



# Home Care of the Sick

*and* First Aid in Injuries and Accidents



Fig. 1.—Changing the bedding with the patient in bed.

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*Foreword*



ERIOUS consideration of the problems involved in the home care of the sick emphasizes the need of attention to the prevention of disease, the care of health, the correction of defects, and the rendering of first aid in emergencies.

Sickness can be prevented in many cases. Much preventive work should begin early in a child's life, even before his birth. Perfect physical health should be the natural heritage of every child.

Even with the heritage of good health, attention must be given to the formation of good habits in regard to food, sleep, exercise, proper elimination, and fresh air. Faulty habits once established may cause untold harm and are often difficult to change.

Many children have physical defects such as enlarged adenoids, diseased tonsils, or improper development of teeth. Such defects retard the normal development of the child and should be corrected as early as possible.

Regular physical examination, not because one is sick, but to find if every part of the human machinery is functioning as it should, would help both children and adults greatly. Many people boast that they are never sick in bed, yet there are many days when they do not feel as they should. Their efficiency is lessened, their work suffers, they cannot get all the joy out of life that they could if they felt perfectly well.

But until much more attention is given to the prevention of disease, to the establishment of health habits, and to the correction of defects, it will be necessary for us to spend much time and energy in the care of the sick. Much of this must be done in homes. In many cases the services of a trained nurse will not be available. This bulletin has been planned to aid the wife or mother in carrying out the physician's directions with a minimum expenditure of time and strength, and a maximum of comfort for the patient.



ACCIDENTS occur in spite of precautions, and it is all-important to know the proper thing to do when first aid measures are necessary. Frequently, persons are so situated that considerable time may elapse before medical aid can be secured. Serious consequences may often be avoided by a knowledge of what to do in the emergency.



# Home Care of the Sick

and

## First Aid in Common Injuries and Accidents



### THE PHYSICIAN

Every sick person should be under the care of a reputable physician. His orders must be followed. He should be the only one to prescribe medicine or to order treatment.

It is a dangerous practice in sickness to follow the advice of friends and relatives who are not physicians. They mean well, but human machinery is complicated. It takes years of study and experience to understand the workings of the human body, and only persons with adequate training should be allowed to treat it.

### THE HOME NURSE

In case of prolonged sickness when the patient has to be cared for at home and no trained nurse is available, some one person should do the nursing and be considered "in charge." The responsible person serving as home nurse should be well, calm, confident, cheerful, and tactful. She should, if necessary, be assisted by other members of the family, but she should take all of the physician's orders directly and be the one to report to him. She should be responsible for all treatments and all medication.

The member of the family serving as nurse should take the best possible care of herself in order that she may have strength and health with which to care for the patient. There is always the need for reserve strength, otherwise the sickness might last longer than the physical endurance of the nurse.

Strict obedience must be paid to the laws of hygiene in order to preserve a sound physical condition in spite of hard work and constant exposure to disease. Personal cleanliness is most important. Wash hands frequently, especially after caring for discharge of patient, and before eating. Wear clothing which is suitable, washable, comfortable, and which allows perfect freedom of motion. Wear comfortable shoes. Have plenty of fresh air when sleeping and during the day. Have an adequate amount of rest, if possible 7 hours of uninterrupted sleep. Eat regularly and slowly, select your diet carefully, drink plenty of water. Pay strict attention to the elimination from your body, and to the correction of slight ailments. All this will help to preserve the health of the home nurse and to make her work much more efficient.

When the added responsibility of taking care of a sick person is carried by some member of the family, the work for the whole family must be planned carefully. It will be found that some household duties must be neglected. The home nurse must know how to choose between the important and less important.

## The Sick Room



The sick room need not necessarily be large, but it should be sunny, airy, and comfortable. Sick rooms are often overheated. Light should not shine directly into the patient's eyes.

Drafts may be avoided by the following means: a screen or clothes horse with a sheet or blanket thrown over it and placed in front of an open window; a muslin screen placed in the opening of the window (Fig. 2); a board nailed to the lower sash of the window and the window raised so that the lower end of it is below the upper end of the board (Fig. 3); a string tied at the side of

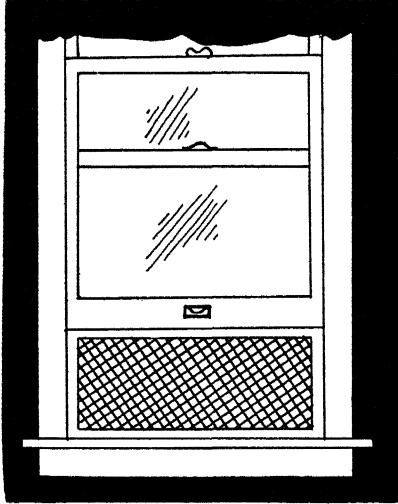


Fig. 2.—Muslin screen.

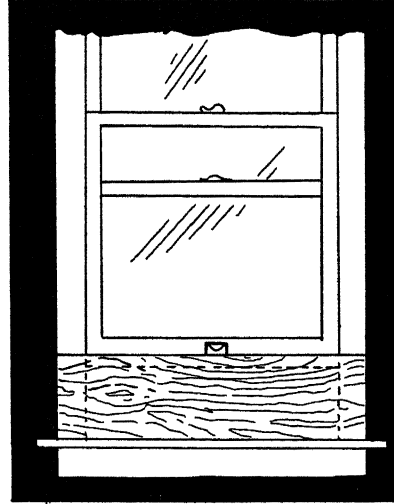


Fig. 3.—Board nailed to window sash.

Two ways to prevent drafts

the bed from the head to the foot, and a sheet or blanket thrown over the string.

Use small washable rugs on the floor and take them out to clean. Remove all unnecessary furniture and ornaments, as they take too much air space and their dusting and cleaning disturbs the patient. However, the room should not be so bare as to be unattractive. Keep sick room utensils out of the room until needed.

### THE PATIENT'S BED

*Placing the Bed.*—The bed should be away from the wall, allowing access on both sides as well as a better circulation of air.

*Making the Bed Higher.*—The bed should be comfortable, single if possible, and high enough (about 26 inches from the floor to top of mattress) to make the work of the home nurse easier. It takes more strength and energy

to work on a low surface. The most satisfactory method of raising a bed is shown in Fig. 4. Take off the springs and place a board across the bed at the foot and another across at the head of the bed. Nail a box to each end of each board. Nail cleats to them to prevent boards from sliding. Place springs on the boxes. This way the bed can be moved easily.



Fig. 4.—Raising the bed springs by use of boxes and boards.

Another method of making the bed higher is to place slightly hollowed blocks under each leg of the bed, as shown in Fig. 5. An extra mattress placed on the bed will make it higher.

*Mattress and Bedding.*—A good mattress is necessary to insure the com-

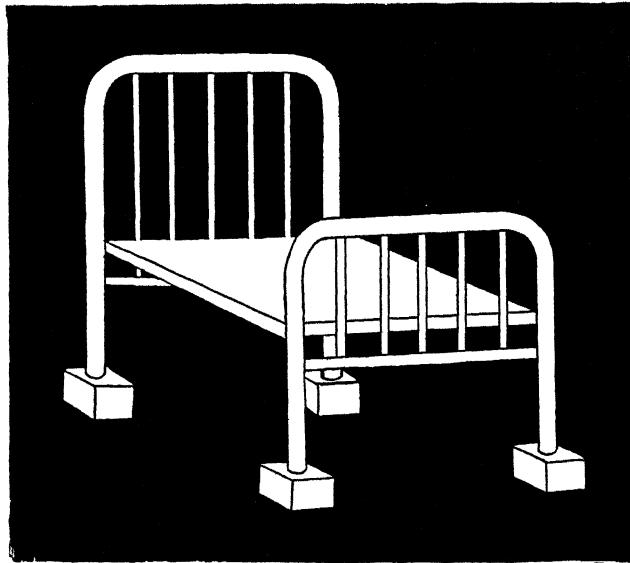


Fig. 5.—The bed may be raised to desirable working height by placing blocks under the legs.

fort of the patient. A horse hair mattress is the most comfortable and most hygienic, but a good cotton mattress may be used.

Feather beds overheat the patient and should not be used in the sickroom. The mattress should be protected by a mattress cover or by a pad, made from some firm

washable material. If oilcloth or newspapers are placed under the mattress in very cold weather they will greatly add to the warmth of the occupant, as much of the cold reaches the person from underneath.

Three sheets are needed to make a bed for the sick; a bottom sheet to be used over the mattress cover; a top sheet under the blanket, and a draw sheet which is a folded sheet put tightly across the bed. The sheets should be one yard longer and one yard wider than the mattress so as to tuck them in well at the top and both sides of the mattress. In case of lack of control of the bowels or bladder, or of severe discharges, a rubber sheet is used under the draw sheet or under the bottom sheet.

Blankets should be light in weight. Wool blankets are the best. Heavy spreads should be avoided because the weight tires the patient. Sheets may be substituted for a spread. Several pillows, different in size, will add greatly to the comfort of the patient.

*To Make an Empty Bed for the Patient.*—It is important to save one's energy when working, therefore steps should be saved in making the bed.

According to the following method, one side is completely finished before starting to work on the other side of the bed. Even when there is no sickness this method should be followed in order to save time and strength. When there is no sickness, the draw sheet may be omitted.

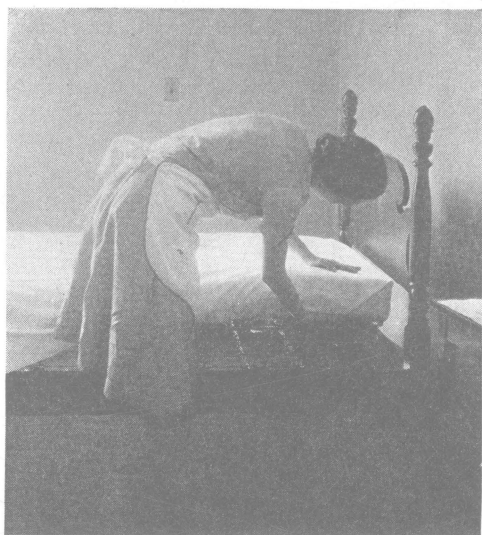
Cover the mattress with the mattress protector. Place the sheet over the mattress protector, tuck well under the mattress at the head of the bed, allowing the other end to just cover the foot of the mattress. Fold corner envelope style (Figs. 6 and 7) and tuck in the sheet on the side of the bed well under the mattress. Place the rubber sheet, if needed. This should extend from under the pillow to below the patient's knees. Tuck it well under the mattress.



(Courtesy American Red Cross)

Fig. 6.—Making an envelope corner—first step.

Place the draw sheet over the rubber sheet and tuck it in. The draw sheet is so called because it can be drawn from one side to another, when it gets warm under the patient, thus providing a cooler place on which to lie. The draw sheet also helps to keep the bed clean and smooth without changing it entirely, and to turn or lift patient in bed.



(Courtesy American Red Cross)

Fig. 7.— Making an envelope corner—second and third steps.

Place the top sheet on the bed, with the hem wrong side up. Allow the upper end of the sheet to come to the edge of the mattress, tuck this top sheet in at the foot of the bed in the same way that the under sheet was tucked in at the head. Place the blanket and spread over the top sheet; turn the upper end of the sheet over these covers, fold the lower part under the mattress at the foot of the bed, tuck in ends envelope style. Do not tuck the blanket under the mattress on the sides.

Go to the other side of the bed, turn covers, top and draw sheets back on the finished side of the bed. Stretch and tuck in the bottom sheet,

then the rubber and draw sheets, and adjust covers the same as at the first side. The edge of the covers at the head of the bed should be about 3 inches from the end of the mattress. Shake the pillows and see that they are well into the corners of the pillow cases before placing them on the bed.

*To Change Bedding with Patient in Bed.*—Take pillows away, remove the spread, turn the patient to one side, fold the covers over the patient. Roll the draw sheet toward the center, turn the rubber sheet (if used) over the patient's back, then roll the bottom sheet towards the center. Fold a clean sheet lengthwise to the middle, lay the fold against the fold of soiled sheet. Tuck the clean sheet under the mattress at the head of the bed and then at the side. Turn down the rubber sheet (if used) and tuck under the mattress. Fold half of the draw sheet, lay the fold next to the fold of the bottom sheet. Tuck the end under the mattress (Fig. 1). In this way half of the bed is made ready for the patient.

Roll the patient over on the clean sheets, go to the other side of the bed, pull off soiled sheets, rolling them from the center, straighten and adjust clean ones. Put a clean sheet over the patient, pull the soiled one and the blanket from underneath. Put the blanket over the clean top sheet, and finish the bed making.

If the patient cannot be turned on the side, the bottom sheet can be changed by rolling it down from the head of the bed as far as the shoulders, then placing the rolled clean sheet over the uncovered parts of the mattress. One person then can slightly raise the patient's shoulders and hips while the other pulls the sheets down. It takes two people to change the bed in this way.



It is not necessary to change the bed completely every day unless the bedding is soiled. Sheets should be straightened out at least every morning and night, and the bed thoroughly brushed with the palm of the hand to remove crumbs. Care must be taken to work quietly and efficiently about the patient. When straightening the sheets out, the edge of the mattress should be lifted to prevent jarring.

Pillows should be shaken and turned frequently. They should be placed far underneath the patient's shoulders and back, forming a gradual elevation. When removing the pillows place the arm under the patient's back and shoulders, raise the patient gently, and with the other arm remove the pillow. The patient can often help by placing one arm over the nurse's shoulder and the other under her arm. When doing this the patient should rest the head on the nurse's shoulder and prevent the mouth contact which would be unavoidable if the arms were placed around the nurse's neck.

*To Elevate the Foot or Head of Bed.*—To elevate the foot of the bed in hemorrhage from the bowels as in typhoid, or a hemorrhage from the uterus as in childbirth, raise the foot of the bed on blocks, a chair or anything which will keep it higher than the head.

To elevate the head of the bed, which is often done after some operations, raise the head of the bed on blocks. To keep the patient from slipping see the description under "Back Rest," pages 12 and 13, and Fig. 10.

#### CARE OF THE PATIENT

*A Cleansing Bath.*—A cleansing bath is more necessary for a patient than for a well person. The excretions from the pores of the skin contain organic substances which will decompose and give rise to unpleasant odors if they are not removed. Bathing stimulates the circulation of the blood and is very refreshing to the patient. Water should be changed during the bath. The bath should be given an hour or two after breakfast or in the evening before the patient goes to sleep. The room should be warm and free from drafts.

Have everything at hand so that it is not necessary to stop in the middle of the bath to get extra things. Use a foot tub or a clean dishpan instead of a bowl, so as to have a large quantity of water. A tub or a pan with handles will be easier to carry. Place the pan with the water on a chair or table near the bed.

A tray with the patient's toilet articles on it will save many steps. The tray may be a platter, cake tin, or even the lid of a strong paper box. Assemble on it the talcum powder, soap, comb and brush, scissors and nail file, toothbrush in a glass, and dentrifice. Also bring to the bedside two towels, two wash cloths, clean sheets, pillow cases, and a fresh nightgown. Have a soft blanket which may be used each day as the bath blanket.

First, clean the patient's teeth and then give the bedpan to the patient. If the patient is chilly apply a hot water bottle to the feet. Remove the spread, then the top sheet, pulling it down from under the blanket. Remove the patient's nightgown.

Use the blanket or a bath towel underneath the part of the body which is being washed, and move it from one part to the other as you work. Do not expose the patient more than necessary. Give bath under cover as much as possible, thus preventing exposure and possible chilling of the patient. The temperature of the water for a cleansing bath should be warm enough to be comfortable to the patient.

Bathe the patient in the following order: face, neck, ears, chest and abdomen, legs and feet. Change the water, turn the patient on her side, and bathe the patient's back, buttocks, and upper thighs. Dry each part carefully as it is washed. Rub the back with alcohol and dust with talcum powder. It is important to rub the back several other times during the day, especially before the afternoon rest period and when ready for the night. The back rub, when well given, gives the patient real comfort and prevents pressure spots on hips or end of spine.

Keep the water warm throughout the bath. When washing patient's feet, place the pan on the bed so the patient may be able to put her feet into it. Wipe dry between the toes. If desired, talcum powder may be dusted under the arms, between the thighs and toes, and under the knees.

The final step in the bath is to give the patient the clean wash cloth so that she may finish her bath herself. If the patient cannot do this for herself the home nurse washes carefully between the thighs and over the anus.

After the bath put the warmed nightgown on the patient, clean the finger and toe nails, and comb the hair. Change sheets and finish the bed as described.

*The Nightgown.*—A gown which opens all the way down the front or back is easiest to put on and take off. If the patient is going to be in bed for some time, it will save the home nurse a great deal of time and the patient much effort, if the regular gown is opened and buttons, snaps, or ties sewed on so that the garment will give the patient the necessary protection.

*Care of the Hair.*—Spread the towel over the pillow when combing hair. If the hair is long, part it in the center, from forehead to neck. Brush and comb slowly, beginning at the ends of the hair. Hold the hair firmly in the hand, meanwhile, so as not to pull. Braid the hair over each ear.

*Washing Patient's Hair While in Bed.*—The hair of a bed patient may be washed in bed. Protect the bed under the patient's head with a piece of rubber sheeting and a towel. Let the end of the rubber sheeting hang into a pail on the floor, forming a trough. Turn the patient diagonally in bed with the patient's head over the edge of the bed. Be sure that the patient is in a comfortable position, and that the shoulders are higher than the head. Place the basin on a chair or stool next to the bed. The patient's head should be a little above it. Wash hair, using soap which has been dissolved by boiling. Rinse carefully. Do not let the water run under the patient's back. Rolling the edge of the rubber sheeting where it comes under the patient's neck, helps to prevent this. Dry the hair by rubbing with warm towels and fingers.

*Ridding Patient's Hair of Vermin.*—For vermin in the hair apply a mixture made of equal parts of kerosene and olive oil. Other cooking oils

may be substituted for olive oil. Wrap the head in a towel and leave it this way for several hours or overnight. This remedy does not injure the hair, but the patient should not be close to the open fire, as kerosene is highly inflammable. Tincture of quassia or tincture of larkspur can be used instead of the kerosene mixture. To remove nits apply hot vinegar and then give a good shampoo. These treatments may have to be repeated at intervals of two or three days.

*Care of the Mouth.*—The proper care of the mouth contributes much to the patient's comfort. The patient should clean the teeth with a tooth brush after each meal and at night. If the patient is too ill to do so, then the nurse must clean the patient's mouth. A little lemon juice in the water or salt water (one teaspoonful of salt to a pint of water) makes a good mouth wash. The mouth of a fever patient must be cleansed every few hours day and night. If possible, use a small soft tooth brush, and do not forget to clean the tongue, gums, and roof of the mouth. Apply olive oil or glycerine and lemon (the juice of  $\frac{1}{4}$  lemon to 1 ounce of glycerine) to lips to prevent cracking.

*Bed Sores.*—To prevent bed sores, the patient's position must be changed frequently. The skin of the back must be kept dry and massaged to help the circulation. Moisture and pressure are responsible for most bed sores. If a bed sore forms consult your physician about treatment.

#### DAILY ROUTINE IN THE SICK ROOM

The daily routine will change slightly according to the physician's orders, but a few general points will always remain the same.

The patient's temperature should be taken the first thing in the morning. Then give the patient a bed pan to pass urine. Often the bowels will also move at this time. Wash the patient's face, hands, and teeth next. Straighten the bed, adjust pillows, and bring the patient's breakfast.

After breakfast the patient may rest, unless some treatments were ordered to be given at this time. The nurse may then attend to household duties if patient can be left alone.

Give the patient a bath an hour or two after breakfast. Then change or re-make the bed. Clean the room, being careful not to jar the bed, nor to stir up dust. Avoid unnecessary noise. Use oiled or dampened cloth when dusting, and cover a brush or broom with oiled or dampened cloth when sweeping. If a carpet covers the floor, spread small pieces of wet paper on it and then sweep with a broom if you do not have a carpet sweeper or vacuum cleaner.

When the room is clean, flush it thoroughly with fresh air. Place an open umbrella over the patient and cover it with a light weight blanket or a sheet, forming a tent. Then open all windows to make a strong draft in the room. On cold days use extra covers over the patient, and a hot water bottle or soap stone at the patient's feet during this airing.

Turn the patient's pillows frequently during the day. See that the sheets and the nightgown are smooth. Change the patient's position often, but

always provide proper support. Give treatments, meals, and medicines at the time ordered by the physician.

Consult the physician as to number of visitors and length of time they may stay. Often too many visitors at one time, or visits of too long duration, will tire or excite the patient, causing restlessness or sleeplessness or a rise in temperature.

Extra covering may be needed by the patient during the night, especially during the early hours of the morning. Place this covering without awakening the patient.

#### HELPFUL HINTS ON SERVING FOOD TO THE SICK

The patient sometimes does better with small amounts of food served more frequently than three times a day.

Very large quantities of food served to a patient may cause loss of appetite because of the effort required in eating. It is better to serve less at one time, and bring a second helping if desired.

Meals should be served at regular intervals; if delayed the patient's appetite may be gone.

Do not discuss the food to be served with the patient. Let each meal be a surprise.

Make the tray attractive; do not crowd things on it. Use attractive china, silver, and linen and some simple decoration as a flower or a little bit of green.

Do not fill glasses, cups, or bowls too full, as the liquids may spill. Serve food in a form easy for the patient to handle. Try to make the food as attractive as possible.

Serve hot foods *hot* and not lukewarm; serve cold foods *cold*.

Do not allow the food or dishes to stand for any length of time in the sick room. Remove them as soon as possible after the meal. If food must remain in the room for a short time it should be covered, to prevent contamination by dust.

#### SICK ROOM APPLIANCES

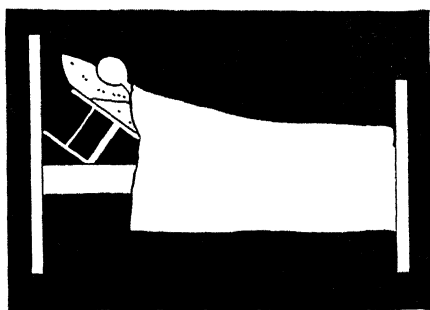


Fig. 8.—Back rest made from a kitchen chair.

Sick room appliances are rather costly if purchased, but many practical conveniences can be made at home with little effort and cost. Some are shown on the following pages.

*Back Rest.*—A patient allowed to sit up in bed will need a back rest. This can be made by reversing a kitchen chair and placing pillows over it as shown in Figure 8.

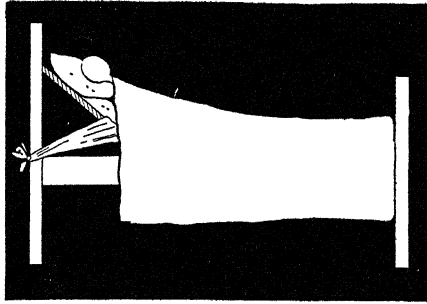


Fig. 9.—Wash board held in place by a strip of cloth.

close to the buttocks. Hold the pillow in place by a sheet folded diagonally or by means of a long strip of cloth tied to the bedpost at the head of the bed (Fig. 10).

Another plan is to place a broomstick or a small swing-board, covered with a pillow under the patient's knees against the buttocks and to tie a piece of cloth or string to each end of

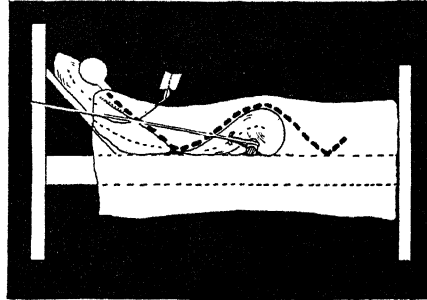


Fig. 10.—Using a pillow and a stick to keep the patient from slipping down in bed.

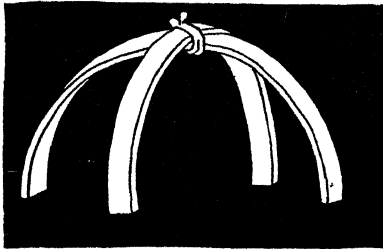


Fig. 11—A cradle made out of two halves of a barrel hoop.

Another way is to tie a string from the head to the foot of the bed (Fig. 12). A loop made of a piece of tape with a large safety pin attached is then placed over this string. The weight of the covers may be lifted in any particular place by means of this pin; the loop is moved up or down as the position of the patient is changed.

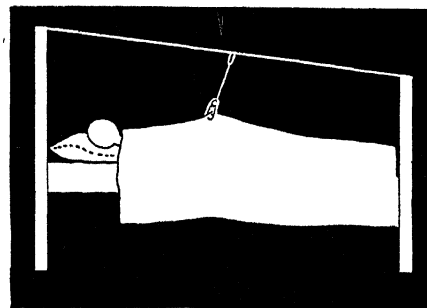


Fig. 12.—A string, a loop, and a safety pin will hold covers off the sore spot.

Another way is to place a board, suitcase, or washboard at an angle at the head of the bed, with the lower end held firmly in place by a long piece of cloth placed around it and tied to the bedpost (Fig. 9).

To prevent the patient from slipping in bed when back rest is used or when the head of the bed is raised, place a folded pillow under the patient's knees,

the stick or board and the other end of the cloth to the bedpost. This kind of a swing may also be placed at the patient's feet instead of under knees.

*Devices to Relieve the Weight of Covers.*—The weight of the covers may be relieved by making a bed cradle from crossed halves of hoop, tied together (Fig. 11) and placed under the covers.

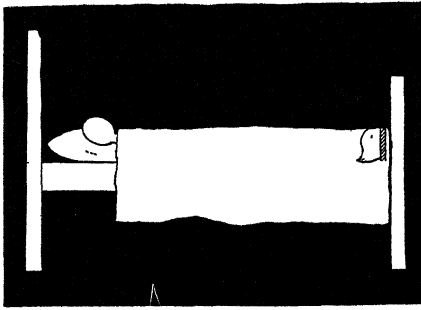


Fig. 13.—A board and a pillow will relieve the weight of covers on the patient's feet.

To relieve the weight of the covers on the patient's feet, a board may be placed at the foot of the bed, between the mattress and bedstead. The covers are then brought over this board before tucking them under the mattress (Fig. 13 shows position of the board at the patient's feet).

A pillow may be used for this purpose, if desired.

*Fold Gives More Room.*—To give more room to the patient's feet, the covers may be pleated at the foot of the bed and the pleat brought slightly forward before tucking the covers under the mattress (see arrangement in Fig. 14).

A line tied to the front of the bed will help the patient to turn or raise herself in bed (see Fig. 15).

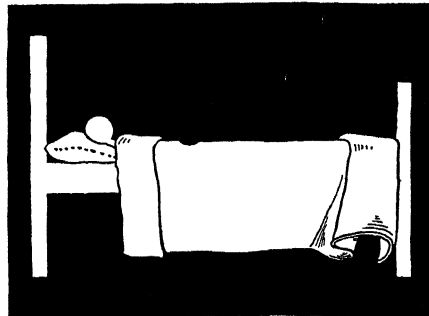


Fig. 14.—A fold in covers gives more room for patient's feet.

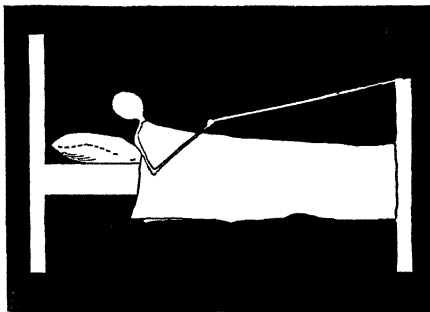


Fig. 15.—Making a string bear the weight when the patient wants to sit up or turn.

*Croup Tent.*—An umbrella covered with a blanket as described in directions given for airing the room may be used as a croup tent, with the steam provided from a kettle of boiling water. A teakettle may be used, and the steam conveyed from the spout by means of a rubber hose. Attach a funnel to the other end and place it under the tent.

*Bed Table.*—A table for the patient can be made by using three sides of a light wooden box. The two sides can rest on the bed, or either side of the patient, while the third forms the table. Or, a board may be placed across the bed and supported on a chair on each side of the bed.

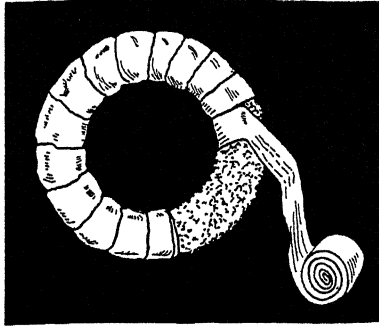


Fig. 16.—A ring made out of cotton batting and bandage.

*Cotton Rings.*—Rings may be made out of cotton and covered with a cloth or a bandage. They are used to support the heels or elbows of the patient, and to prevent pressure. (Fig. 16 shows method of making a cotton ring.)

They may also be used under the patient's buttocks for the same purpose, but rubber rings are usually purchased for that purpose.

*Stupe Wringer* (for use of stupes see page 20).—To prevent scalding one's hands in wringing out hot applications, several methods could be used, a few of which are suggested in the following paragraphs.

Place cloths in a steamer or in a colander over a pan of water, with a cover over the colander. The water in the pan or in the lower part of the steamer should be kept just below the boiling point.

The cloths are heated and moistened between each application, and do not need to be wrung out.

A stupe wringer may be made by putting a wide hem on each end of a stout piece of muslin. A stick should be inserted into each hem, and the stupe wrung out by twisting the sticks. A potato ricer may also be used for small compresses.

*Pillows.*—Various sizes of pillows are a necessity in a sick room, as they add to the comfort of the patient by providing support for different parts of the body, as well as for the patient's head (see Fig. 17), or to relieve the weight of covers on patient's feet. If there is any danger of soiling the pillow because of discharges, the pillow should be covered with rubber sheeting, or a piece of oilcloth placed under the pillow case.

A pillow folded crosswise and placed under the knees against the patient's buttocks will relieve the tension on abdominal muscles (see arrangement in Fig. 17), and help patient to relax.

Pillows should be frequently brushed, sunned, and aired. They should not be held in the mouth while a clean pillow case is being adjusted. Pillow cases should be wide enough to slip on easily, but not so wide that they wrinkle

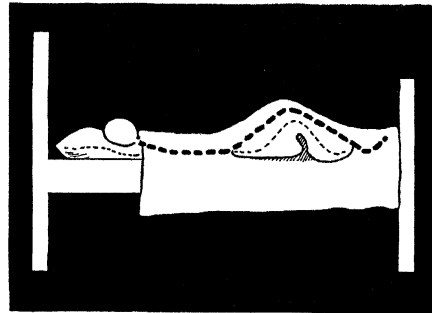


Fig. 17.—Pillow under knees affords rest and relaxes abdominal muscles.

or allow the pillow to turn. If they are too small, pillows will be hard and uncomfortable.

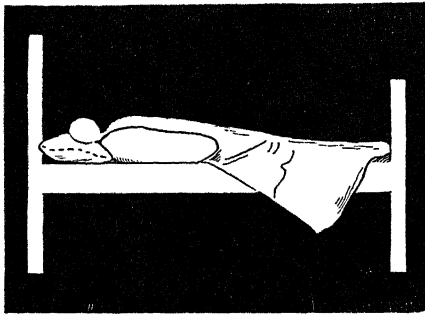


Fig. 18.—Pillow along spine to give support when patient is turned on his side.

*Bed Pan.*—In an emergency, a bed pan can be made out of a dripping pan with a small board covering part of it. To avoid danger of splinters, cover the board with cloth. If the board slips, cleats may be nailed underneath it on three sides (see Fig. 19).

A bed pan should always be warmed by rinsing with hot

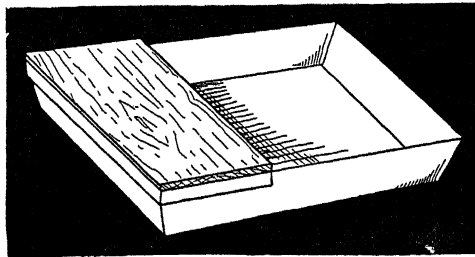


Fig. 19.—A bed pan made from a dripping pan.

water, before giving it to the patient. The surface of the bed pan which fits under the patient's buttocks should be dry or covered with a piece of folded cloth.

*Measuring Jar.*—A measuring jar may be made from an ordinary quart fruit jar with a strip of adhesive tape pasted vertically on the outside of it and ounces marked on the adhesive tape. Two tablespoons are equal to 1 ounce.

Pour into the jar 2 tablespoons of water at a time and mark the tape on the level with the water as it rises in the jar (see diagram, Fig. 20).

A clear glass jar should be used for this purpose, so as to be able to see the true color of the contents.

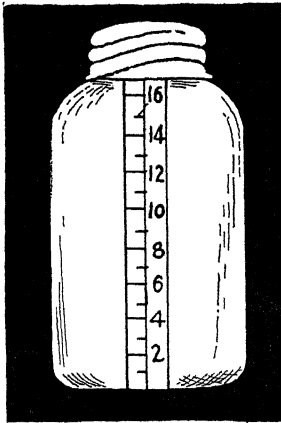


Fig. 20.—A measuring jar made from a quart fruit jar.

*Ice and Hot Water Bags.*—A suitable waterproof material may be substituted for an ice bag. A piece of an inner tube with the ends tied securely, a



piece of oilcloth, rubber sheeting, a bladder, or a hot water bottle filled with cold water may be used in place of an ice bag.

If a hot water bag is not available, use hot flannel, hot bran or salt bags, hot bricks, soap stones, stove lids, or fruit jars or jugs filled with hot water. Take care when using external heat not to burn or scald the patient. Hot water bags, bricks, soap stones, or fruit jars should always be wrapped securely.

Do not fill a hot water bag or an ice bag too full. Expel the air by pressing the bag until water shows in the opening, then put in the stopper. This makes the bag lighter and more pliable.

*Newspapers.*—Newspapers are very helpful in the sick room. Several layers of newspapers covered with a piece of cloth may be placed under the patient when giving an enema or bed pan, or in case of discharges, to protect the bedding. Pads may be made from several thicknesses of newspapers, covered with a layer of absorbent cotton and cheesecloth or old sheeting. Pads made in this way, if ironed with a very hot iron, are used in confinement cases as bed protectors.

Newspapers should never be placed under the patient without covering them, and should never be used as a substitute for toilet paper.

*Drinking and Feeding Tubes.*—When feeding a patient provide a drinking tube for the liquids. The tube may be made out of macaroni or heavy straw, if a glass tube cannot be obtained. A little toy teapot may also be used. There are large tubes obtainable for use in feeding the patient soups and gruels.

*Handkerchief Substitutes.*—All things used for the patient must be kept very clean. In case of a contagious disease everything used in the sick room must be boiled or disinfected. If there are discharges from the nose or throat small pieces of soft cloth, paper napkins, or toilet paper should be used instead of handkerchiefs. These pieces should be deposited immediately in a paper bag after using and burned.

#### SICK ROOM RECORD

Do not trust the memory when taking care of the sick, but write down everything concerning the patient. Always state the hour and date. Ask the physician to write his orders.

Sample of record:

May 6, 1942:

7 A. M. Temp. 98.4  
4 ounces of urine, cloudy

7:30 A. M. Breakfast—1 cup cocoa, 1 slice toast,  
juice from 1 orange

8 A. M. Medicine—2 ounces

and so on through the day and night.

## TEMPERATURE, PULSE, AND RESPIRATION

By the body temperature we mean its degree of heat measured, in America, by means of a Fahrenheit thermometer, which may be placed in the mouth, under the arm, or in the rectum (Fig. 21). The heat of the body may be increased by the digestion of food and by exercise. Heat is lost through the skin surface by evaporation and by perspiration, and through the lungs by expired air.

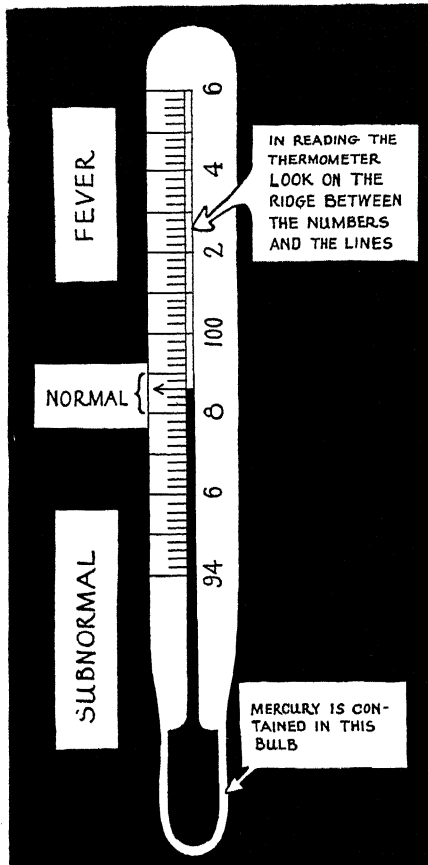


Fig. 21.—A clinical thermometer.

In health, the temperature varies slightly at different times of the day, ranging from 98 degrees to 99 degrees F. When the temperature is not normal it means that the patient should be under a physician's care. If the temperature suddenly changes notify the physician at once.

Children naturally have a higher temperature than adults, and in old age the temperature is usually below normal. The temperature may be reduced by drugs and by applications of cold such as baths, packs, and compresses. It may be raised by hot drinks, drugs, the application of external heat, and hot injections.

To take a patient's temperature wash the thermometer in cold water, wipe with a piece of cotton, and shake until it registers below 96 degrees. Place the thermometer in the patient's mouth (if the temperature is to be taken by mouth), put the bulb under the tongue, and instruct the patient to keep the lips closed. Be sure the patient did not have a hot or cold drink before placing the thermometer.

The time required to register the temperature is usually marked on the thermometer, but a more accurate temperature is obtained by leaving the thermometer in place 5 minutes or longer.

Remove the thermometer, read and record the temperature, wash the thermometer with soap and cold water, rinse and dry. Unless it is to be used immediately for a second patient, no disinfectant is needed. If there are two patients, it is well to let the thermometer stand in a small glass of rubbing

alcohol for a few minutes before using for the second patient. The same alcohol may be used for several days if kept covered.

The temperature by rectum is usually about one-half to one degree higher than by mouth. Grease the bulb of the thermometer before taking the rectal temperature. The axilla temperature is usually one-half to one degree lower than mouth temperature. Dry the armpit, place the bulb of the thermometer under the arm, then place the hand of the arm under which the thermometer is on the opposite shoulder. This will keep the thermometer between two folds of the skin.

The pulse is an expansion and contraction of an artery. It is almost impossible for the person without training and practice to count the pulse correctly.

Respiration is breathing. Normal respiration is noiseless and without effort. If breathing is difficult and noisy, and sounds like wheezing or sighing, call the doctor.

#### TREATMENTS TO RELIEVE PATIENTS

Treatments and drugs should always be prescribed by a physician. The following directions concerning a few of the most common treatments are meant only to help the nurse in following the physician's orders.

*Sponge Bath to Reduce Temperature.*—Take the temperature and record it. Prepare the patient as for a cleansing bath. Begin with the face, sponging each part with cool water. Do not dry the skin, but let the drying take place by evaporation. Sponge each part of the body for several moments. Take the temperature again, and record it.

*Cold Pack to Reduce Temperature.*—Protect the bed by covering it with a rubber sheet. Apply three bath towels wrung out of cold water. Place one over each arm, and one over the chest and abdomen, and leave them for a few minutes. Remove the towels and rinse in the cold water. Then place them over the lower limbs while the upper part of the body dries by evaporation. The lower limbs may be exposed to dry after removing the towels, while the nightgown is put over the shoulders. (Other methods might be suggested by the physician.)

*Foot Bath.*—A foot bath may be given to a patient in bed in the following manner: Fold the covers from the foot of the bed over the patient's knees. Place the foot tub in bed on oilcloth or on several layers of paper, covered with a blanket. Have the tub one-third full of water as hot as the patient can endure. Test it with your elbow just before putting the feet into the tub. Place the feet in the tub and cover the legs with a towel and a blanket. Add hot water from time to time, holding your hand over the patient's feet to make sure that the water is not too hot. Soak the feet for 15 or 20 minutes. Remove the tub from the bed and dry the feet gently, patting rather than rubbing, then apply some oil, vaseline, or lotion to the feet.

*A Hot Pack.*—Protect the bed with a large rubber sheet and thin blanket. Remove the patient's nightgown, and cover patient until ready to apply pack. Wring a wool or part wool blanket out of hot water, using a

clothes wringer if possible. The water must be hot, as the necessary handling cools it rapidly. Cover the patient with the hot blanket, tuck the sides well under the patient's body, using care not to burn the patient. Replace the dry blanket over the patient and bring rubber sheet up around and over the whole.

Leave the patient in the pack for a period ordered by the physician. If the pack is to be renewed, a second blanket must be wrung out and made ready to apply before the cooler one is removed. Make the patient drink freely when in the hot pack. Watch patient closely as extreme heat sometimes makes patient faint, in which case pack should be discontinued and usually stimulants given.

*Mustard Pack.*—Mix 1 to 2 tablespoons of mustard with a little cold water. Add 1 quart of hot water to it. Dip two bath towels into this solution, wring out and apply to chest, under the arm and back, crossing the towels over chest and over back. Cover with dry cloth. Leave on until skin is reddened. Remove, pat the skin dry, apply vaseline or oil, and cover with dry cloth or pneumonia jacket.

*Hot Applications.*—In applying either dry or moist heat the danger of burning or scalding the patient must be constantly kept in mind.

Stupes or hot compresses are cloths, preferably of flannel or flannelette, wrung out of boiling water until as dry as possible, then applied to the skin. Each stupe should be three or four times as large as the area to be covered. Two are needed so that one may be prepared before removing the other. Vaseline or oil should be applied to skin before putting on the stupe. To prevent escape of heat and moisture, cover the stupe after it has been applied with a piece of rubber cloth or oiled silk and several thicknesses of flannel or cotton batting. Keep all in place with a bandage or a towel used as a bandage.

The physician will tell how often the stupes are to be applied, but if the skin becomes irritated they must not be used until its appearance is again normal.

*Cold Applications.*—Cold applications may be used either dry, as ice-bags, or moist. For a cold compress use an old handkerchief or a piece of soft linen. Wring out of cold water and apply to skin which has been greased. Cover the compress with waxed paper and a dry cloth. In applying cold compresses to the eye a clean piece of gauze or cotton should be used for each eye.

*Enemas.*—An injection of fluid into the rectum is called an enema. An enema is generally used to empty the bowels, but sometimes given to stimulate and nourish. An enema should not be given without the physician's orders, and he will advise what kind to give.

For a simple enema one of the following is generally used: a solution of common salt or baking soda, using one teaspoon of salt or one teaspoon of soda to a pint of water; or soapy water, made with white soap such as castile. Suds should not be used as they cause pain. The temperature of the water in ordinary cases should be about the same as that of the body.

Have the patient on the left side when giving an enema, or on the back with the knees flexed. Grease the nozzle of the tube and the rectum before inserting the tip, and expel some of the water through it to remove air. The

flow of water should be slow to prevent pain. The can or bag holding the fluid should not be higher than 1 foot above the rectum. Withdraw the tube gently. No enema should ever be taken in the sitting position.

An enamel can is cleaner and cheaper in the end than the rubber bag. It can be boiled and disinfected, and does not deteriorate like rubber.

*Douches.*—Washing a cavity with a stream of water is called a douche. Vaginal douches are used as a treatment in some diseased conditions. They should be ordered by the physician, and not used without his consent. Care should be taken to have the douche can perfectly clean and the douche tip sterilized by boiling. The can should be hung low so that the water will flow slowly, and the patient should be on her back with the knees raised. If medicines are used in the douche, an enamel can should be used instead of a rubber bag.

Douches should not be given to a pregnant woman, or following a confinement unless a special order is given by the physician, then special care must be taken to have all things sterile.

*Sprays and Gargles.*—Sprays should always be prescribed by a physician, and administered by him unless he advises otherwise. Self-administered sprays are apt to carry the infection from the nose or throat to the middle ear or sinuses.

Gargles are used for sore throats. Different drugs may be prescribed by the physician, but the best home-made gargle is made by using one teaspoon of salt in a pint of hot water. However, a sore throat, no matter how slight, should always be under the physician's care. Delayed treatment in a case of diphtheria or streptococcus infection may prove fatal to the patient.



## *The Use of Drugs*

Modern medical practice increasingly emphasizes diet, rest, exercise, and other hygienic measures in the treatment of sickness. Drugs are used much less than they were a generation ago. Many people, however, still use drugs for every real or imaginary ailment, using them without consulting a physician. Headache medicines, cathartics, and tonics are most common among the self-prescribed group.

Often some drug prescribed for one person in a family is used by the other members, notwithstanding that the medicine might have deteriorated, or that it might have a very different effect on the patient for whom it was not prescribed. Throw medicines away when the patient has recovered.

Headache is only a symptom of some trouble and might be a result of eye strain, indigestion, lack of proper elimination from the bowels or bladder, or some infection. It is a warning that should be heeded. A headache remedy may stop the pain but it does not remove the cause, and often makes things much worse by affecting the heart.

Cathartics used regularly form a drug habit. Constipation is often due to faulty diet and faulty habits. An ordinary case of constipation may be treated by proper diet, increased intake of water, and exercise. A habit of regular emptying of the bowels must also be formed. A physician should always be consulted in more stubborn cases of constipation.

Self prescribed tonics are poor substitutes for proper diet, rest, and fresh air. Using them is like beating a tired horse. He goes faster, but is not really stronger. If in need of a tonic consult the physician. "Health is not put up in bottles and cannot be purchased at drug stores, no matter what the label on the bottle may read."

### THE MEDICINE CHEST



Fig. 22.—A medicine chest for the home. List of contents should be tacked on the inside of the door.

In case of an emergency, a few of the most important drugs should be in each home. Such drugs should not be kept on the pantry shelf but in a medicine chest, which may be constructed at home if one cannot be bought.

The chest should be so placed that children will not have access to it; if at all possible, it should be locked. All poisons should be kept by themselves and all supplies plainly labeled.


A suggested list of supplies for the medicine chest, and preparation of solutions, are given on pages 23-24.

Articles needed in the First Aid Kit are itemized on page 26.

For suggestions on what to do in first aid in common injuries and accidents, see pages 24 to 33 of the bulletin.

### *Suggested List of Supplies for the Medicine Chest*

Iodine, 3½%	In dark glass or rubber stoppered bottle to apply on cuts and wounds as first aid treatment. Buy in small quantities.
Mercurochrome, 2%	Used instead of iodine.
Applicators	Bits of absorbent cotton wrapped around the end of tooth-picks, sterilized and kept in a sterile covered can.
Vaseline	In a tube, for burns, scalds, to apply before hot applications, etc.
Cotton	Two small packages of absorbent cotton, one unopened for emergencies.
Epsom salts	For hot applications, hot foot baths, etc.
Milk of magnesia	For infants as a laxative, but if baby is subject to constipation a doctor should be consulted.
Aromatic spirits of ammonia	A stimulant. Dose, ½ to 1 teaspoon in a small amount of water, or pour a small quantity in a cloth and allow patient to smell this. Buy in small quantities. Keep in a rubber corked bottle.
Camphorated oil	Applied hot to skin in bronchitis, cold, cough.
Baking soda	To stop vomiting, use sips of baking soda and water. Compresses in poison ivy.
Boric acid	A teaspoon to a pint of water as an eye-wash, for hot applications. Solution should be made fresh when needed.
Mustard powder	In closed tin box for hot mustard stupes or to cause vomiting (one teaspoon mustard to a glass of lukewarm water).
Rubbing alcohol	As disinfectant for skin or small instruments.
Box of sterile dressings	Some of them prepared at home as described later. Gauze dressings may also be purchased at the drug store.
Adhesive tape	To hold dressings in place, for strapping sprains, etc. It should be kept in an airtight box as it dries out and loses its stickiness.
Safety pins	To fasten on dressings.
Eye cup	
Medicine dropper	
Pair of scissors	
Clinical thermometer	
Syringe outfit	} If not possible to have both, a combination set may be used.
Hot water bag	

 *Antidotes for Poisoning and remedies for Insect Bites are given on page 31.*

### *Sterilization of Dressings for the Medicine Chest*

For slight injuries pieces of old linen and pieces of gauze should be kept on hand. Wash the pieces thoroughly, dry, press with a very hot iron, fold or roll immediately and put into a clean, tightly covered box or jar. Wash your hands well before ironing and handle these pieces as little as possible.

### *Preparation of Normal Salt Solution*

- 1 pint boiling water
- 1 teaspoon salt

Put in a clean bottle, cork tightly. Put the bottle of solution into a pan of warm water. Bring to boil and boil five minutes to sterilize the solution. Cork tightly, and always keep corked when not in use.

### *Preparation of Boric Acid Solution*

- 1 pint boiling water
- As much boric acid as will dissolve (about 2 teaspoons)
- Keep in a clean bottle or jar. Keep well covered.

### *Approximate Measures*

- 1 ordinary drinking glass holds 8 ounces or  $\frac{1}{2}$  pint.
- 6 teaspoons are equal to 1 ounce
- 2 tablespoons are equal to 1 ounce
- 2 teaspoons are equal to 1 dessertspoon
- 60 drops are equal to 1 teaspoon of most drugs
- 1 teaspoon is equal to 1 dram.



## *First Aid in Common Injuries and Accidents*



DO you know that accidents of all types cost America \$3,500,000,000 in 1940? Had you heard that \$600,000,000 of this vast sum could be definitely attributed to accidents occurring in the home and that approximately 10,000 more people died in the United States during 1940 as a result of home accidents than were killed in England as a result of air raids upon civilians? Over one-third as many people die each year from all accident causes combined, in the United States, than have been killed in all the wars in which the United States has participated, including World War I.

The Ohio Department of Health reports that the greatest cause of home accident deaths is accidental falls. Broken stairs; toys, lamp cords, and other devices left scattered on the floors; slippery floors; insecure stepladders; wet bath tubs and ill lighted and cluttered cellar ways are just a few of the many causes of both fatal and disabling accidents in the home.

Accidents in which fire plays the leading role run accidental falls a close second as a cause of both fatal and disabling accidents. Then too, we must remember that unlabeled bottle of poison left within the reach of tiny hands and the gun that isn't loaded but which nevertheless kills 1,300 persons in this country every year.



There is usually much more interest shown in what to do in case of an accident than in what to do to prevent it, and yet prevention would save not only suffering and sorrow but dollars and cents. It is up to every individual to study the causes of accidents and to apply preventive measures, starting first of all with his own home, then with the community, then the county, state, and nation. Prevention of accidents is everybody's duty. We must ask ourselves not what our community may do to prevent those accidents but what *I* as an individual can do to prevent them.

#### NEED OF ACCIDENT PREVENTION

##### *Some of the Causes of Accidents:*

Too much hurry	Poor lighting
Carelessness	Broken furniture, etc.
Mind not on the task	Small rugs on a waxed floor
Poorly constructed stairways, missing stair steps, etc.	

##### *Some of the Things that Each Individual May Do to Prevent Accidents:*

Provide better lighting on stairways, cellar, etc.  
Eliminate things not needed and only cluttering the house.  
If small rugs are used on waxed floors, make them nonskid by using rubber guards under them.  
Develop poise and avoid too much hurry.  
Learn to be careful when doing things and not leave things about which might cause an accident; for example, boards with nails, sharp objects, peelings thrown on the floor, etc.  
See that all electric cords and appliances are in good repair.  
Do not touch electric fixtures with wet hands or while standing in a bathtub.

#### WHAT IS "FIRST AID?"

First aid is help given in an emergency. A person giving this help should:

Keep calm, take command of the situation, and do or direct others what to do.

Know what *not to do* as well as what *to do*.

Call for a physician in severe accident or when in doubt.

Know what to do until physician arrives in order that the patient

(1) May be comfortable

(2) May be in good condition

(3) May be no worse for the first aid treatment.

Keep crowd away; keep the patient quiet; avoid moving him unnecessarily.

Give patient a drink of water if able to swallow.

Give a stimulant if needed. Never give a stimulant when face is flushed or when patient is bleeding severely. (Stimulants: coffee, tea, broth, aromatic spirits of ammonia— $\frac{1}{4}$  to  $\frac{1}{2}$  teaspoon in  $\frac{1}{2}$  glass of water.)

## PREPARATION FOR FIRST AID

*Sterilized Dressings.*—These may be made at home from clean white pieces of cotton or linen cloth which have been washed, boiled, dried in the sun, ironed slowly on both sides to sterilize them, then folded or rolled and placed in sterilized jars or tin boxes.

*Applicators.*—These are pieces of sterile cotton wrapped around the end of a toothpick. If placed in a sterilized covered jelly glass they are always ready to use for applying iodine or mercurochrome, or for cleaning out a sore.

*Hands.*—The hands of the one who gives first aid should be thoroughly washed with soap and water and a clean nail brush before preparing or handling sterile dressings or applicators. It takes five minutes to wash hands thoroughly.

In opening the cans or jars with dressings or other sterile articles, the lids should never be touched on the inside, and should always be placed with the inside part up. Sterilized dressings should be handled as little as possible. If wounds or sores must be touched by the hands, the hands should be carefully scrubbed first.

## FIRST AID KITS

First aid materials should be kept in clean covered containers, and should be in the handiest place possible.

*Making of the First Aid Kit.*—Containers: For home, a jar or a large tin box, with tight fitting lid; for automobile, a small flat tin box. In those containers the necessary articles should be placed, care being taken that corks and jar lids fit well, and that dressings are wrapped securely.

Here is a suggested list of articles needed in the first aid kit:

A clean container to hold the first-aid articles	Scissors
Mercurochrome or iodine	Surgical cotton
Aromatic spirits of ammonia	Bandages
Normal salt solution	Adhesive tape
Tube of either vaseline, unguentine, or boric ointment	Safety pins
Applicators	Triangular bandage, medium size, out of unbleached muslin or light weight washable material.

All containers for the first aid kit should be boiled thoroughly. Bandages should be wrapped in clean sterilized cloth. Cotton and applicators for the auto kit should be wrapped in sterilized cloth. For home kit 1 oz. or  $\frac{1}{2}$  oz. bottles could be used for iodine or mercurochrome, and 2 oz. bottle for normal salt solution; for auto kit 1 dram glass tubes for iodine or mercurochrome are most convenient, and 1 oz. bottle for normal salt solution. (For preparation of normal salt solution see page 24.)

## *First Aid in Emergencies*



### FAINING

Fainting is caused by lack of blood to the brain cells, often due to extreme weakness or to a nervous shock, as sight of blood, bad news, etc. It is more common in overheated and crowded places.

To prevent fainting, have person who feels faint double over so that head is between the knees, or lie down with head lower than the body.

If a person has already fainted, lay him on his back with head low and feet and legs elevated; loosen clothing, open windows, wipe face with cold water, rub arms and legs upward. When able to swallow give hot coffee, hot tea, or aromatic spirits of ammonia— $\frac{1}{2}$  teaspoon in  $\frac{1}{2}$  glass of water. Keep patient in a reclining position for a time after consciousness is regained.

### SHOCK

Shock often accompanies injuries. It is a depression of the nervous system and is also called at times, collapse. The skin is cold and clammy, weak, temperature subnormal, pupils of eyes dilated, and the patient looks pale and is usually unconscious.

Place patient flat on the back with the head low, unless the head is injured. Apply heat externally, loosen clothing, rub legs and arms upward. When conscious give stimulant. Always call a physician.

### APOPLEXY

Apoplexy or a stroke is due to a rupture of a blood vessel in the brain, which causes hemorrhage into the brain substance. Patient becomes unconscious, breathing is slow, the mouth may be drawn to one side, the face is red, skin warm, and pupils of the eyes unequal. Call a physician. Raise patient's head and shoulders slightly. Apply cold to the head and heat to the feet. *Do not give a stimulant.*

### SUNSTROKE

Sunstroke is due to the action of direct sun rays over a prolonged time. The face is red, skin dry and hot, pulse fast, and temperature high. Call a physician. Remove the patient to a cool place, apply cold compresses or packs to the body to reduce fever. Do not give a stimulant as long as the temperature is high.

### HEAT EXHAUSTION

Heat exhaustion is due to the effect of extreme heat, even without sun rays. The skin is moist and clammy, pulse quick, temperature low, and the patient is often unconscious. Apply external heat to the body, give stimulant

if patient is able to swallow, rub the extremities upward to increase the circulation. Call the physician if the case is severe.

## WOUNDS

Wounds are injuries in which the skin is torn, punctured, or cut. The skin protects the body against the invasion of bacteria; when skin is cut or torn, bacteria often find their way into the body and infection follows. In handling wounds this should be remembered, and everything coming in contact with wounds should be sterilized and as clean as possible. Only sterile dressings should be used and hands should be scrubbed with soap, water, and nail brush for about five minutes, and rinsed well in clear water before giving first aid.

*Dressing Wounds.*—After the hands are washed apply a 3½ per cent solution of iodine or 2 per cent mercurochrome to the wound. Leave wound

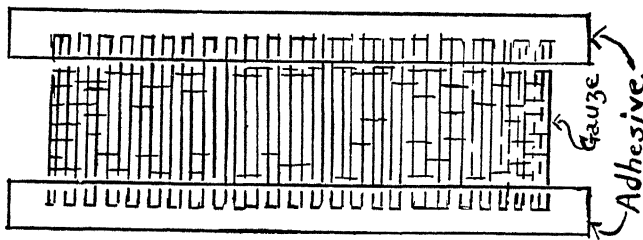


Fig. 23.—Adhesive used to hold dressing in place.

exposed to the air for a few minutes, then apply a sterile porous dressing. If the skin around the wound is dirty, wash it either with boiled water and soap, normal salt solution, or alcohol. Be careful always to wash

away from wound. Do not cover the wound with adhesive. Adhesive may be used to hold the dressing in place, with narrow strips applied to the edges of the dressing (see Fig. 23) or by cutting a hole in the adhesive strip and placing three or four layers of gauze over the hole, as in Fig. 24. The dressing then fits over the wound, with adhesive holding it in place. This allows access of air to the wound.

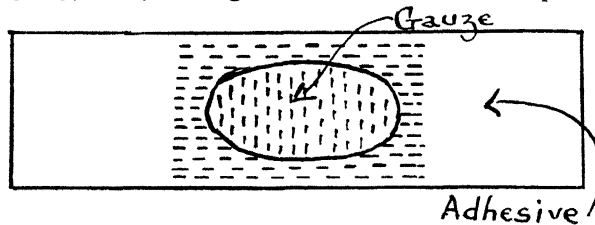


Fig. 24.—Cutting a hole in adhesive allows access of air to the wound. Use several layers of gauze for the dressing.

A punctured wound which does not bleed may easily become infected; bleeding washes some of the dirt out. One may soak the punctured wound in hot water for a while and then squeeze out a drop or two of blood.

When soil or dirt is introduced into the wound, there is always danger of tetanus, commonly called lockjaw. A physician should be consulted and often a prophylactic treatment of anti-tetanus serum is advisable.

## HEMORRHAGE

A hemorrhage is a severe bleeding. Bright red blood spurting out means that an artery has been cut; a slow stream of dark red blood means that the damage is to a vein, or if the bleeding is very slow and small in quantity it indicates injury to a capillary.

Stimulants should not be given in case of a hemorrhage without physician's orders, as stimulants increase the heart action, and therefore speed up the circulation and bring more blood to the injured area. To stop bleeding apply pressure directly or indirectly, elevate the bleeding part, apply something cold. Call a physician. Keep the patient still, as movement increases blood pressure and hinders clotting of the blood.

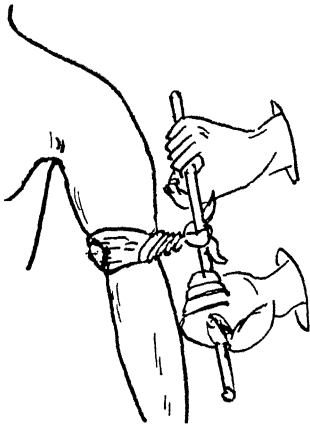


Fig. 25.—A tourniquet may be used to check bleeding of arm or leg.

*Bleeding from Arm or Leg.*—Use direct pressure on the wound, or indirect pressure by means of a bandage twisted around the arm tight enough to stop the flow of blood. This is called a tourniquet (Fig. 25). It should be applied between the heart and the wound for arterial bleeding, and between the wound and the end of the extremity for venous bleeding.

A tourniquet should never be applied too tightly, and not left on longer than 15 minutes, when it should be loosened, then tightened again if necessary. If arm or leg swells and turns dark loosen tourniquet at once, as the stoppage of circulation may cause gangrene.

*Hemorrhage of the Lungs.*—Raise the patient to a semi-sitting position; apply cold to chest. While awaiting the physician let patient swallow pieces of ice or sips of very cold water.

*Hemorrhage of the Bowels.*—Raise the foot of the bed higher than the head of the bed, call the physician, apply cold compress to the abdomen, and keep the patient quiet.

*Severe Nose Bleed.*—Keep the patient's head raised; apply cold compresses to the back of the neck and base of the nose; place a small roll of surgical cotton under upper lip.

*Bleeding from Varicose Veins.*—Raise the leg and foot; apply clean gauze to the ruptured vein, binding it *very* lightly with the bandage. Remove garters and constricting bands.

## BRUISES

Apply cold first, then use hot compresses to relieve pain. Do not use alcohol near the eye, but compress of witch hazel may be used.

## SPRAINS

Sprains occur in the joints through twisting the ligaments holding the joint together. Apply bandage to immobilize the joint (see Figs. 32 and 41); raise arm or leg to avoid congestion; apply cold for the first hour, then use heat to relieve pain.

## STRAINS

Strain of the muscle is due to stretching the muscle too much. Apply heat to relieve pain. When in the back, it is often necessary to apply adhesive as a means of immobilizing the muscle.

## FRACTURES

A fracture is a broken bone. In a simple fracture, only the bone is broken; in a compound fracture, the skin is also broken, causing a wound. A fracture should be treated by a physician to insure the proper setting of the bone. An X-ray is the best guide in setting fractures.

In taking the patient to a physician apply a temporary splint to provide stiffness to the outside of the body. Great care must be taken to see that the broken bone does not push through the skin. If necessary to change position of limb, move slowly and watch—stop instantly if skin bulges. A light board, umbrella, stick, bark of tree, magazine—all may supply material for a temporary splint. If there is a wound, place a sterile dressing over the wound. Do not put the splint right over the wound. Have the splint extend far below and above the fracture. Keep the patient as comfortable as possible.

In a fractured rib a long strip of cloth or a towel pinned tightly around the chest may be used as a temporary splint to provide comfort to the patient. In a broken arm use a sling to provide support. See illustration of the uses of triangular bandages, pages 34-38.

## BURNS AND SCALDS

*Sunburn.*—Sunburn is due to prolonged exposure of the surface of the body to the rays of the sun. Vaseline, unguentine, or mentholatum is soothing. If severe, see a physician.

*Slight Burns or Scalds.*—Severe burns should be under physician's care and only slight ones treated at home. Exclude the air by applying quickly a clean dressing with either sterile vaseline, unguentine, or boric ointment. Cover all parts where the skin is injured to prevent raw surfaces growing together. Never apply cotton to a burn. If a blister has to be opened, prick it at the edge with a sterilized needle and press the fluid out gently with a piece of clean cotton. Some physicians use a freshly made 2½% solution of tannic acid (4 teaspoons of tannic acid to 1 glass of water), and either apply a dressing saturated with it and keep it saturated without removing for 24 hours, or spray the solution directly on a burn at 15-minute intervals, until a firm parchment-like protective membrane is formed (usually in about 18 hours). Healing takes place under the membrane, which gradually drops off.

## POISONING

Send for a physician at once, but do not stand idle waiting for his arrival.

The first thing to think about is usually to get the poison out of the stomach. Large quantities of lukewarm water help to dilute the poison and prevent absorption, as well as tending to produce vomiting. Salt, baking soda, or soap may be added to the water. Sticking the finger down the patient's throat, or tickling the throat with a feather helps to produce vomiting. After vomiting is produced give more fluid until when vomited the fluid comes back as clear as when given.

When the stomach is well washed out, the antidote, if known, may be given. A large dose of epsom salts is good treatment for most poisons.

<i>Poison</i>	<i>Antidote</i>
Acids (carbolic, prussic, sulphuric, nitric) . . . . .	Soda, limewater, milk of magnesia.
Alkalies (ammonia, caustic soda, potash, lye) . . . . .	Acids such as vinegar or lemon juice.
Iodine . . . . .	Starch, flour, bread.

If a corrosive poison such as acid, alkali, or bichloride of mercury has been taken, follow the stomach washing by a soothing drink such as milk or milk and egg.

If the patient shows symptoms of shock, treat as on page 27.

If strychnine has been taken and the fact is discovered immediately, the stomach should be washed out. If not discovered till later, the patient should be kept quiet and no stimulant given. Be sure to call a physician.

## PLANT POISONING OF THE SKIN

This trouble may result from contact with poison ivy, sumac, and other plants. Most of the irritation or poisoning of the skin is due to acid contained in the plant. A treatment should be alkaline. Wash freely with strong soap and water, but avoid rubbing. Apply soap paste over the infected part, or use epsom salts mixed with water, or baking soda mixed with water as a paste. Pat it on. Cover with loose, light dressing. In severe cases consult a physician.

## INSECT BITES

The irritation is due to acid so the treatment should be alkaline in nature. Household ammonia, aromatic spirits of ammonia, baking soda, epsom salts, spirits of camphor, iodine, and soft soap are all helpful, but different individuals react differently to the treatments.

## FOREIGN BODIES IN THE EYE AND EAR

Do not rub the eye. Do not put into the eye a flaxseed; do not try to remove the object with a pencil or other stiff or sharp instrument.

Draw the upper lid down over the lower several times. If this does not help, turn the upper lid over a match and remove the object with a corner of a clean handkerchief. Wipe towards the ear and never towards the nose. Flush the eye with salt solution.

If an insect gets into the ear, point a flashlight into the ear. The insect will often fly towards the light. If not, wash out the ear with warm water. This will often drown the insect and wash it out. A little piece of cotton saturated with gasoline and held close to the ear will anaesthetize the insect, then it can be washed out with warm water. If gasoline is used, avoid an open flame.



*(Courtesy American Red Cross)*

Fig. 26.—First position of operator in effecting artificial respiration. The pressure is exerted slowly for about two seconds as operator moves forward to the position shown in Fig. 27.

## DROWNING

Place patient with the face down, head turned sideways, one arm under head to keep face off the ground (see Figs. 26 and 27). Kneel over the patient, one of your legs between patient's legs, your knees on the line with the patient's hips. Place palms of your hands on patient's back, thumbs parallel to spine, little finger at the edge of the lower rib (Fig. 26). While counting one, two, swing forward slowly, so that the weight of your body is gradually brought to bear upon the patient (Fig. 27). While counting three swing backward so as to remove the pressure, returning to first position. While counting four and five remove hands and rest, then start over again. If possible, have someone rub the patient's legs and arms to stimulate the circulation. Keep the body warm. Give the patient a stimulant as soon as consciousness is regained.

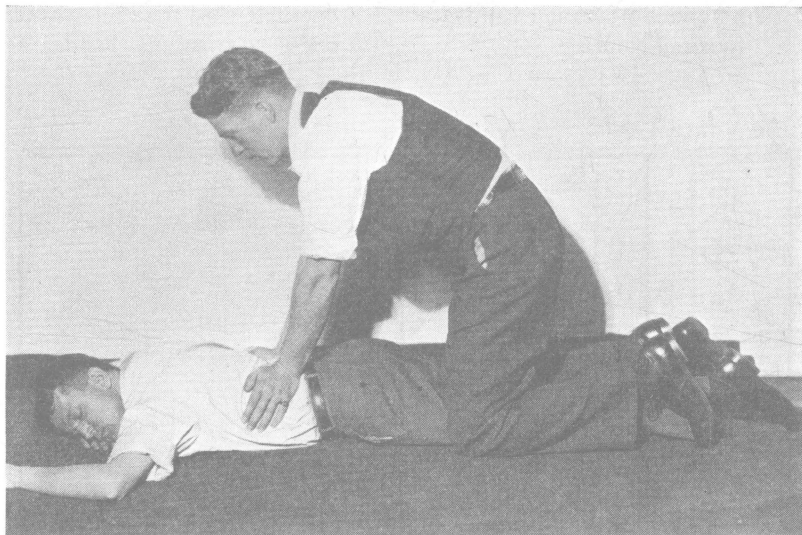


## Transporting the Patient



A stretcher may be made by turning the sleeves of a coat wrong side out then slipping two poles or long strong sticks through the sleeves and buttoning the coat, buttoned side up. Sometimes two coats have to be used to make the stretcher long enough.

A blanket can be made into a stretcher by placing a stick in the middle of the blanket, and folding blanket over it, then placing another stick about



(Courtesy American Red Cross)

Fig. 27.—Second position of operator and patient in effecting artificial respiration. The operator is throwing his weight vertically on his wrists, thus putting pressure on the thorax and abdomen of his patient.

20 inches from the first one, and folding the blanket over that again with the folded side up, so that the weight of the person will hold it in place. Before using the stretcher always test it by placing a well person in it.

A seat can be made by having one person grasp her own wrist with one hand and with the other hand the wrist of the other person, who does the same thing. A three-handed seat can be made by having one person grasp her own wrist with one hand, with the other hand the wrist of her partner, with the partner using one hand to grasp the first person's wrist, and with the other hand her upper arm to form a back rest for the patient.

A patient can be carried by having one person grasp the patient with both hands under the arms, and the other person grasping the patient under the knees.

## Methods of Making and Applying Bandages



Bandages are used to give support or to hold a dressing in place. The most commonly used are the triangular bandage, the roller bandage, and the 4-tail bandage.

The method of cutting yard-wide material to get a supply of triangular and 4-tail bandages is shown in Fig. 28. From two yards of material one may cut the following:

- |                                 |                                     |
|---------------------------------|-------------------------------------|
| 8 nine-inch triangular bandages | 4 one-half-yard triangular bandages |
| 2 four-tail bandages            | 2 one-yard triangular bandages      |

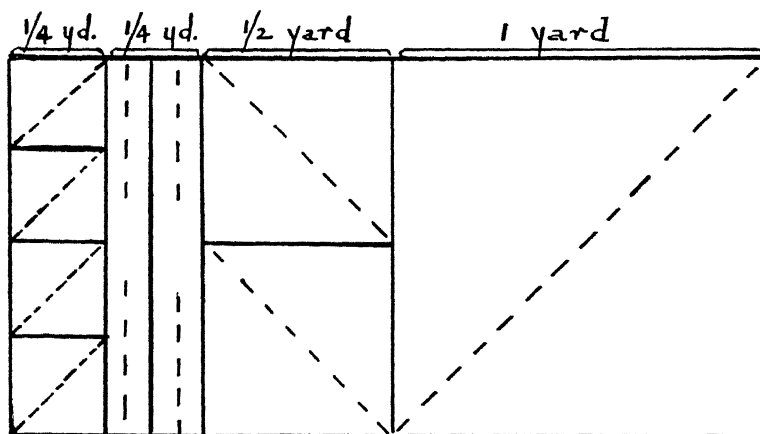


Fig. 28.—Various sized bandages that may be cut from two yards of material.

### THE TRIANGULAR BANDAGE

This may be of various sizes. It is in the shape of a triangle, the longest side of the bandage being on the bias. It may be made of unbleached muslin (Fig. 28) or old sheeting. A bandage cut out of a yard square may serve as a sling, cravat bandage, elbow or knee bandage, or as a head, foot, or hand bandage.

*Sling.*—For a sling, place the bandage on the shoulder opposite the sore arm, with a corner of the bandage toward the elbow of the injured arm and the longest part parallel to the well arm. Fold over the arm, bringing the lower end up and pin back of the neck (see Fig. 29).

*Shoulder, Chest, or Hip Bandage.*—Slit the large triangular bandage half way from the point towards bias line (Fig 30a). Place the center of diagonal

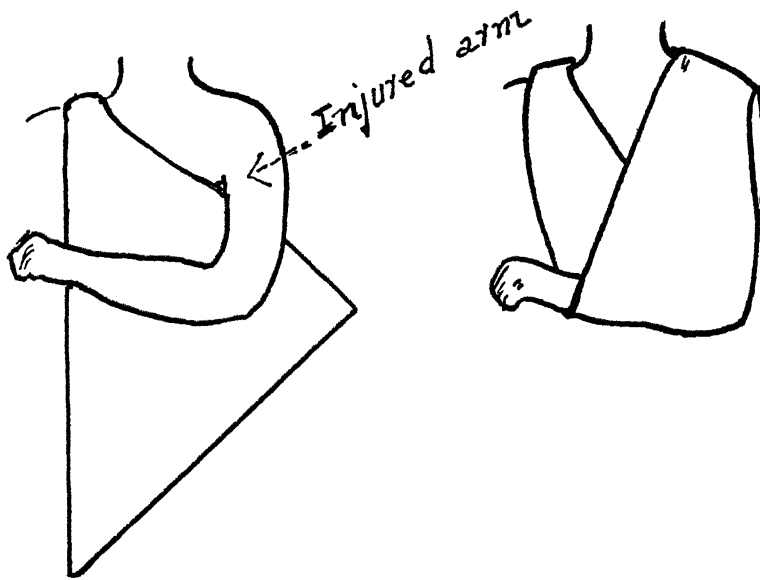


Fig. 29.—Method of applying sling to support an injured arm.

line over injured shoulder; bring ends under opposite arm; pin firmly together. Bring the slit ends under the arm, cross them and tie firmly over the arm (Fig. 30b).

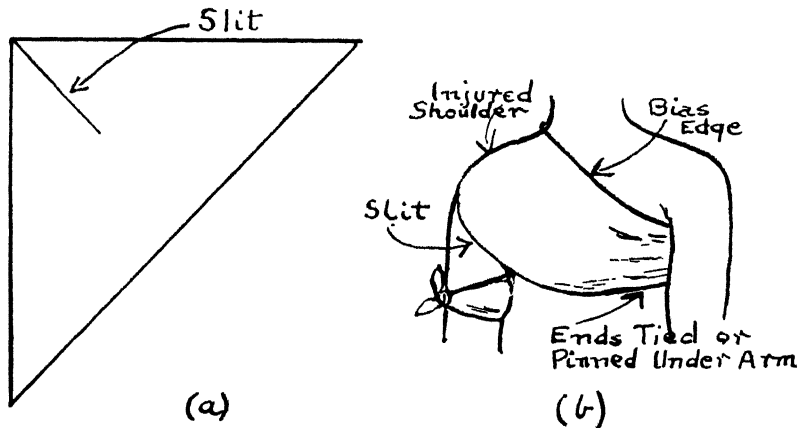


Fig. 30.—Triangular bandage for injured shoulder.

If it is necessary for both sides of the chest to be bandaged, two of these bandages may be used, one on each side as for shoulder. For a hip bandage the same method is used, the bandage being placed on the hip and the slit ends tied around the thigh.

## CRAVAT BANDAGE

For a cravat bandage fold the triangular bandage from point towards bias, so as to make a long, narrow, bias bandage (Fig. 31). This bandage may be used as a sling over splints, or as an arm, elbow, knee, head, or ankle bandage. Because of bias it is easy to make this bandage fit snugly over rounded surface. To bandage knee or elbow, place the center of the bandage over the knee or elbow, bring one end around above and one below, tie ends on the inner side.

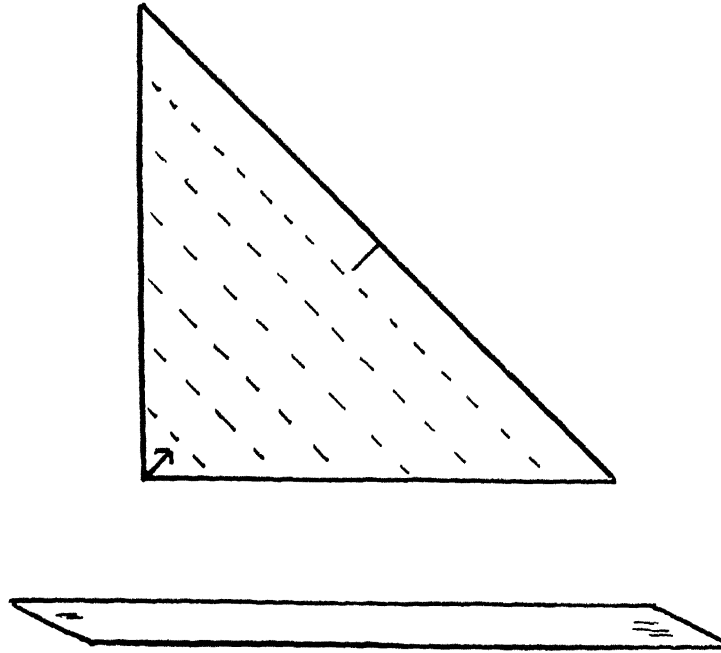


Fig. 31.—A cravat bandage is a triangular bandage folded as indicated, so as to make a long, narrow, bias bandage.

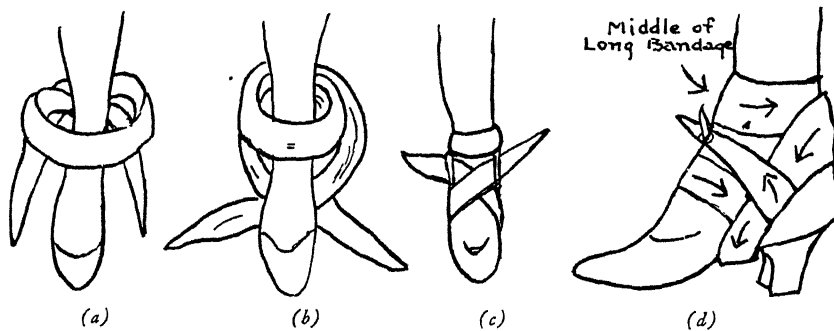


Fig. 32.—Procedure for tying ankle bandage over a shoe.

*Ankle Bandage.*—For an ankle bandage over the shoe (Figure 32, *a*, *b*, *c*, and *d*), put the middle of cravat bandage at front of ankle, bring ends to back and cross them behind heel (*a*); bring ends down under the instep (*b*); lift ends and cross on top of instep and push each end under the strip of bandage that crosses on each side of foot from back of heel to instep (*c*); pull end to front of ankle and tie firmly (*d*).

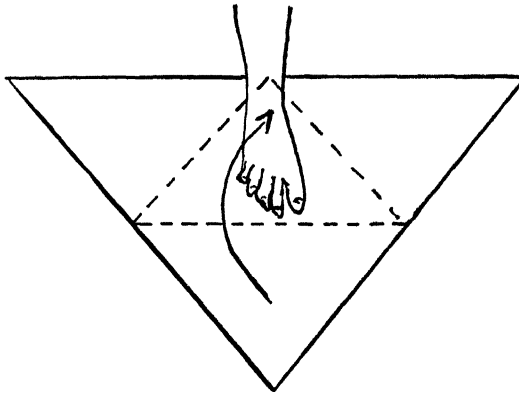


Fig. 33.—Foot bandage, fold point over the toes, then cross ends and tie.

*Foot Bandage.*—For a foot bandage, place the foot on the bandage, with the bias over the heel (as shown in Fig. 33), then fold the point over the toes and instep and fold in fullness comfortably, cross the ends over instep, bring behind the ankle, again cross the ends, and tie in front of ankle. (Fig. 33).

*Finger and Hand Bandages.*—As a finger bandage, place the sore finger on the bandage, turn point over the top of finger, fold ends, cross towards palm; cross ends again, bring them to the top, and tie. This bandage is very easy to apply and stays firmly in place (Fig. 34).

If four fingers have to be bandaged, a large bandage is used in the same way as for one finger (Fig. 35).

For a whole hand a larger bandage may be used. The complete bandage looks like Fig. 36.

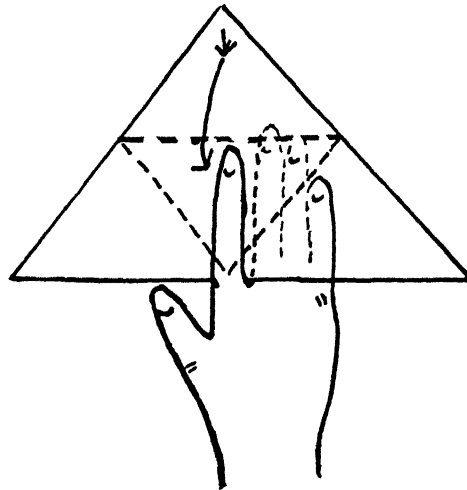


Fig. 34.—Bandage for one finger.

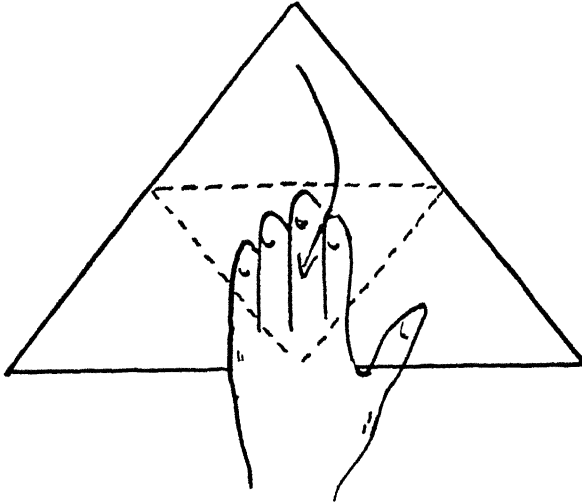


Fig. 35.—Bandage for four fingers.



Fig. 36.—Triangular bandage applied to hand.

*Head Bandages.*—As a head bandage place triangular bandage over the head with the point in front or on side, depending on the location of the injury.

Bring the ends around the head and over headpiece, and either pin or tie; lift point of headpiece and tuck into the side creases (Fig. 37).

The crossing of the bandage, the use of pins, or a knot should never come on the dressing. (Figs. 39 and 40 show other methods of fastening head bandages.)



Fig. 37.—Head bandage.

#### THE 4-TAIL BANDAGE

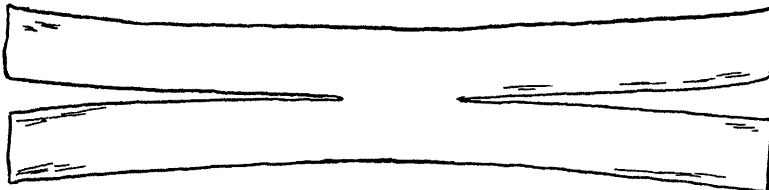


Fig. 38.—Cutting out a 4-tail bandage.

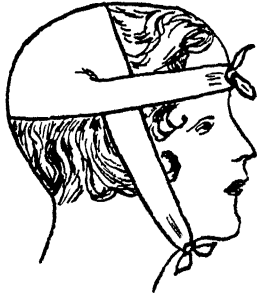


Fig. 39.—Four-tail bandage applied to head.

The 4-tail bandage is a straight piece of cloth with both ends split, leaving a space in the middle 6 to 8 inches long (Fig. 38). The length and width of the bandage depend on where it is intended to be used. Figs. 39 and 40 show two ways of using this bandage.

The center non-split part of bandage is placed over the dressing, the ends are crossed, lower ends brought up and tied, upper ends brought down and tied (Fig. 40). This bandage is very useful as chin, head, ankle, knee, or elbow bandage.



Fig. 40.—Chin bandage ready for tying, at left, at right, bandage tied in place.

#### ROLLER BANDAGES

Roller bandages may be of various widths and lengths, according to where they are to be used. They can be bought at the drug store, or prepared at home. The material for home-made bandages should be sterilized by boiling and ironing. If the bandages have to be pieced together they should be sewed flat by laying one end on top of another and then stitching through.

A narrow bandage is usually used over a finger by placing it first up and then over the finger and then circling the finger with the bandage from down up and down again, and then bringing it over the top of the hand back of the finger and looping it around the wrist.

For a sprained ankle a 2-inch bandage is usually used. The ankle is held in a comfortable, natural position, the bandage is rolled around the instep a

couple of times and then crossed over the instep and around the ankle; down again over the instep and around the ankle, trying to place it snugly and a little higher with each turn.



Fig. 41.—Method of applying roller bandage to sprained wrist.

For a sprained wrist, the roller bandage is first wrapped snugly around the wrist a couple of times, then brought over the palm and between thumb and finger (Fig. 41). Continue bandaging until a firm support is given.

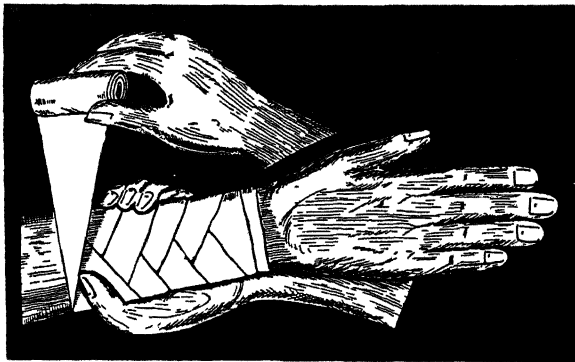


Fig. 42.—Reversing a roller bandage on the arm.

A roller bandage often has to be reversed (as shown in Fig. 42), as a straight bandage does not always fit firmly and snugly around a surface without being made on the bias when more elasticity is needed. Roller bandages are fastened with a safety pin, or with adhesive,

or the ends split and then tied around. The last is not the most comfortable way.