

THE FIRST CLASS TESTS

Before being awarded the badge of the First Class Scout a Second Class Scout must have attained the age of 14 years, and satisfied his Scoutmaster that he can re-pass the Tenderfoot and Second Class Tests; and must pass the following tests.

TEST NO. 1

Must be able to re-pass the Second Class Tests.

TEST NO. 2

Save money regularly by depositing in a bank account (a sum consistent with his opportunity for regular saving), and demonstrate thrift through the proper care and maintenance of his personal belongings.

You will not regard this test as a sort of "admission fee;" something to be done merely to meet the requirements. It must represent money earned and saved,-put aside. Proof that you have continued to live up to the 9th Scout Law, and have now fully developed the habit,-not of spending all your money as you earn it, but of regularly banking a certain amount, or certain percentage.

In other words, in money matters you have developed self-control, self discipline. And the real, down-to-earth value of this test! Because the "business side" of every man's life is based on this ability to "save against a rainy day" and in order that he may take advantage of "good buys" when they come along,-including the buying of a town or city home or a farm. Sensible thrift and wise spending always has marked the chief difference between success and failure-not only in business but in the trades and professions and on the farm.

The Amount Regularly Saved.-This is not at all so important as the determination and sometimes the self-denial put into it. Like the widow's mite, one boy's banking 25 cents may mean much more than the \$5 deposited by another lad. And quite possibly the "25 cent boy" will be the one out in front ten, fifteen or twenty years from now, perhaps with the "\$5 boy" working for him.

So, make it a point to pass this test absolutely on accomplishment and merit.

Remember too, that unless you show your Scoutmaster that you are tak-

ing proper care of your uniform and other personal belongings, he will not pass you on the savings requirement. alone. Care of your things is as much true thrift as regularly banking some of your allowance or earnings.

TEST NO. 3

Be able to explain the functions of the principal organs of the body.

Principal Organs of the Body

Bones.—The framework.

Brain.—The “control.”

Nerves—For carrying messages between the brain and the various parts of the body.

Stomach and Bowels.—For digesting food and removing waste substance from the body.

Liver—For storing food for the muscles.

Pancreas—For supplying the strong digestive juices.

Heart—For pumping blood through the body.

Spleen—For destroying old blood cells.

Lungs—For supplying the blood with fresh oxygen from the air.

Kidneys and Bladder—For removing and temporarily storing the waste fluids of the body.

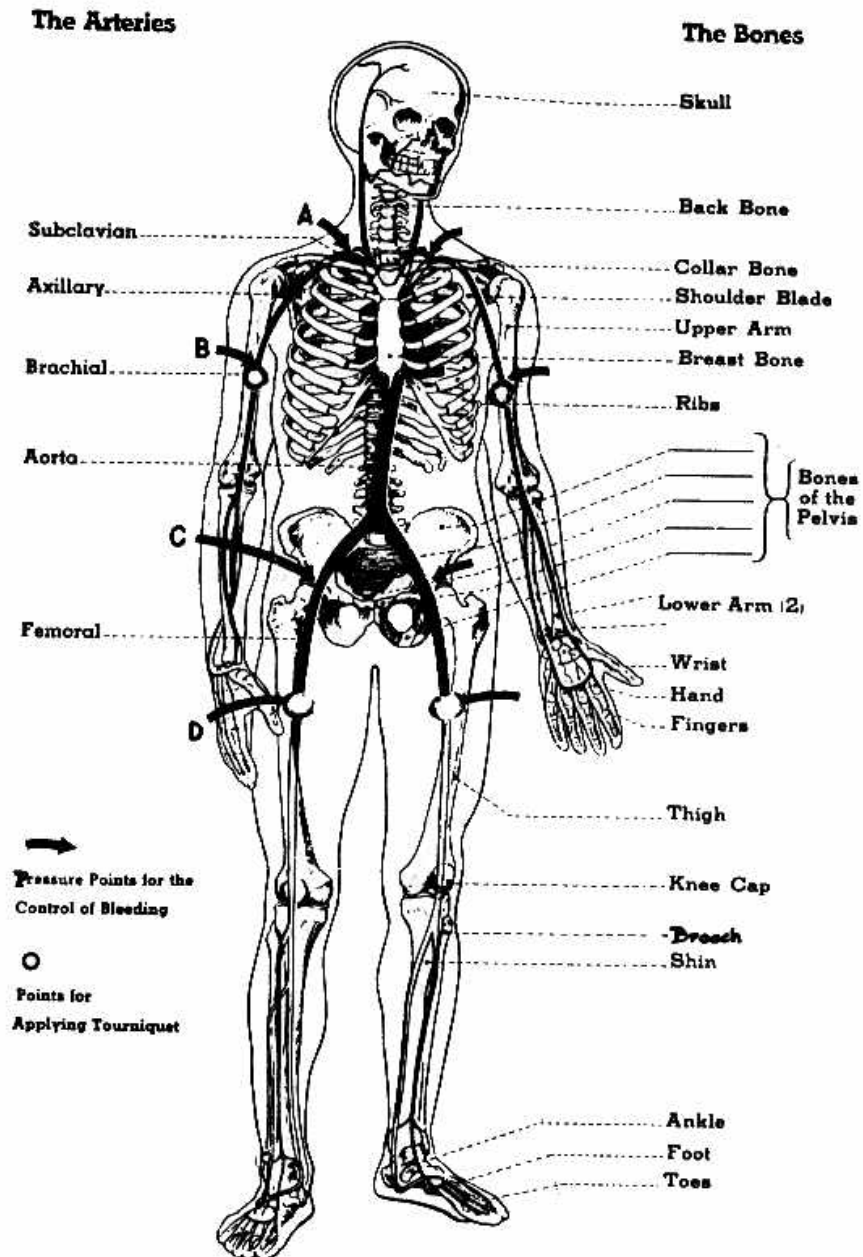
As a whole the human body may be compared to a motor car or steam engine, i.e. an assemblage of different parts fitted together and working together as one machine. The framework is held together by joints which can be bent or moved by the muscles. This permits us to move about and do things.

The muscles system therefore may be considered as the engine which drives us along.

Engines require fuel. The fuel of the human engine is food. When we eat our breakfast our teeth chew (or should chew) the food into small pieces, and mix it up with saliva from the mouth. We swallow the chewed mouthful, and it descends into the stomach, which is just like a small churn.

In the “churn” the food is all mixed up, digestive juices are added, and the breakfast gradually changes into a creamy fluid like condensed milk.

At the lower end of the stomach is a small ring-like valve. This valve opens when the food is properly churned, and allows a small portion to pass into the first part of the intestine, or “small bowel.”



The bowel is like the inner tube of a bicycle, and there are 22 feet of it all curled up inside your "tummy." Here the food is further digested by strong juices from the pancreas, and absorbed into the blood. Round the bowels are hundreds of small blood vessels, into which the food is taken, to be carried to the muscles, brain, bones and all the other parts of the body.

Now the muscles require food every time they move; and since we cannot be eating all day, a portion of the food is stored up in the liver in the form of starch and sugar.

After the small bowel absorbs all the good from the food, the waste material passes on into the "large bowel," which is about the size of a motor car inner tube, and 6 to 8 feet in length. The material is still in a watery condition, and in the large bowel the water is extracted and the material left in a semisolid state like soft clay. This then is passed out of the body.

All the water which the large bowl collects is taken by the blood to two little organs called kidneys, along with a lot of waste products of the liver and muscles.

The kidneys are like two clever little filters. They know just what substances to keep back in the blood, and what substances to collect and pass down through two small pipes to the bladder. When the bladder is full, a message is sent to the brain by the nerves, and another message is sent from the brain to the bladder telling it to empty itself.

We all know that a fire will not burn without a gas called oxygen, which is present in the air. In the same way we cannot burn the fuel in our muscles or digest the food in our stomach without oxygen, so we draw air through our nose down the windpipe into our lungs.

Lungs are like very fine sponges, and the air goes into the little chambers. Round the chambers are fine blood vessels, in which flow small red blood cells shaped like discs. These little blood cells take up oxygen, and become a bright red colour. That is why blood in the arteries is such a bright red.

You will have seen by now that the blood has to carry all sorts of things round and round the body, just as trains and motor vans carry things all over the country. The blood is kept circulating by the heart.

The heart is a hollow muscle, divided into four chambers with valves (like those in water pumps) which only allow the blood to go one way. So the blood passes from the lungs into the top left chamber of the heart, from there through a valve into the bottom left chamber, and from there is "pumped" by the heart muscles into one big artery, which divides into many more going all over the body-to the brain, muscles, bones, stomach, bowels, etc.

The arteries keep on dividing and getting smaller, until they are tiny little pipes called capillaries.

The blood now returns, first through the small venous capillaries, then by little veins, which all join up into larger veins, and finally into one big vein, which is connected to the top right chamber of the heart.

From this chamber the blood passes into the bottom right chamber, and

from there is pumped through the lungs, and then back to the top left chamber, ready to begin all over again.

The right and left chambers of the heart work together, the left side pumping blood to the body at the same moment as the right side is pumping blood to the lungs.

Each “pump” causes a wave to pass along the arteries. This is what we feel at the wrist when we “take the pulse.”

New blood cells are always required to replace old ones, which are removed in passing through an organ called the spleen. The spleen is located on the left side of the abdomen, at the top, just behind the stomach. The iron from the dead red blood cells goes to the liver, where it is stored, and used again.

Now a motor car running along the road without anyone steering it would soon smash itself. Likewise our body without a brain to control it would quickly be in trouble.

The brain is placed inside a very strong bony box called the skull, which protects the delicate brain cells from harm. From the brain the spinal cord passes down inside the bones of the spinal column.

From the brain and spinal column millions of nerves pass, like telephone wires, to every single organ and part of the body. Messages continually pass along these nerves. When we walk or eat or laugh or think, or stand still doing nothing, these messages still go to and from the brain. Even during sleep this wonderful telephone system is in operation, regulating our breathing and our heart beats, and keeping our internal organs in proper working condition.

The Wonder of It.-Does not this reading of the structure and working of the human body make you realize what a marvellous machine your body is, and how you should take care of it?-and most of all, make you think with awe and reverence of the knowledge and wisdom of the Great Master Mind, God, who created it!

TEST NO. 4

Know the position of the main arteries (names unnecessary), and be able to stop bleeding.

How to Stop Bleeding.-Bleeding from an ordinary cut usually may be stopped by digital pressure, that is, pressure with the thumb or fingers directly over or on either side of the cut until the blood has coagulated and sealed the wound. A suitable bandage then is applied (as learned in the Second Class Tests).

Arterial bleeding, however, is a much more serious matter, and may call

for pressure at a certain "pressure point," or the use of a tourniquet.

A severed artery is indicated by bright red blood coming in spurts with each beat of the heart. Immediate action is necessary. First apply pressure with the thumb or fingers directly on the bleeding spot (except where there also is a bone fracture.) Use the free hand to make a firm pad (with a clean handkerchief or other piece of linen), and place the pad beneath the thumb, being careful in doing so not to release the pressure. Tie the pad snugly with a handkerchief or narrow bandage, and place the limb in an elevated position.

Where this treatment is not effective in stopping bleeding, use pressure above the wound; that is, on the side nearest the heart.

The illustration on page 73 shows the location of the main arteries and the points at which pressure may be effectively applied. It will be noted that there are only a few points at which the arteries can be reached and pressed against the bone. In other cases it will be necessary to use a tourniquet bandage encircling the limb.

In the leg, the artery descends about in line with the inner seam of the trousers from a point half way above the knee. The course of the larger artery in the arm follows the inside of the large muscle of the upper arm, about in line with the coat-sleeve seam.

The Tourniquet.-A tourniquet is a narrow cloth, knotted or with a small firm pad; used to stop bleeding from a cut artery in a limb. The tourniquet is placed in position around the affected limb so that the pad or knot is directly over the pressure point-be sure that the pressure point is one between the wound and the heart. The band is then tightened sufficiently to arrest bleeding from the cut artery but not enough to prevent blood returning to the heart through the veins.



The most commonly used tourniquet is a handkerchief, strip of cloth or narrow bandage (folded triangular bandage) in the centre of which an overhand knot is tied. Place the knot on the pressure point selected, encircle the limb with the bandage and tie with a half reef knot. Lay a short stick on the half knot and over it tie a reef

knot. Twist the stick to tighten the bandage and thus press the pad on the pressure point to stop the flow of blood.

Note in the illustration on page 54 the points where a tourniquet may be applied-at B and D.

A tourniquet should be loosened slightly every twenty minutes, in order to

let a little fresh blood into the affected part. Otherwise the limb below the tourniquet will turn dark, and gangrene may set in. Limbs, and even lives, have been lost through failure to observe this rule. A tourniquet should only be used when there is more than one patient, or when direct pressure fails.

During instruction or tourniquet practice the bandage should not be tightened more than momentarily.

TEST NO. 5

Be able to recognize and apply first aid to fractured arm, forearm and collar-bone, and know the importance of not moving suspected fractures.

Fractures:-A fracture is a broken bone. There are six types of fractures classified in two ways:

(1) According to the condition of the surrounding flesh:-

Simple:-When the bone is broken with but slight injury to the surrounding flesh.

Compound:-When the fracture includes a wound allowing germs to get to the seat of the injury. The fractured bone ends may or may not protrude.

Complicated:-When the bone is broken and in addition there is injury to some internal organ such as the brain, lung, spinal cord, etc.

(2) According to the injury to the bone itself:-

Comminuted:-When the bone is broken into several pieces, as from a crush.

Greenstick:-In children, a limb fracture is likely to be a Greenstick Fracture; that is, the bone may be bent and cracked without being completely broken across.

Impacted:-When the broken bone ends are jammed in together.

Fracture Signs and Symptoms.-When a Scout finds a person who has fallen, or been struck by a car, or otherwise come to grief, and if there is no serious bleeding to be first dealt with, he will endeavour to discover whether any bones have been broken. If bone ends show through the flesh he will recognize a compound fracture.

Otherwise he will look for the following signs:

1. **Pain.** If the patient is conscious he will complain of pain in one spot.
2. **Uselessness of Limb.** The limb cannot be put to its normal use.
3. **Alteration in Shape.** The limb may be bent, twisted, or shortened, so

that when compared with the sound limb it appears of unnatural shape.

4. **Swelling.** Generally present very soon after the accident, due to effusion of blood and contraction of the muscles; this making the bones over-ride.

5. **Irregularity.** If the bone is close to the skin the fracture may be felt.

6. **Unnatural Mobility.** When the limb is handled (which never should be done unnecessarily) it gives where, if uninjured, it would not be movable.

7. **Crepitus.** You should know this sign, but should never try to obtain it for fear of aggravating the injury. It means the "gritting" which may be felt or heard when broken bone ends are rubbed together.

Signs 6 and 7 will of course not be present with impacted fractures, since the bones will be wedged forcibly together. (This usually happens when a person has fallen from a height and landed with all his weight on an outstretched arm or leg.)

Fracture Appliances.-In the treatment of fractures doctors use splints,, that is, supports made of various materials adapted to fit limbs, and applied so as to render the injured parts immovable. When surgeon's splints are not available, substitutes may be improvised of: Pieces of wood, skis, umbrellas, folded newspapers, cardboard, corrugated packing paper, Scout staves, etc.

These should be padded by wrapping them with cloth or other soft material; the object being to avoid their hurting the patient when put into place.

To fix the parts, if bandages are not readily at hand, use temporarily: Scout neckerchiefs, handkerchiefs, belts, neckties, braces, shoe laces, stout string or cord, -strips of cloth, etc.

Note. A modern practice is to bind the injured limb, well padded, to the body. For instance, a broken leg can be immobilised by being tied to the other leg. A broken arm may be bound to the body. Splints should only be used when considered essential.

General Rules for Treating Fractures.-

1. Send for a doctor.
2. Treat doubtful cases as fractures.
3. When there is bleeding, attend to this first, think about splints next.
4. Prevent further injury by supporting the limb and applying temporary splints.
5. Do not move the patient until splints have been firmly fixed.
6. Reduce shock by keeping the patient warm.

7. Do not apply a splint over a wound if this can be helped.
8. Tie all knots (reef knots) on the splint.



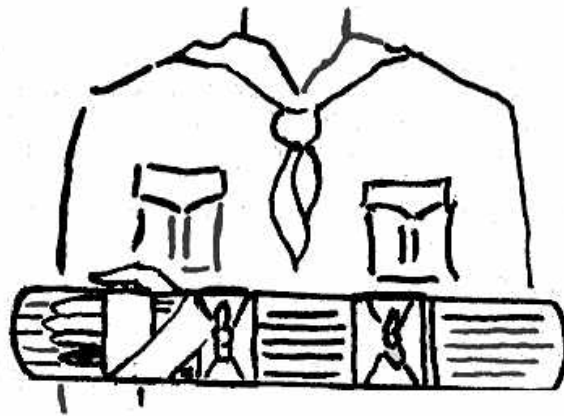
Fractured Arm Bone.— All the usual signs of a fracture previously mentioned will be present. These having been noted, and while awaiting the arrival of a doctor, proceed to apply splints, — first, one on the inside of the arm extending from the armpit to the elbow, and one or more (two are illustrated) on the outside, from shoulder to elbow.

Secure the splints in place by two narrow bandages, one above the point of fracture, the other below. Make the knots over the splints (as illustrated). This done, apply a small arm sling, care being taken to leave the elbow unsupported, so that the weight of the arm may tend to overcome any possible overlapping of the broken bone ends.

Fractured Forearm.-There are two forearm bones (and only one in the upper arm), and both of these forearm bones may be broken. In case of a double break a resulting deformity is easily seen.

When but one bone is fractured, an irregularity may be felt by gently passing the hand over each bone separately.

To apply the necessary splints, first gently bring the forearm up at right angles to the arm, keeping the thumb upwards, the palm of the hand towards the body, and the hand a little higher than the elbow.

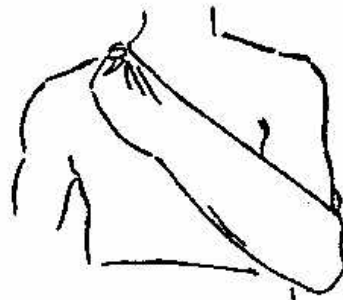


Now apply two broad splints, one on the inside and one on the outside, from the elbow to just below the wrist. Secure with narrow bandages, making sure the thumb is left free, and finish with a large arm sling.

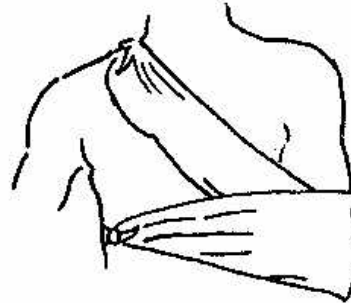
Fractured Collar Bone.-The two collar bones can be felt above the chest on either side of the neck, as narrow curved rods about the thickness of a finger. Their inner ends rest upon the upper part of the breast bone, and their outer ends join the shoulder blades. Their purpose is to keep the shoulders thrown back.

A collar bone fracture usually occurs near the middle of one of the bones.

The symptom is a forward droop of the shoulder, and the patient will be noticed to incline his head toward the injured side and probably will support the arm on the injured side with the opposite hand, in an effort to alleviate



St. John Sling



Fractured Collar Bone

the pain. On passing your fingers gently along the bone you will feel the slight irregularity under the skin.

Procedure: Apply a St. John Sling or large arm sling if necessary, to the arm on the injured side. To apply a St. John sling, place the forearm diagonally across the chest with the fingers pointing to the opposite shoulder. Place the triangular bandage over the arm, with the point to the elbow and one end on the shoulder of the uninjured side. The upper side of the bandage should be parallel to the forearm.

Pass the base of the bandage well up under the forearm. Carry the lower end across the back and tie the two ends together in the hollow just above the collar bone of the uninjured side. Be sure the arm is supported in a well formed "pocket." Tuck in the point of the bandage around the front of the elbow and carry the fold thus formed to the back of the arm and pin. The pulse at the wrist must be frequently checked when using this sling.

Then place a broad bandage over the elbow and carry the ends around the body. Tie on the opposite side at the front.

Other Fracture Cases.— The preceding simple fracture tests—"walking cases"—complete the requirements in this subject for the First Class Badge. Scouts with this limited training are not expected to deal with more serious fractures, such as those resulting from motor accidents, falls from heights, etc., for the reason that the moving in any way of such victims may cause puncturing of the lungs or arteries, or other serious injury by needle-sharp fragments of broken bone.

In such fracture cases, usually lying prostrate on the ground, the victim should be left exactly as found, simply covered and kept warm until the arrival of a doctor or ambulance.

If circumstances do compel moving, however, as on a much travelled highway, or at a blind curve, this is done by carefully slipping an overcoat or car

rug beneath the victim, and thus drawing him carefully to one side.

TEST NO. 6

Demonstrate the proper method of dealing with the following emergencies: Fire, Drowning, Fainting, Gas Suffocation, Frost-bite, Electric shock, Breaking through ice.

Dealing with Fire.— Fire problems of course vary in countless ways, depending on the type of buildings involved, whether in city, town, village or country, the fire fighting apparatus available, near or distant, etc. Where there is no fire brigade, or where it takes the firemen some time to reach the scene, much can be done by Scouts, especially by an efficient Scout Patrol.

The following suggestions will apply as they fit circumstances:

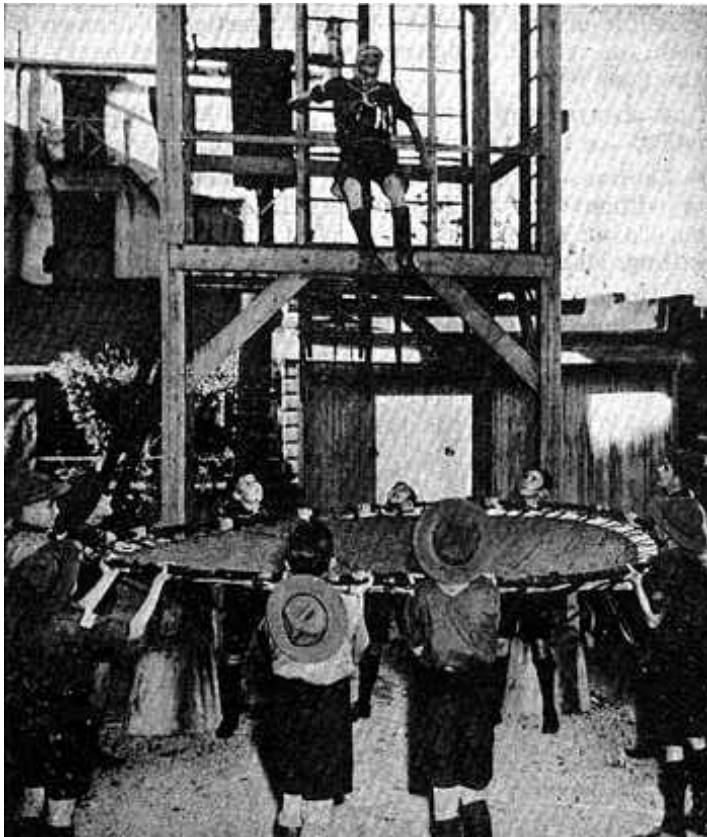
First warn the building occupants, if any.

Send in a fire alarm from the nearest alarm box, or by telephone. If the former have someone remain at the box to direct the firemen, if necessary.

Arrival of the firemen probably will end the opportunity for usefulness. However, if you see an opportunity, offer your services to the Fire Chief. Nothing should be done without an order from the Chief.

The first move at a fire is to rescue persons who may be unable to escape unassisted. This accomplished, try to put the fire out or prevent its spreading.

Rescue.— Run for ladders. If unavailable, improvise a jumping-net with one or more strong blankets or sheets. (Scout Patrols should practise this.) As many Scouts as possible should hold the net. If a blanket is used three or four inches all round the edges should be rolled back to provide hand holds.



A Jumping Net.— The correct technique with a jumping net is to place the holders at approximately even distances about the net, each grasping very firmly, palms up; the net at chin level, and not more than two or three feet out from the house wall, -without regard to the height from which the person is to jump.

Instruct the jumper to leap in a half-sitting position, elbows out, and the holders to keep their eyes on the jumper, ready to move the net if necessary to catch him in its centre. If available, a mattress, loose bed clothing, hay or straw should be placed on the ground beneath the net.

Entering a Burning House.— Care must be taken in entering a burning house. Although earlier advice was to crawl as flat as possible on the floor, the present practice of firemen is to crouch, the reason being the possible presence of heavy gases at the floor level.

And always keep between the fire and an exit, -a door or window, -so that you may not be trapped.

A Caution.— Within a burning house never open a closed door without first feeling the panel. If burning hot, do not open. To do so may release a blast of superheated air that is killing. Many lives are lost in this way.

An Unconscious Person.— Within a burning house never open a closed door without To rescue an unconscious person from a smoke-filled room the quickest method is to grasp one of the victim's wrists, throw it over your shoulder, and drag him out. Another method, in the case of a man, is to pull his coat or shirt up over his head, turn him on his back, and drag; or simply pull the coat out beneath the head (to protect it), and drag by the feet. In particular cases other methods will suggest themselves to the cool-headed, resourceful Scout.



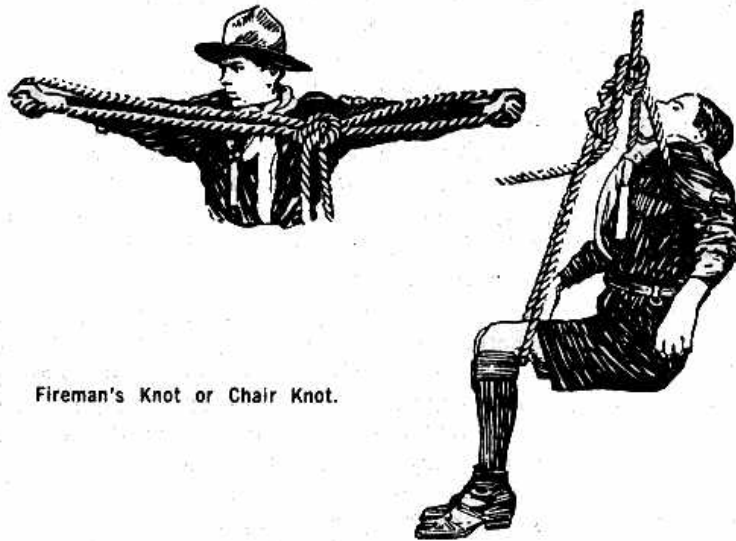
The Fireman's Lift.



Where time and heat and smoke conditions permit, the Fireman's Lift (as illustrated) may be used by a strong Scout. It should occasionally be practised.

Lowering From a Window.— Within a burning house never open a closed door without A good knot for lowering a person from a window is the

Fireman's Knot, or Chair Knot. To tie this, first make a double overhand knot, pull the loops through, one loop about two or three feet, the other three or four feet, according to the size of the person to be lowered. Over each loop pass a half hitch, as in making a sheepshank; and slip the hitches down to the knot. (See above.) The smaller loop is placed under the victim's armpits, and the larger one just above the knees.



Fireman's Knot or Chair Knot.

The knot should be made in the middle of the length of rope, so that someone on the ground may guide the person safely down by means of the end.

After lowering the rescued person, to escape yourself, tie the rope end about the leg of a bed or other heavy piece of furniture (round turn and two half hitches), and descend hand-over hand, facing the wall, feet against it. Do not slide; this may result in severe hand burns, from the friction.

Improvised Rope.— Within a burning house never open a closed door without -If necessary to improvise a rope, tear up bed sheets along the warp, that is, the long way, and tie the lengths together with reef knots.

A Bucket Line — Within a burning house never open a closed door without Scouts in localities lacking fire fighting apparatus should practise the forming of bucket lines, and the rapid passing of pails of water in one direction and empty pails in the other. The throwing of water from a pail also should be practised, in order to cast the water accurately. This is not by any means easy, especially if a wind is blowing.

To Prevent Spread of Fire — Within a burning house never open a closed door without Clear away all inflammable material in the path of the fire, including small buildings if necessary and possible. This work should be done at a proper distance from the fire, because if there is not sufficient time to clear an area, the labour will be lost, and a fresh start necessitated.

If not possible to clear away surrounding structures, keep them soaked with water. Blankets spread on a roof and kept soaked provide effective protection.

If fighting ground fires use a shovel, an old sack partly filled with wet leaves, green boughs, etc. Never stamp on fire or coals with your shoes.

A Nova Scotia Example — Within a burning house never open a closed door without From a newspaper item: “Timely arrival of a number of Boy Scouts who were on a hike visiting the farm of Doug Smith probably saved considerable loss in valuable wood property when they extinguished a fire yesterday on the outskirts of the farm. While some of the boys secured branches and beat the fire out, others dug ditches and prevented the fire sweeping up an embankment to the woods.”

Fire in Your Home — Within a burning house never open a closed door without If a small fire such as may occur in a kitchen, throw a rug or woolen blanket over the flames, and soak with water. If too large for this, give the alarm, and close all doors and windows, to prevent the flames being fanned by the wind.

Clothing on Fire — Within a burning house never open a closed door without The victim of this type of accident usually is a woman or a child. The first thing you do is get the victim down on the floor, instantly. Never permit the person to run. If a rug or loose carpet is within reach, wrap this tightly about the person, and roll them over and over on the floor. If a rug or carpet is not at hand, just roll the burning person about, and endeavour to choke the flames in the folds of his clothing.

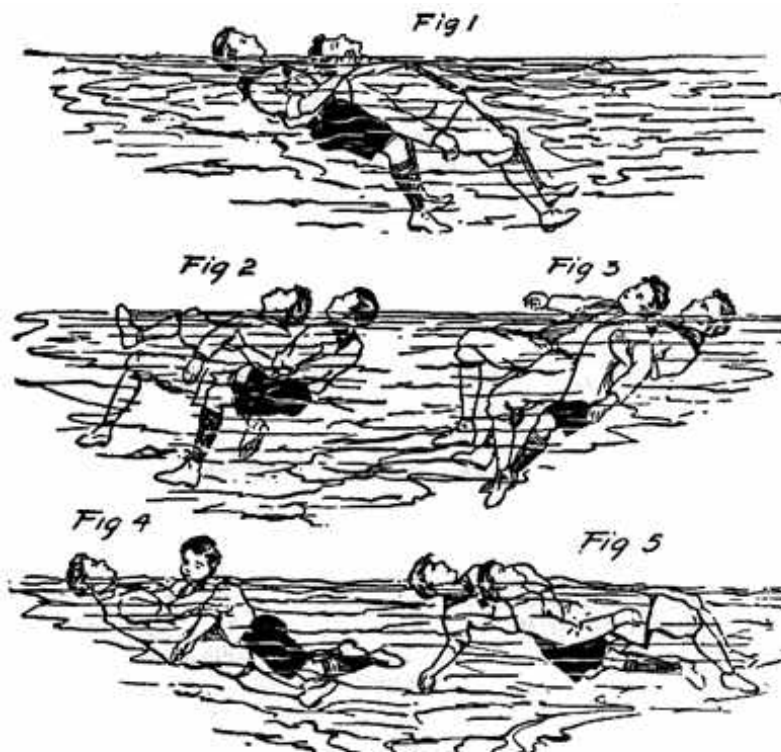
Treating Burns — See page 42.

Rescuing Animals — As a rule horses or other animals are so terrified by fire that they will do nothing to save themselves, and will resist efforts to lead them to safety. Blindfold them with a bag or blanket, and lead, or back them from the building.

Drowning Accidents — Every Scout swimmer should practise life saving. With training, it is not difficult. A moderately strong swimmer can save a drowning person if he knows how to go about it.

The secret of success is to make the water carry the weight. A very slight effort in the water will keep either yourself or another afloat, and the body of an unconscious person can be brought to the surface with comparatively little effort.

First Step.-As a first step in learning life saving the Scout should acquire a special back-swimming leg stroke, with the legs kept well beneath the surface, to avoid kicking the person being saved. In practising this stroke the arms should be folded across the chest, and the legs from the knees down kept in continuous motion with short, sharp semi-circular kicks that never bring the legs actually together. When you have mastered this, practise with the arms outstretched before you, trailing on the surface, and with the head well raised. Then try supporting someone.



To do this, place a hand on either side of the subject's head, the hollow of the hand over the ears, fingers extended along the jaw. (Fig. 1, next page).

Remember that to tow a person is not enough. You must keep his nose and mouth above the surface. Your subject will cease to struggle if he finds himself progressing shoreward and his nose and mouth above water.

Another way to support a person when on your back is to grasp him under the biceps (Fig. 2), the fingers gripping the upper arm muscles, palms up, thumbs out; or under the armpits (Fig. 3).

Fig. 5 shows an excellent one-arm hold, the rescuer's left arm over the victim's left shoulder, across the chest, and gripping him beneath the right arm.

By any of these methods the drowning person is held in such a position that he cannot seize you; and should he struggle unduly it is easy to get clear of him until he swallows enough water to render him more easily handled.

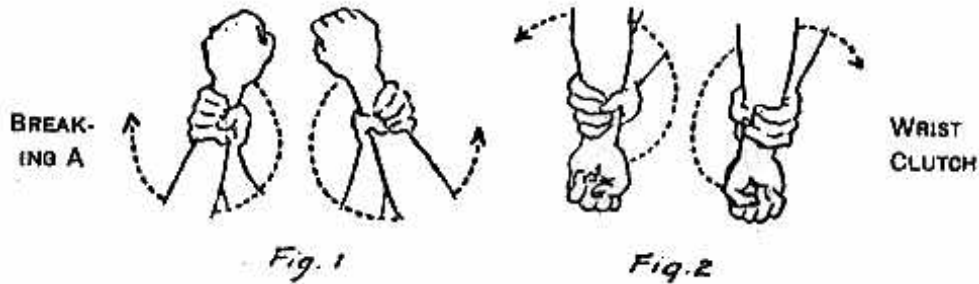
Helping Another Swimmer.-When another swimmer has become exhausted, or is taken with stomach cramps, but remains cool, he may be helped as in Fig. 4. Direct him to lie on his back; face him, and have him place his hands lightly against your shoulders, close to the neck. Then simply swim shoreward, using the breast stroke.

In all cases this is the easiest method of rescue, where the coolness of the subject makes it possible

When Clutched.-If care is used in approaching a frightened or drowning person there is little danger of being clutched. Your life saving practise, however, should include the breaking of "death grips." For this possible situation keep always in mind that a drowning person grasps only at what he sees above the water. If necessary, keep ducking out of sight, and coming up, until

you have a safe opening for grasping him.

However, do not fail to practise "breaking grips." If clutched by the wrists, throw both hands above your head, bring them sharply down, then outward and up, -against the other's thumbs (Figs. 1 and 2, above).



If clutched round the neck from in front (as above), place the flat of the right hand over the clutcher's nose and chin. With the left hand under his right elbow, lift, and at the same time press the right hand against the right side of his face. This will throw him into a carry position. Begin to swim at once, keeping the victim's head well up.



Another break for the same clutch: Take a deep breath, lean well over the clutcher, place your left hand in the small of his back, and with the right hand over his chin, drive his head back with all possible force.



The back strangle hold (illustrated) is the most difficult one to deal with, and must be broken without an instant's delay or you may yourself need help. Grasp the clutcher's wrists (Fig. 1), arch your back against his body, and throw your head sharply up against his nose. As the victim releases his grip, slip out under his arm (Fig. 2); and retain your grasp on his arm until you have secured a safe carrying hold (Fig. 3).

If clutched close about the body from in front: lean well over, place the left hand in the small of the other's back, and at the same time lift your right knee and place it as high as possible against the clutcher's stomach. Now, with a strong, sudden push, drive your arm and leg straight out, at the same time throwing your body backwards.

Save Your Strength.-In all cases the Scout rescuer should save his strength. Where there is a current or tide, do not struggle needlessly against it with your burden. Swim with it, and make shore at an angle, gradually. Or wait until a boat or other coming aid reaches you.

Diving Rescue.-Where a drowning person has disappeared in quiet water, the location of the body will be shown by rising bubbles. If there is a tide or current, you must dive at the spot where the person went down, and look along the bottom, swimming with the current.

Use Discretion.-You should never plunge into the water to make a swimming rescue if the rescue can be made in a safer way. When a person has fallen from a bridge or a dock, a throwing line or buoy often can be utilized without placing your own life in danger. At other times a boat or canoe can be used to advantage. The help of logs or planks also should not be overlooked. Where possible you should practise throwing a life-line and life buoy. (After such practise you must always leave the line properly coiled and the buoy in position for further possible use.)

Reviving the Apparently Drowned.-If possible, send immediately for medical assistance, blankets and dry clothing. As soon as the victim is clear of the water, quickly feel with your fingers in his mouth and throat, and remove such things as tobacco, loose food, false teeth and gum. If the mouth is tight shut, pay no more attention to it until later. Proceed instantly to the restoration of breathing.

Using the Holger Nielson Method.-First of all. Carry the patient to a smooth flat place (if there is slight slope the head should be lowest if the face is pale and highest if the face is red or bluish).

As quickly as possible take off any outer clothing the patient is wearing and loosen his waist-belt and collar.

If the patient is lying on his back, turn him over as follows:- The rescuer goes down on his right knee in front of the patient's head, with his left foot on the ground out to the side. The centre of his body should be slightly to the

right of the patient in order to obtain sufficient purchase for the turn.



Fig. 1 - First Phase

Fig. 2 - Second Phase

Pull the patient's arms up over his head to keep them clear during the turn, and to be ready to place them easily under the forehead. Then with both hands grip the patient's upper left arm, (Fig. 1), and turn him over with a steady pull. When the turn is half complete: i.e., the patient is on his side, release the right hand and place under the head to prevent it striking the ground, (Fig. 2).

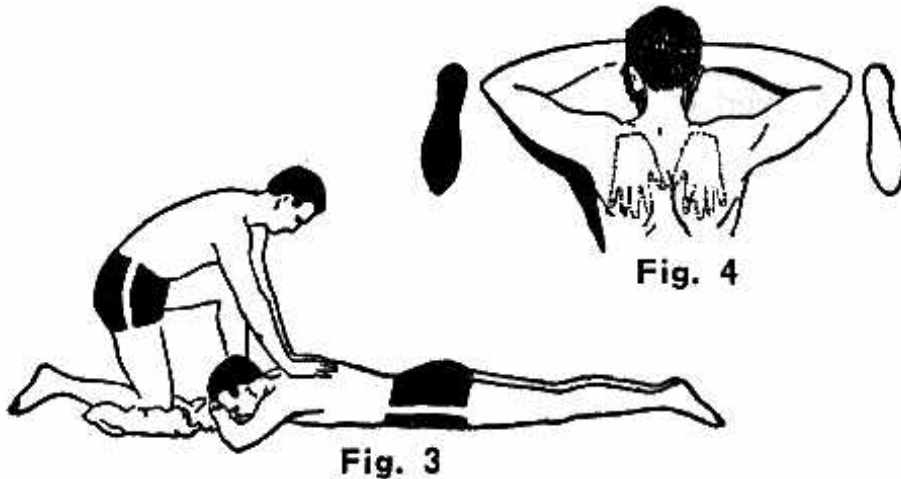


Fig. 4

Fig. 3

Then, with the patient in the prone position, place the patient's forehead upon his crossed hands, so that the nose and mouth will be free of the ground. The operator then, with the flat of his hand, slaps the patient smartly between the shoulders. Normally, the mouth will then open and the tongue fall forward. In drowning cases, any water that may have gotten into the upper breathing tubes will be driven out by these blows.

Kneel at the head of the patient on either the right or left knee. Place the knee close to the arm and just at the side of the head. Place the opposite foot near his elbow, (Fig. 3). It is permissible to kneel on both knees, if that proves more comfortable for the rescuer.

Place the hands upon the victim's back so that the heels of the hand lie just below a line running between the armpits, (Fig. 4). The tips of the thumbs should just be touching, the fingers spread downwards and outwards.

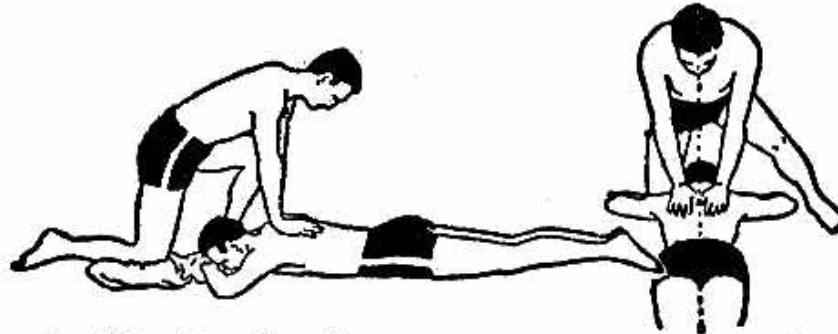


Fig. 5 - "One-two-three"

Fig. 6 - Expiration

Letting the weight of the trunk gently rock forward on the arms until they are vertical (Fig. 5), the operator exerts a smooth, gentle, evenly increasing pressure from above, downwards on the patient's back, using no force whatever and without bending the arms. This movement takes $2\frac{1}{2}$ seconds and must be undertaken while counting one-two-three. (Figs. 5 and 6).

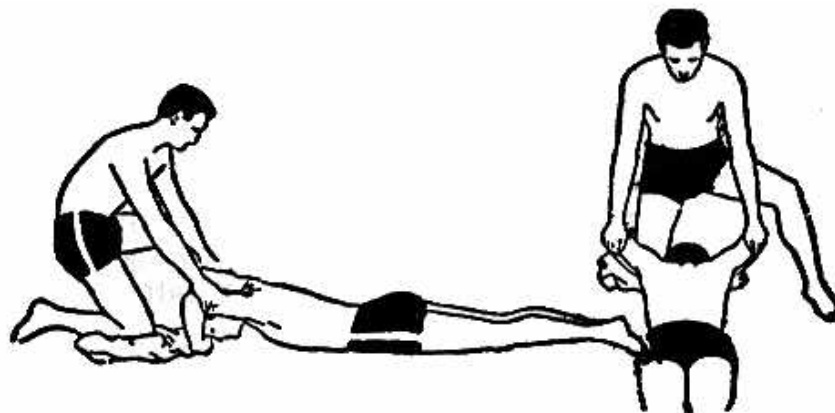


Fig. 7 - "Five-six-seven"

Fig. 8 - Inspiration

Then counting "four" he rocks the trunk back, and allows his hands to glide back past the shoulders until they can grip his upper arms near the elbows. He then performs a steady raising and pulling motion on the arms for $2\frac{1}{2}$ seconds, counting, five-six-seven. (Fig. 7 and 8). The movements are then repeated.

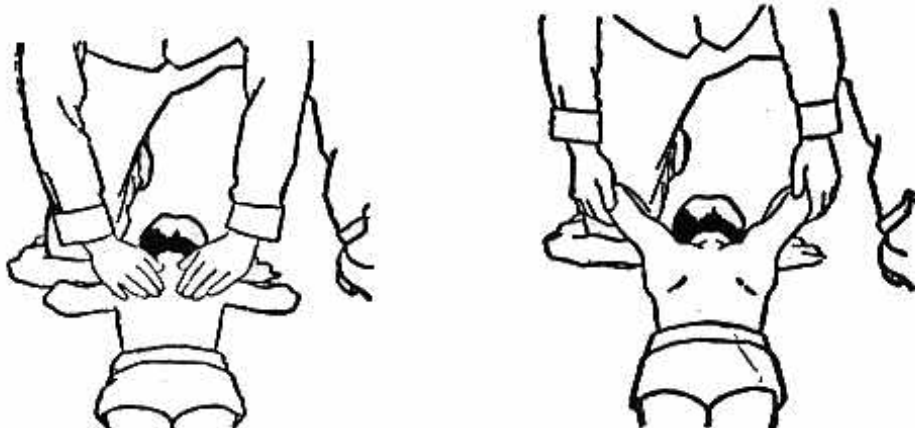
When Signs of Life Appear-Signs of life usually become apparent through a quivering of the body, a gasp, and the patient's skin returning to its natural colour. Artificial respiration should be continued for a while until the

breathing becomes more natural and a pulse can be felt.

When these signs of life appear the arm raising alone should be continued.

Reviving Children.-Attempts to revive children should be undertaken with particular care. The pressure must be reduced and should be a little faster than with an adult.

If the child is under 4 years of age, the body should be laid on a table or bench and the rescuer work standing. The pressure exerted should be very light. (Fig. 9.)



When Injuries are Present.-When arm bones are fractured, or sprains or burns occur, place the arms along the patient's sides, and raise his forehead on some soft support. Use the shoulder raising technique as illustrated. (Fig. 10.)

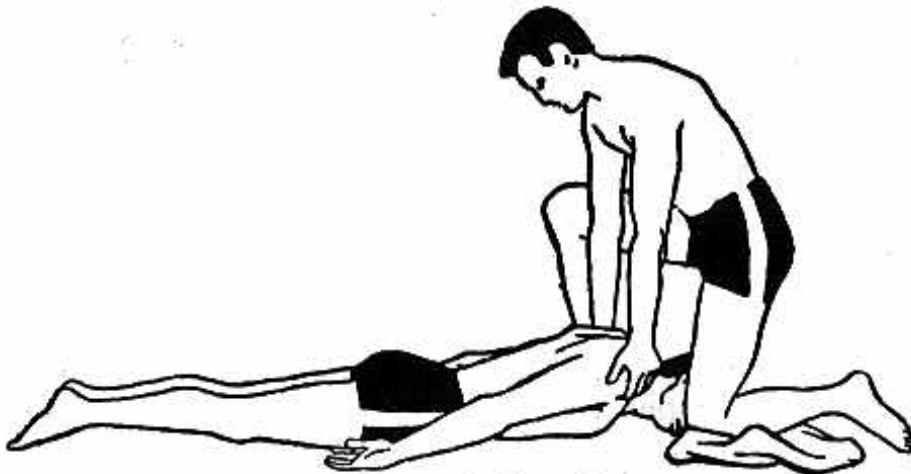


Fig. 10 - For injured patients

In the case of rib or back injuries the pressure method is also omitted and the shoulder lift used entirely. The rate should be about 12 to the minute.

In the event of fractured or dislocated shoulder the shoulder raising should be done from the armpits.

Important Things to Remember.-Always treat the patient for shock, keeping him warm.

Make sure that at all times the nose and mouth are free.

If possible carry the patient to a nearby house or shelter giving respiration on the way.

If artificial respiration has to be suspended the patient must be turned on his back.

When the patient has sufficiently recovered to swallow, give small quantities-by the spoonful-of stimulants such as strong coffee or tea without milk or sugar.

Get a doctor to the patient or the patient to the doctor as soon as possible.

If a doctor is not available do not allow the patient to sit up, stand or walk for several hours after revival.

Using the Schafer Method.-Place the patient face downwards, with the arms extended. (Loosen, but do not take time to remove clothing.) Turn the face to one side. Kneel astride the body. Place the hands on the small of the back, fingers spread, thumbs parallel on either side of the back bone.

Swing forward slowly, arms straight, so that the weight of your body is gradually not violently, brought to bear. The movement should occupy the time necessary to say slowly, "**Out water!**" Swing backwards, relaxing the pressure, without lifting the hands, saying slowly, "**In air!**" Repeat deliberately, without any marked pause between the movements, making a complete respiration in four or five seconds. The movements should be at the rate of 12 to 15 times a minute.



Now, while continuing the breathing movements, have someone loosen any tight clothing about the patient's neck, chest or wrist. If procurable, have dry, warm covering placed over the patient, and apply hot water bottles or hot bricks or stones wrapped in flannel, between the thighs and to the armpits and feet. All this without interference with the breathing movements.

Artificial respiration must be carried on without a moment's interruption until the victim breathes, or until a doctor pronounces life is extinct.

This may mean carrying on the breathing movements up to four hours, or even longer. In such a case it will be necessary to change operators.

Changing Operators.-To change operators, the relieving Scout kneels on the operator's left. When in proper, parallel position, he leans sideways, places his hands upon those of the first Scout and follows his movements. The first Scout shifts his knee off to the right, removes his hands, and the second Scout moves fully into his place, and carries on.

Appearances Which may Accompany Death.-Breathing and the heart's action cease entirely. The eyelids generally are half closed and the pupils dilated. The jaws are relaxed (not clenched), and the hands partly open. The lips and nostrils are covered with a frothy mucus. Coldness and pallor of the skin increase.

General Cautions.-Prevent unnecessary crowding of persons about the patient.

Avoid rough handling. Under no circumstances hold the patient by the feet.

Do not place the patient in a warm bath unless at medical direction, and even then it should be employed only as a momentary excitant.

Spirits are on no account to be given without direct medical orders, as alcohol may lead to fatal results.

Finally, once you have begun artificial respiration, allow no one to interfere or interrupt, however much older the person, if you can help it.

Fainting.-The signs and symptoms of a person who has fainted are similar to those of shock. Keep the patient lying down with the head low and elevate the lower limbs. Loosen the clothing about the neck and chest. Give nothing by mouth if the patient is unconscious. If bleeding has been the cause of the condition guard against it restarting. Smelling Salts or Ammonia Inhalant may be held to the nose provided there is no injury to the head; keep the patient warm; if he does not regain consciousness in a few minutes send for a doctor. If you see a person about to faint, or who complains of feeling faint, tell him to sit down and bend the head down between the legs for a few seconds.

Gas Suffocation.-Get the patient into the open air quickly as possible. Loosen the clothing from the waist up and give artificial respiration.

To enter a room in which a person has been overcome by illuminating or coal gas, first tie over your mouth and nose a dampened handkerchief or towel. Keep low (these gases being light gases), move quickly and breathe as little as possible. Open or break a window if necessary to get a quick circulation of fresh air. Turn off any gas jets, or if from a coal stove or furnace, open the draft.

Then deal with the victim.

In case of carbon monoxide poisoning in a garage, throw wide the doors before entering. Walk erect to the side of the victim, and holding your breath, stoop quickly, seize and drag him to the outer air. Call for help, send for a doctor, and begin artificial respiration.

Frostbite.-Do not bring the patient into a warm room until, by mild friction and the application of dry, gentle warmth, sensation and circulation have returned to the affected parts. When circulation is fully restored, keep the patient in a room at a temperature of 60 degrees. DON'T rub frostbites with snow.

Electric Shock.-Before touching a victim of electric shock, discover whether he is still in contact with a charged wire, or other metal. If still in contact, it is as dangerous to touch him as it is to touch the source of the shock.

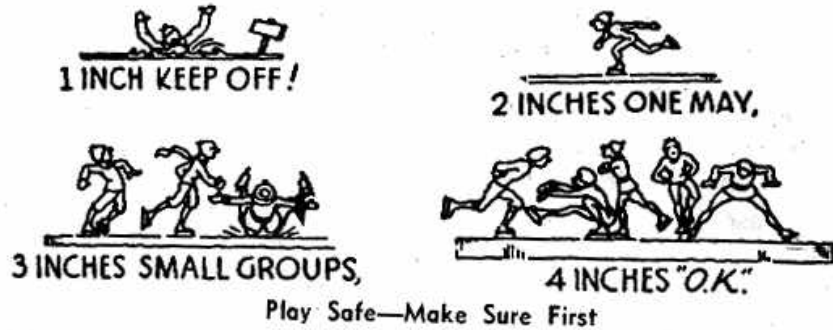
First if possible shut off or have shut off the power, then endeavour to push him clear with a dry board or other piece of dry wood, if available. Where wood is not at hand, or cannot be used for any reason, the victim may be freed by the use of any of the following materials, as covering for the hands, or stand upon: India-rubber sheets or gloves (without holes), several thicknesses of dry paper, dry glass, dry bricks, dry stones, etc.

Conductors of high voltage electricity include metals of any kind, water or other liquids (except oils); damp cloth, damp paper, wet pavement, wet wood. These conductors should be looked for and avoided.

Resuscitation is the same as for drowning. Before commencing work see that the patient's neck is free of tight clothing. The tongue should be drawn out and held by an assistant, or where no aid is available the tongue should be held out with a needle or nail, the wound thus caused can be treated later, when breathing is restored.

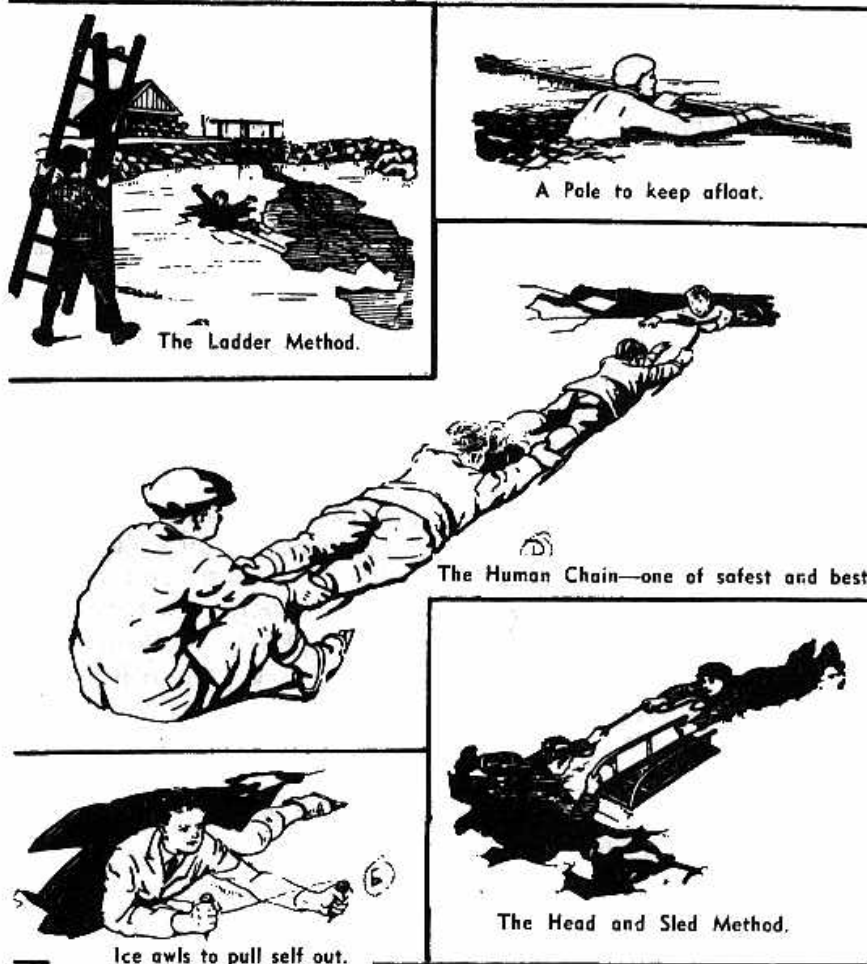
Breaking Through the Ice.-If you should break through the ice in the first place keep your head. If the ice is thin, do not try to climb back upon it, but spread out your arms over the surface, and wait for assistance. If alone, carefully break the ice further until you have a solid surface in front of you, then, with arms fully extended, and taking as much weight as possible,

endeavour to roll out at full length, sideways. If you have your pocket knife, and can reach it and open it with one hand and your teeth, use this as an ice pick, to pull on as you roll. To rescue another person, you naturally will use a hockey stick, a pole, board, ladder, or rope if available. If a rope, tie it round your body and have someone hold it, or tie it to something on shore. If using



a ladder or board push it across the break in the ice, then crawl along it and help the person to pull himself upon it.

Methods of Ice Rescue.



When the ice is thin, or weakened, do not walk upon it but crawl upon your stomach to distribute your weight as widely as possible.

If the rescued person is conscious, get him ashore quickly, and keep him running until he reaches some place where his clothes can be removed. Put him to bed, and restore circulation. Give him hot drinks, and warm him with hot water bottles, etc.

If the victim is unconscious when drawn out, treat as for drowning.

If you must cross dangerous ice to reach a person some distance from shore, carry a long pole, if procurable. Should you break through, this will aid you in climbing out. When crossing snow-covered ice always watch out for "air holes," or "breathers." Frequently they are indicated by small circular "humps," or by an icy crust above the hole.

TEST NO. 7

Be able to throw a life line with reasonable accuracy.

All Scout camp and other Scout "swimming holes", should, like public swimming pools, be equipped with a life line and lifebuoy, hanging on the pegs of a conveniently placed post; and Scout **Be Prepared**-ness should include the ability to throw these.

Life lines usually are of half-inch hemp or manila rope, the length depending upon the distance concerned.

The Test.-For this test a rope between 30 and 50 feet in length should be used; and the thrower should place the bowline loop within grasping reach of the "person in difficulty" four times out of five; any kink spoiling a throw.

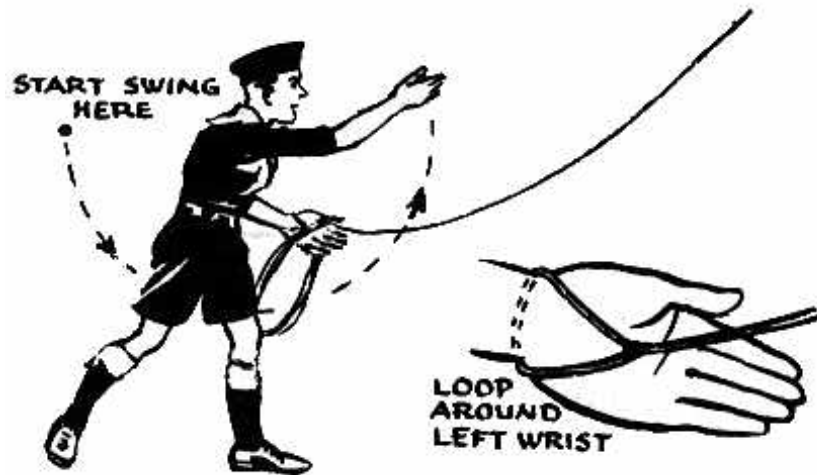
The line always should be pliable and free of kinks. To assure this, and whether kept coiled on a peg or otherwise, the line should regularly be taken down and thrown a few times, then carefully re-coiled.

Life lines at public swimming pools sometimes have a weighted end, for throwing. These, however, can be dangerous in the hands of an inexperienced rescuer. It is safer to make a bowline in one end of the line, with the advantage that this loop can be grasped readily by the person being rescued, and probably drawn over his head and shoulder, which makes his rescue sure.

Coiling a Life Line.-It is most important that a life line be properly coiled. To do this (having first made a bowline), hold the bowline in the left hand, as the first coil. Now, with a twisting overhand movement (to equalize kink tendency when thrown), add turn against turn until completed.

Now turn the coil completely around, so that the bowline is in the right hand, and divide it, holding two thirds in the right hand, the balance in the left, the end securely gripped, or better yet, tied to a post or tree.

Throwing.-With a single, long under-arm swing (no whirling about the head), heave the coil, aiming at a point directly beyond the person in difficul-



ty-unless there is a current to allow for-at the same time opening the left hand to allow that portion of the line to run free. (For a left-handed Scout the procedure would be reversed.)

After Use.-Dry line before re-coiling.

New Rope.-A new rope will require stretching. This may be done by tying it at a "reaching" height between two suitably spaced trees, then hanging on it. As it stretches it is tightened, until the stretch limit has been reached.

TEST NO. 8

Swim 50 yards, or if a doctor certifies that swimming is dangerous to the boy's health; or where the Provincial Commissioner considers that water for the purpose is not within reasonable distance of the Troop, pass the test for one of the following Badges. Camper, Handyman, Healthyman, Naturalist, Pioneer, Stalker, Starman or Tracker.

For these Badge Requirements see "The Wolf Cub and Boy Scout Proficiency Badge Reference Book" or "Policy, Organization and Rules for Canada".

This swimming test is not a speed test; no time limit is fixed for the 50 yards. The Scout may use any stroke desired, and may change stroke during the test, so long as his feet do not touch bottom. He should finish with plenty of reserve strength, such as he would need should he swim the distance in order to aid someone in distress.

When the test is taken in a swimming pool the length will be measured, and the Scout will swim as many times this distance as will equal fifty yards. In doing so he must not touch the sides or bottom of the pool. He may dive at

the start.

Every Scout is expected to do his best to prepare for this test at an early date not only for his own benefit, but that he may become **Prepared** to rescue others from drowning.

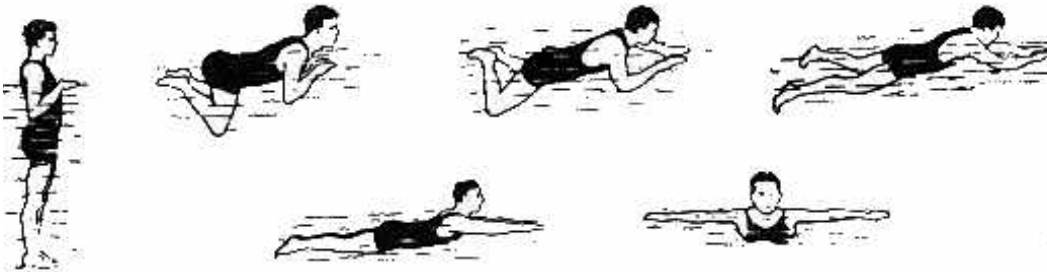
Learning to Swim.-If you start off with the idea that it is practically impossible to sink when the lungs are filled with air, you will have no real difficulty in learning to swim. If learning by yourself, take your first lesson in water a little above the waist.



You are going to discover how easily the body will float. Sink on your knees until the water reaches your chin. Throw your head back

until the water covers your ears. Extend your arms at full stretch behind your head, palms up, slightly hollowed. Now take a deep breath, inflate your lungs, throw yourself backward and give a slight push off the ground with both feet. Separate your Legs, throw your head well back and raise your chin. Repeat a few times, then have a try at swimming, using the breast stroke.

The Breast Stroke.-In water up to your chest (as illustrated), bring your hands together, thumbs and forefingers touching, palms downwards, elbows touching the sides. Keep the feet together, and give a push off the bottom, at the same time shooting the arms forward. Turn the thumbs down until the



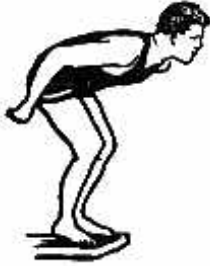
backs of the hands incline inwards. Slowly sweep the arms outwards and backwards until the hands are opposite the shoulders, elbows stiff and both hands at the same angle. Bend the elbows, drawing the hands downwards and inwards in a semicircle. As the elbows come back to their original position turn the palms of the hands together and bring them forward until they meet in their original position, ready for another stroke.

Legs.-As the hands circle back to the first position draw the knees up under the body. Without pause kick as far apart as possible, straightening the knees, depressing the heels and turning the feet out at right angles. Holding the legs rigid, bring them together again; shoot out the arms, and repeat the movements.

Breathing.-Hold the head back. Exhale through the nose as the arms are brought back to the body, and inhale through the mouth as the hands are thrust forward.

With the breast stroke mastered it will not be difficult to acquire other strokes.

Diving.-Diving frequently is necessary in making a water rescue, and the Scout swimmer should master diving for this reason as well as for the good fun of it. Incidentally diving offers the timid boy a splendid means of developing nerve and courage.



As with swimming, diving is chiefly a matter of confidence. It must be tackled boldly. The first dive should be taken from a bank or plank a few inches above the water. The feet are placed together, the stomach drawn in, the body bent slightly forward, the arms allowed to hang straight, a little in front of the hips. Bend both knees, and swing the arms to the rear to get an impetus. Throw the body forward and downwards at an oblique angle, head first, by quickly stiffening the knees at the same time shooting forward the hand to the full extent of the arms, over the head, palms downward.

As the body leaves the diving board, and is almost horizontal with the water, use the toes to give the final kick-off. This tends to throw the Legs upwards. The legs should be kept rigid the knees straight and feet together.

After the first dive confidence will rapidly increase.

Some Water Cautions.-Never attempt to dive unless you know that the water is deep enough for the purpose.

Never enter the water if overheated or fatigued, nor directly after a meal. Wait at least an hour and a half after eating. Otherwise you will be liable to cramp. (Many drownings each summer are due to this.)

On entering the water, immerse the whole body immediately, head and all, either by diving or ducking under; or throw water over the head and body with the hands.

In case of cramp, **keep cool**. Turn on the back, and float. If seized in the leg, turn up the toes, straighten the limb and stretch the muscles; rub, or kick the surface of the water until relieved.

An Indian method of guarding against stomach cramps:

Before entering the water rub the pit of the stomach vigorously with the dry palm of the hand for a minute or so; dash cold water on the stomach, rub for another minute, then plunge in.

In unknown water beware of holes, weeds, sunken logs, swift currents, eddies or undertows.

For growing boys prolonged swimming before breakfast is not to be recommended. Some boys are not physically up to it and others might be harmed.

It will be unnecessary to warn a Scout against calling "Help!" just for fun. This has resulted in drownings when help was really needed.

Swimming With the Clothes On.-Many excellent swimmers have lost their lives through suddenly finding themselves in water fully dressed, and becoming excited because of the weight and the binding of the wet garments. Therefore you should learn to swim with your clothes on.

Like swimming under other conditions, it is chiefly a matter of keeping cool. If you are wearing a coat, use the breast stroke. Bubbles of air will work into the shoulders of the coat and add to your buoyancy.

When practising the removal of your clothes in the water start with the shoes. If wearing suspenders, do not remove the coat first. The suspenders may slip off and give you trouble with your trousers.

After the shoes are off, remove the coat, then the trousers. The latter will come off easily with a little careful kicking and thrusting.

TEST NO. 9

Read the meaning of a series of simple tracks made in sandy or other suitable ground. These should include running, limping, carrying weight, walking backwards, and blind gaits.

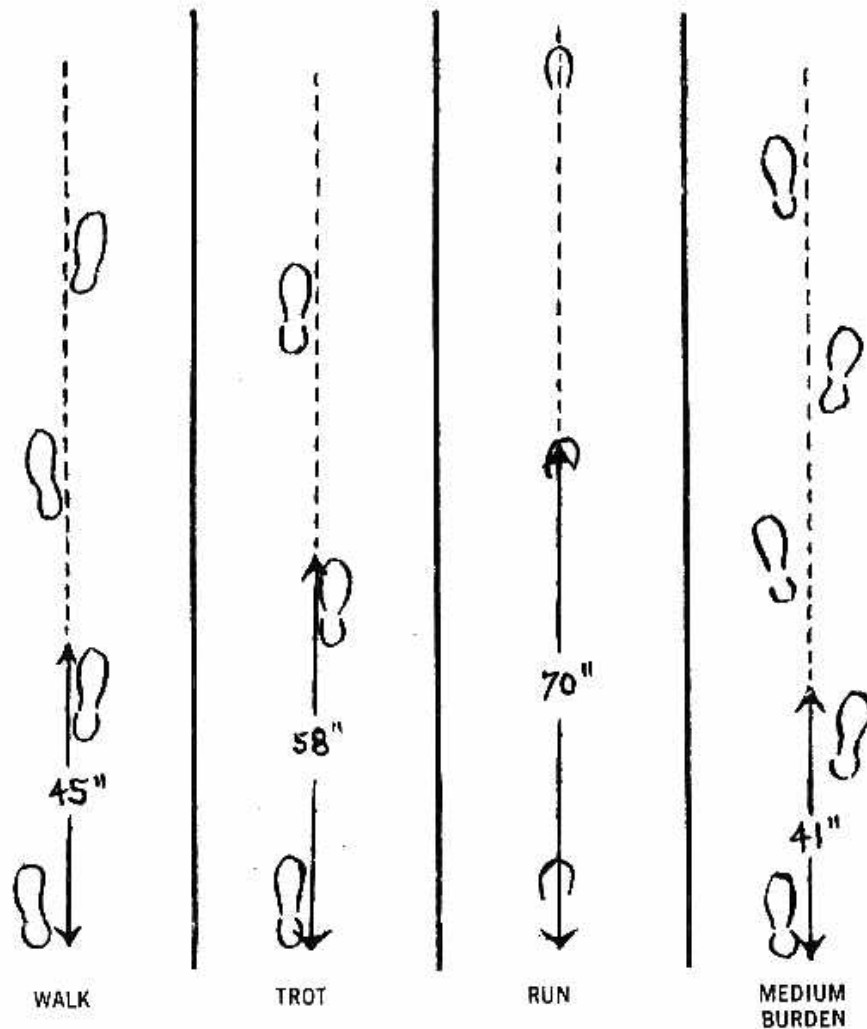
In "Scouting for Boys" the Founder says: "One of the most important things that a Scout has to learn, whether he is a war scout or a bunter or a peace Scout is **to let nothing escape his attention**; he must notice small points and signs, and then make out the meaning of them; but it takes a good deal of practice before a tenderfoot can get into the habit of really noting everything and letting nothing escape his eye."

In Second Class Test No. 6 you have been given some practical instructions on the subject of tracking. This First Class Test is to help you become more efficient-not simply to be able to follow and understand simple tracks and trail signs-but to be able to follow more difficult tracks and be able to reconstruct a story from what you see.

On page 106 we have had an artist reproduce tracks showing the marks left by a person running, or limping or carrying a weight, etc., but you will gain much more from experimenting yourself.

First of all have a friend, or yourself make a track through sand walking. Then make another track beside the walking one-this time running. Then

carefully examine the two tracks and note the differences. Then carry on by making a track when you are carrying a heavy weight; walk backwards and then see what sort of a track you would make blindfolded (blind gait).



Measurements for a Man 5' 8" in Height, 165 lbs. in Weight

For this test your Scoutmaster will probably set you a problem in tracking, employing these tracks.

From this simple beginning you should be able to work up to more difficult tasks and problems. You'll get a kick out of being able to answer the questions: Who was it? What did he do? Where did he go? When did it happen?