. There may be more or less pain from injury to the nerves. Apply either very cold or very hot water, or bathe with alcohol and water equal parts. Afterwards put on a cloth soaked with witch hazel or arnica.

Strains are an overstretching of the muscles which causes pain when the person moves. A strain requires rest and an alcohol or witch hazel or arnica rub.

A **sprain** is more or less injury to a joint. A severe sprain needs a doctor's care.



Fig. 15. Four-tail bandage for head.

Often times the ligaments are torn and blood vessels more or less injured. There is usually much pain and swelling, and there may be shock. Elevate the part and apply either very cold or very hot water. Continue the application for an hour or more. At first it may seem to increase the pain, but that will usually cease after awhile. In a mild sprain one may use light massage above the joint, rubbing towards the body. Then apply a wet dressing such as witch hazel.

Dislocations. Sometimes a sprain is so severe as to include a dislocation or a slipping of a bone out of its socket. In a dislocation there may be tearing of the ligaments, and in dislocation of the shoulder or hip more or less shock will result. A severe dislocation should be attended to **immediately** by a physician, because the muscles become more or less rigid. Put the patient in a comfortable position and apply hot or cold applications to help prevent swelling.

Dislocated Jaw. For a dislocated jaw, wrap your thumbs well to prevent being bitten. Place the thumbs inside the mouth as far back on the teeth as possible, and hold the jaw firmly with the fingers on the outside of the jaw. Press backward and downward with steady pressure until the bone slips back into the socket. When you feel it slip quickly slide your thumbs from under the teeth out against the cheeks. Then put on a four-tailed bandage for several hours.

A finger dislocation is reduced by pulling the finger in a straight line from the hand.

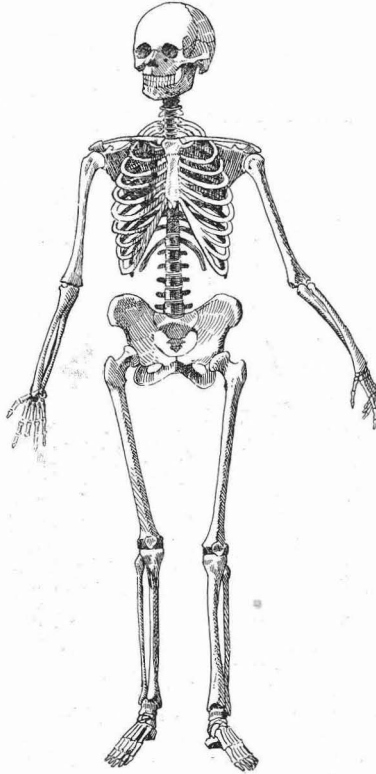


Fig. 16. Human skeleton.

FRACTURES

A fracture is a broken bone and is usually recognized by sudden pain; deformity either seen or felt; inability to move the part naturally; crepitus or a grating sound. A fracture is a simple or closed fracture where the bone is broken and with but little injury to the surrounding part; compound or open when the bone is pushed through the flesh. There is danger of infection and blood poisoning in this type of wound and every precaution must be taken to prevent it, by using **STERILE** ap-

plications to cover the wound. In a comminuted fracture the bone is shattered. In the impacted fracture the bones are driven together forcibly. A green-stick is an incomplete fracture and happens if the bone is soft and bends as in children. A multiple is where the bone is broken at two or more places, or more than one bone is broken. A complicated fracture is accompanied by a serious injury to some other part, such as a joint or nerve or large vessel.

In case of fracture the broken member must be handled carefully and gently, placed in as comfortable a position as possible and made immovable by supporting it with something stiff. Two umbrellas or

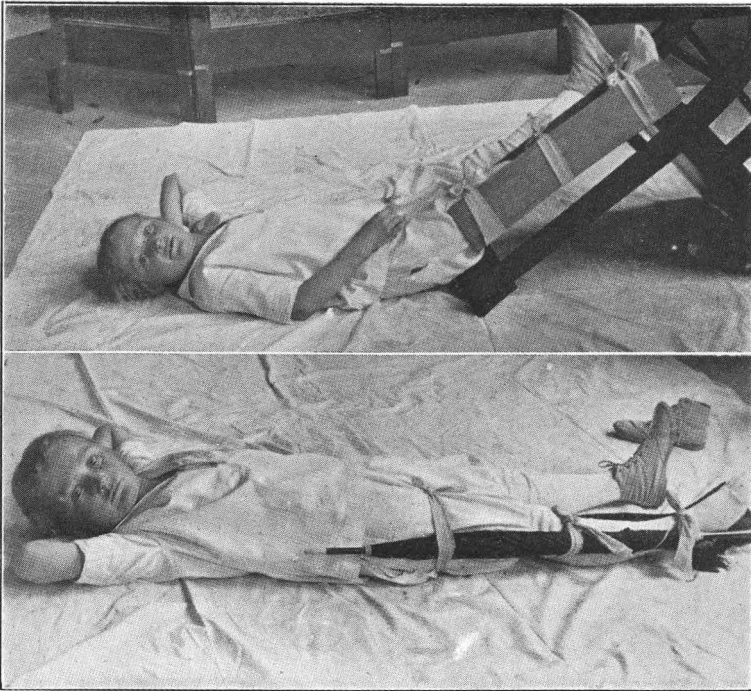


Fig. 17. Showing use of umbrellas and boards as splints for fractured leg.

two boards may be used, or if nothing is at hand a broken leg may be fastened by tying it in several places to the uninjured leg.

For a leg that is broken below the knee, if the patient must be moved, two splints or two umbrellas may be tied, one on the inner side of the leg, and one on the outside of the leg, the umbrellas extending to above the knee and below the foot. If the break is in the upper part of the leg, the splints should extend from the arm pit to below the foot and should be securely fastened in place. By elevating the leg it will help prevent hemorrhage and severe swelling. See Fig. 17.

A broken arm can be splinted in the same way that a broken leg is splinted, or the arm can be held in position by pinning the sleeve to

the front of the coat or dress. Or it can be supported by taking a strip of muslin or bandage; tying the ends together, place around the neck with a loop hanging to the front over each shoulder, then carefully adjust the loops over the hand and arm. Or a triangular bandage may be used as follows: place one end over the shoulder of the injured arm with the point towards the elbow. Put the arm in position and draw the opposite end of the triangle over the uninjured shoulder and fasten. Bring the point around the elbow and fasten in front with a safety pin. See Fig. 13. In addition to this, it is well to bind the arm to the body by putting a strip of muslin over the arm and around the body. This will keep the arm from swinging.

A broken thigh. Place the patient, face up, on a board or shutter for transportation, if necessary.

A broken jaw, may be supported by the use of a four-tail jaw bandage. See Fig. 13.

A broken nose must be attended to immediately because the nose bones heal rapidly. Place a plug of cotton inside the nose, roll up small rolls of muslin or tightly rolled cotton in the muslin and strap a roll on either side of the nose by using adhesive straps. See Fig. 18.



Fig. 18. Bandage for broken nose.

In fracture of the collar bone, place pad in the arm pit of the injured arm, draw the arm of the injured side across the chest and place the hand on the opposite shoulder, and fasten with a roller or triangular bandage, or by pinning the sleeve to the coat. This will prevent the bones rubbing together and making the injury more serious.

For a broken hand bandage the hand over a roll, or put broken fingers flat on a piece of card board or padded splint, and fasten into place. All splints or boards that are used should be padded. A temporary splint may be padded with moss or leaves and tied into place with handkerchiefs or strips torn from a skirt.

A fracture is always attended by more or less shock. Call the doctor.

WOUNDS

Never put your finger into an open wound, for there is danger of infecting it. It is well to encourage bleeding, for that will help to clean out a wound, especially a contused or a lacerated wound.

Massaging around a punctured wound will help to produce bleeding and cleaning from within outward. The emergency treatment of wounds should be only those that are essential to maintain good conditions, such as the arrest of hemorrhage, the control of shock, the removal of dirt

and other foreign material, and the exclusion of additional dust or dirt by covering the wound with clean cloths taken out of a hot salt solution (1 teaspoonful salt to 1 pint of water).

Tincture of iodine should be applied to all wounds to prevent infection. Severe wounds are often dressed with a wet dressing for 2 or 3 days.

An **incised wound** is caused by a sharp instrument such as a knife. After the wound has been cleaned, the edges should be drawn together, covered with sterile gauze, and strapped with adhesive plaster. If the wound is small and clean, it may be covered with a dressing of sterile cotton, painting over the cotton and along the edges with collodion.

Balsam of Peru is often used to encourage tissue growth, if a wound is slow in healing.

A **contused wound** is a bad bruise, and is usually accompanied by pain, swelling, and discoloration of the skin. Use hot or cold applications. In cases of contusion of the head, apply an ice bag.

A **lacerated wound** is a torn wound. Use necessary precautions against infection.

A **punctured wound** is made by a nail, bullet, or similar object. This wound is apt to become infected, in which case lock-jaw may develop. The wound should first be cleansed by bleeding, then wrap a small piece of cotton around a wire or small stick; dip this into carbolic acid or iodine, and insert in the wound. The wound should be kept open for a while and drained. A rusty nail wound may prove serious. Some physicians use turpentine in a wound of that kind.

A **snake-bite wound** should be shut off from the general circulation by putting on a tight bandage. Bleeding should be encouraged, to prevent the absorption of the poison. It is perfectly safe if there are no breaks or cracks in the lips or mouth, to suck the poison out. Cauterize the wound with **strong ammonia**. Potassium-permanganate dressing may be used.

FOREIGN OBJECTS IN EYE, OR EAR

To remove a foreign body from the eye, draw the upper lid down and hold it for a few seconds. This allows the tears to collect. Then blow the nose, and the object may be dislodged. Do not rub the eye. Another way is to hold the upper lid by the lashes and to turn it upward and backward over a hair pin or a toothpick. Have the patient move the eye ball, and then remove the object with some soft material, such as a feather or very soft camel's hair brush. A loop of horse hair fastened to a match stick may be found useful.

Even a very tiny speck in the eye will cause pain and inflammation; it is therefore necessary that prompt treatment should be given. As a wash for the eye, boric acid solution is recommended.

If an insect gets into the ear, pour sweet oil into the ear, or plug it with cotton that has been dipped in strong salt water. Have the patient lie on the affected ear. If the object is something that will swell, do NOT use water in the ear.

CROUP

Croup occurs in two forms—the true membranous or diphtheritic croup, and the false or spasmodic. The spasmodic form is because of the closure of the glottis. There is a hoarse cough and very difficult breathing; the face sometimes becomes perfectly blue, and it seems as though the child would suffocate. This form of croup is the result of exposure to cold or dampness. Give teaspoonful doses of sirup of ipecac (every half hour, followed by a copious drink of tepid water) until free vomiting occurs. Wring flannel out of hot water and place on the throat. A hot bath or a mustard foot bath is often given. The breathing of warm moist air is often of great benefit. This can be done by putting hot water in a pan or pitcher and allowing the child to breath the steam.

FAINTING

In case of fainting lay the patient flat on the back with the head slightly lower than the rest of the body. Dash COLD water on face. Allow the patient to inhale camphor of ammonia. Do not place the bottle directly under the nose, but pour some of the contents on a handkerchief and hold close to the nose.

BURNS

Burns may be either from moist or dry heat. They may redden the skin only, produce blisters, or actually destroy a large amount of tissue. **There is always shock in burns, and that should be treated immediately.** Severe burns need the attention of a physician because of the danger of infection of the wound. Bicarbonate of soda (two teaspoonsful to a pint of water that has been boiled) is a useful remedy. The burn can be covered by dipping a clean towel into the soda solution and placing it over the burn. There will be less pain if the air is excluded. For that purpose olive oil or vaseline may be used. Other helpful remedies for burns are any of the following: picric acid solution, picric acid gauze, boric acid and zinc oxide. The seriousness of a burn depends largely upon the extent of skin surface destroyed rather than upon the depth of the burn, provided the vital organs are not injured. If more than one-third of the skin surface is involved, death will usually result.

Complications which are likely to follow burns of any severity are inflammation of the kidneys, pneumonia, and poisoning.

Electric burns are usually those that destroy tissue, and subsequent sloughing is often profuse. Though there is often an absence of pain, yet it takes a long time for the wound to heal.

Strong-acid burns are treated by washing the acid off quickly and applying lime water, soapy water, or soda water. Then proceed as for any other burn.

Carbolic-acid burns are best treated with applications of alcohol.

Alkali burns are treated by washing and applying an acid such as vinegar or lemon juice. If the hand or foot is burned, insert sterile gauze between the fingers or between the toes.

Frost-bite. Rub the part gently with snow or ice, then rub with the hands or with a towel. **Do not apply heat.** The patient should be kept in a cool place until circulation is established.

Sun burns are relieved by applications of a saturated solution of bicarbonate of soda (baking soda), followed by olive oil or vaseline.

If your **clothing catches fire** **DON'T** run, but lie down and roll over and over, or cover yourself with a rug to smother the flames. If some one else catches fire, throw the person down and cover with rug or blanket from neck to feet—not from feet to neck, as that will force the flames upward to the head and face.

POISONS

A poison may be one that destroys the tissues, irritates the tissues, or affects the nervous system. The first thing to do in any case is to make the person vomit, unless the poison is of the corrosive type such as carbolic acid. The next thing to do is to call the doctor.

APPLY EXTERNAL HEAT. Stimulate with strong coffee or spirits of ammonia.

In poisoning by corrosive acids such as nitric or sulphuric acid, give soda, chalk, or lime water, oil, or egg whites. **Do NOT** give oil in carbolic acid poisoning; give Epsom salts, lime water, or vinegar. Some physicians give alcohol.

For oxalic-acid poisoning give lime water or chalk, egg whites or milk. **DO NOT** give soda.

For corrosive alkalies, such as lye or ammonia, give vinegar or lemon juice, egg whites, fresh air, artificial respiration as for drowning. See Fig. 19.

For bichloride of mercury, give egg whites, milk, or paste made of flour and milk.

For lead poisoning, treat same as for bichloride.

For alcohol poisoning, apply cold to the head and heat to the feet. Let the patient inhale ammonia.

For opium poisoning, give **STRONG** black coffee. **Do NOT** let the patient go to sleep. Apply artificial respiration as for drowning.

In gas poisoning, plenty of fresh air is imperative. Loosen the clothing. If the patient is conscious give stimulants of hot drink or spirits of ammonia. Apply artificial respiration.

ARTIFICIAL RESPIRATION

Resuscitation after drowning. The first thing is to get the water out of the lungs by rolling the patient over a barrel or log, or by grasping your arms around the middle of the body, holding the body up so the head will hang low. See Fig. 19, p. 8.

Method No. 1. Tie the tongue out to prevent it falling to the back of the mouth, **turn the head to one side.** Place a roll or pad under the shoulders to elevate them slightly, so that the head will hang lower than the shoulders. Grasp the arms at the elbows, draw the arms up

and outward as far as they will go, keeping this position for about two seconds. Then bring the arms down; fold them over and produce pressure upon the body below the ribs for about two seconds. Do this at the rate of fifteen times a minute. **Don't give up**, for persons have been resuscitated after hours of work. **Apply heat**, or give friction to the legs.

Method No. 2, or prone pressure method. Get the water out of the lungs and turn the patient chest down, draw the arms above the head, having the head slightly turned to the side. Kneel astride the person, and place your hands, palm down, over the lowest rib. Produce pressure by swinging your body forward on them; then release the pressure, without taking the hands off, by swinging your body backward. Do this about fifteen times a minute. This method is also in use in case of electrical shock, and gives the greatest amount of pressure. **Apply heat.**

ALWAYS BE ON THE LOOKOUT FOR SHOCK IN ALL EMERGENCIES. Take proper precautions to prevent it if possible.