O. FIRST AID TECHNIQUES: DRESSINGS, BANDAGES AND TRANSPORT TECHNIQUES

In this chapter you will learn about:

- Dressings.
- Bandages.
- Fast evacuation techniques (single rescuer).
- Transport techniques.

O.1 DRESSINGS

A dressing is a protective covering applied to a wound to:

- prevent infection,
- absorb discharge,
- control bleeding,
- avoid further injury, and
- reduce pain.

An efficient dressing should be sterile (germ free) and have a good degree of porosity to allow for oozing and sweating.

O.1.1 TYPES OF DRESSINGS

O.1.1.1 ADHESIVE DRESSINGS (BAND AID)

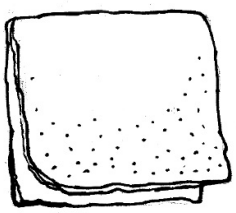
These sterile dressings consist of a pad of absorbent gauze of cellulose held in place by a layer of adhesive material. Sterile adhesive dressings are supplied in paper or plastic covers.

The surrounding skin must be dry before application and all the edges of the dressing pressed firmly down.

O.1.1.2 NON ADHESIVE DRESSING

O.1.1.2.1 READY-MADE STERILE DRESSING

The dressing consists of layers of gauze covered by a pad of cotton wool and with an attached roller bandage to hold it in position. The dressing is enclosed and sealed in protective covering (which is only broken while applying) and is supplied in various sizes.



O.1.1.2.2 GAUZE DRESSING

Gauze in layers is commonly used as a dressing for large wounds, as it is very absorbent, soft and pliable. It is liable to adhere to the wound; however, it may assist the clotting of blood. The dressing should be covered by one or more layers of cotton wool.

O.1.1.3 IMPROVISED DRESSING

These can be formed from any clean soft absorbent material such as a clean handkerchief, a piece of linen, a clean paper, or cellulose tissue. They should be covered and retained in position.

O.1.2 HOW DO I APPLY A DRESSING?

You should cover a wound with a dressing as this helps to prevent infections.

Hygiene always comes first! Always wash your hands.

Wash your hands before and after taking care of the patient. Use soap and water to wash your hands. If no soap is available, you can use ash to wash your hands. Alcohol-based sanitizers can also be used, if available.

Put on gloves if available. You can also use a clean plastic bag. Try not to come in contact with the person's blood and other body fluids.

The dressing must be covered with adequate pads of cotton wool, extending well beyond them and retained in position by a bandage or strapping.

O.2 BANDAGES

A bandage is a fairly long strip of material such as gauze used to protect, immobilize, compress, or support a wound or injured body part.

There are a number of different first aid uses for bandages: they can be used to secure dressings, control bleeding, support and immobilize limbs, reduce pain, and control swelling in an injured part. These are made from flannel, calico and elastic net or special paper.

If you have no bandage available, you can improvise one from an everyday item; for example, you can fold a square of fabric, such as a headscarf, diagonally to make a triangular bandage, and a roller bandage if further folded. A belt, tie or some other materials can also be used as an improvised bandage.

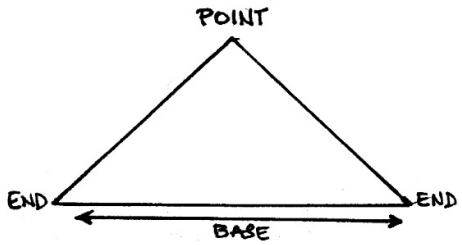
Bandages should be applied firm enough to keep dressing and splints in position, but not as tight as to cause injury to the part or to impede the circulation of the blood. A bluish tinge of the finger or nails may be a danger sign indicating that the bandage is too tight. Loss of sensation is another sign; such bandages should be loosened or removed quickly.

O.2.1 TYPES OF BANDAGES

There are several types of bandages.

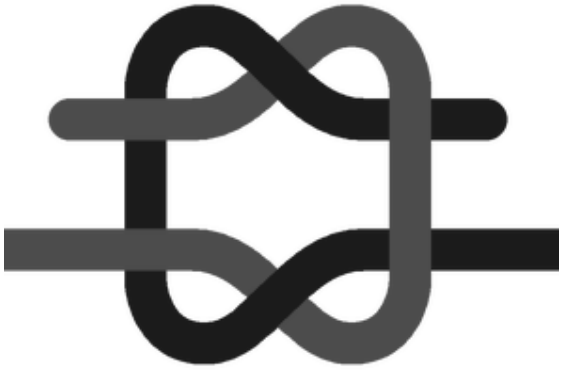
- Triangular bandages (also referred to as "*master bandage*") can be used as large dressings, or as slings, to secure dressings or to immobilize limbs.
- Roller and crepe bandages secure dressings and support injured limbs.
- Tubular bandages hold dressings on fingers or toes or support injured joints.

O.2.1.1 TRIANGULAR BANDAGES



A triangular bandage is made by cutting a piece of calico about 100 cm square from corner to corner giving two triangular bandages.

It has three borders. The longest is called the "*base*" and the other two the "*sides*". There are three corners. The one opposite the base is called the "*point*" and the other two are called the "*ends*". While applying a triangular bandage, the point always moves first.



Also a "reef knot" is always tied to enable easy loosening, tightening or opening.

O.2.1.2 SLINGS

Slings are used to:

- support injured arms;
- prevent pull by upper limb to injuries of chest, shoulder and neck, and
- secure splints when applied.

O.2.1.2.1 ARM SLING (LARGE ARM SLING, TRIANGULAR ARM SLING WITH UNDERARM HORIZONTAL)

The large arm sling is used in cases of injuries of arm, wrist and hands after application of dressing and/or splints, plaster casts and bandaging.

To apply an arm sling:

1. Face the casualty, hold the bandage point firmly, put one end of the spread triangular bandage over the uninjured shoulder with point towards the elbow of the injured side.
2. Pass the end around the neck and bring it over the injured side shoulder. The other end will now be hanging down over the chest.
3. Place the forearm horizontally across the chest at 90° and bring the hanging end up. The forearm is now covered by the bandage.
4. Tie the two ends in such a way that the forearm is horizontal or slightly tilted upward and the knot (reef knot) is placed in the pit above the collar-bone.
5. Hold the point with one hand & the bandage at little finger with the other and stretch it tight to check for any object like Bangle, watch or metal ring etc. beneath the bandage.
6. Tuck the part of the sling point which is loose at the elbow behind the elbow and bring the fold to the front and pin it up to the front of the bandage.
7. Place the free base of the bandage in such a way that its margin is just at the base of the nail of the little finger. The nails of all the fingers should be exposed.

8. Inspect the nails to find if there is any bluish colour. A bluish colour shows that there is a dangerous tightening of splints or plasters and therefore, free flow of blood is not possible.
9. If the casualty is not wearing a coat, place a soft pad under the neck portion of the sling to prevent rubbing of the skin in that place.

O.2.1.2.2 COLLAR 'N' CUFF SLING

This sling is only used to support the wrist.

To apply a collar-N-cuff sling:

1. The elbow is bent; the forearm is placed across the chest in such a way that the fingers point the opposite shoulder. In this position the sling is applied.
2. A clove hitch is made with narrow bandage. Two loops are made and are laid on top of the other, the front loop is laid behind the back loop without turning.
3. A clove-hitch is passed round the wrist and the ends tied in the neck pit above the collarbone on the injured side.

O.2.1.2.3 TRIANGULAR SLING (WITH UNDERARM UPWARDS)

A triangular sling is used to support the fracture of the collar bone, arms or injured shoulder, and also crushed or badly burned palms. It helps to keep the hand raised high up giving relief from pain due to the fracture.

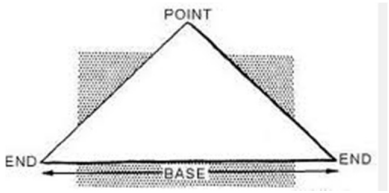
To apply a triangular sling:

1. Place the forearm across the chest with the fingers pointing towards the opposite shoulder, touching the collar bone and the palm over the breast-bone.

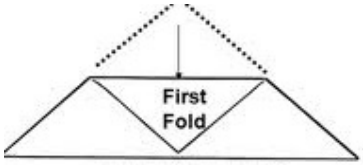
2. Place an open bandage over the arm/chest, with one end over the hand and the point beyond the elbow.
3. Tuck the base of the bandage comfortably under the forearm and hand.
4. Fold the lower end also around the elbow and take it up and across the back of the shoulder (uninjured side) and tie it into the hollow above the collar bone by using a reef knot.
5. Tuck the fold so formed backwards over the lower half of the arm and fix it with a safety pin.

O.2.1.3 BANDAGES

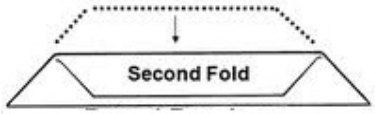
A triangular bandage can be used as:



- a whole cloth (spread out fully) or called "open bandage"



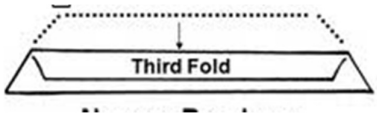
- one fold"



- a broad bandage (two folds):

  Bring the point to the center of the base and then fold again in the same direction to create a broad bandage. Fold the bandage once again to make it a narrow bandage.

  A broad bandage can also be used as a roller bandage of approximately 6 inches (about 14 cm) size.

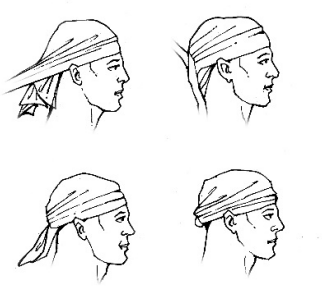


- a narrow bandage (three or more folds):

  When a smaller size bandage is needed fold the original so as to bring the ends together. The size is now reduced by half the original.

A narrow bandage can also be used as a roller bandage.

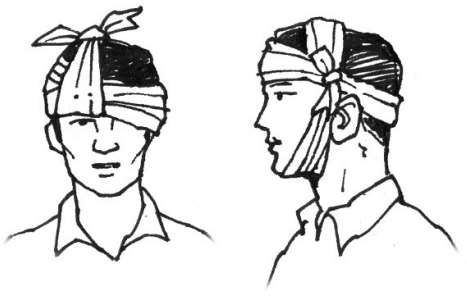
O.2.1.3.1 SCALP BANDAGE



Use an open triangular bandage.

1. Fold a narrow hem of the base of an open bandage and place it on the forehead just above the level of the eye-brows.
2. Take the two ends backwards, after placing the body of the bandage over the head, the point hanging near the nape of the neck.
3. Cross the two ends and take them forward above the ears to meet on the forehead, where they are tied.
4. Press on the head of the patient, draw the point firmly downwards and pin it to the bandage after taking it upwards.
5. A suitable sized ring pad, also made from a triangular bandage, can be placed beneath the head bandage at an appropriate place to put pressure around any depressed fracture of skull.

O.2.1.3.2 FOREHEAD, EYE, CHEEK/JAW FRACTURE BANDAGE OR BANDAGE FOR ANY PART WHICH IS ROUND IN SHAPE



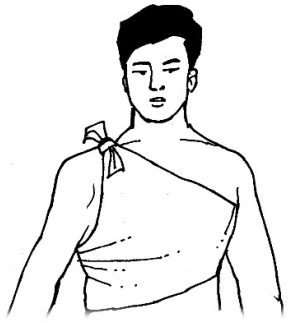
Use two triangular bandages folded as a broad or narrow bandage.

1. Use narrow or broad bandage depending upon the size of the wound.
2. Apply the center of the bandage over the injury and wind the bandage round the part.

3. Tie in a suitable place.
4. May apply a narrow bandage to keep the first bandage in place.

O.2.1.3.3 FRONT OR BACK OF THE CHEST BANDAGE

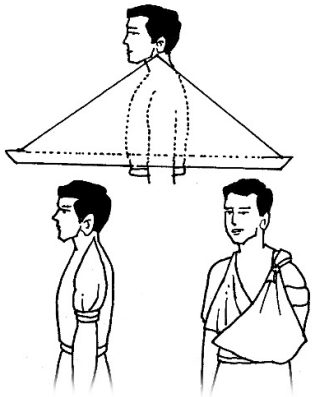
Use an open triangular bandage.



1. Place the center of the open bandage over the dressing point over the sound shoulder.
2. Carry the ends of the bandage around the body and tie it in such a way that one end is longer than the other.
3. Draw the "*point*" over shoulder and tie to the longer end.
4. If back of chest has the wound-reverse all the steps.

O.2.1.3.4 SHOULDER BANDAGE

Use a broad bandage.

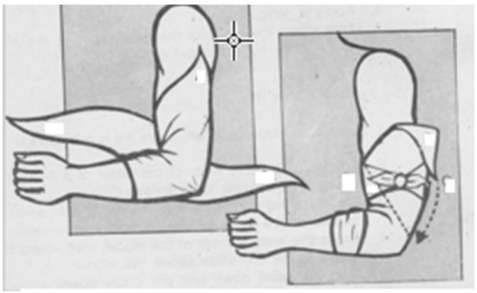


1. Stand facing the injured side.

2. Place the center of the open bandage on the shoulder with the point over the side of the neck reaching the ear.
3. Carry the ends crossed, after hemming the base inward around the middle of the arm and tie the knot on the outer side so that the lower border of the bandage is in fixed position.
4. Thereafter apply also a sling to rest the arm of the injured side in.
5. Turn down the point of the bandage over the sling knot draw it tight and pin it.

O.2.1.3.5 ELBOW BANDAGE

Use an open triangular bandage.

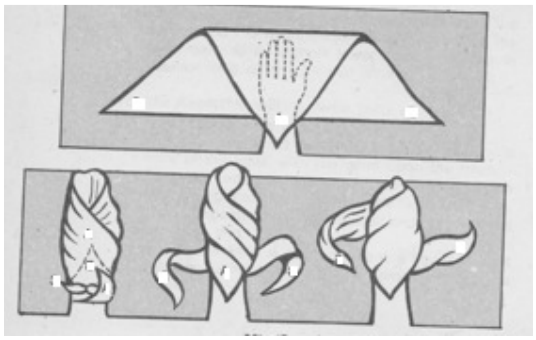


1. Bend the elbow to a right angle if it is feasible to do so.
2. Folding a suitable hem of the base of a triangular bandage and apply it as follows:
    a. Lay the point on the back of the upper arm and the middle of the base on the back of the forearm.
    b. Cross the ends in front of the elbow, then round the arm and tie the ends above the elbow.
    c. Turn the point down and pin it low down.

When the elbow cannot be bent use a roller bandage with figure of eight technique.

O.2.1.3.6 HAND BANDAGE

Use an open triangular bandage.



1. Place the open bandage in such a way that the injury is uppermost. The point should be towards the fingers and the base across the wrist.
2. Now bring the point over to the wrist.
3. Make a narrow inward hem as usual, pass the ends around the wrist, cross over and tie it up over the point.
4. Turn the point over the knot and pin it.

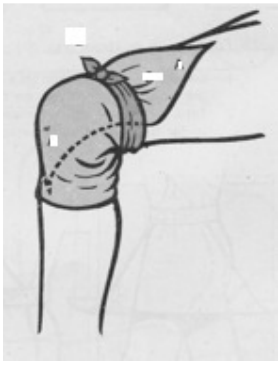
O.2.1.3.7 HIP AND GROIN BANDAGE

Use an open triangular and a narrow bandage.

1. Kneel facing the hip and tie a narrow bandage around the waist with the knot on the uninjured side.
2. Take a second open bandage and pass its point under the knot bring it over the knot and pin it.
3. Make a suitably broad hem of the base, bring the ends round the thigh, cross and tie a knot on the outer part, so as to hold the lower hemmed border in position.

O.2.1.3.8 KNEE BANDAGE

Use an open traingular bandage.

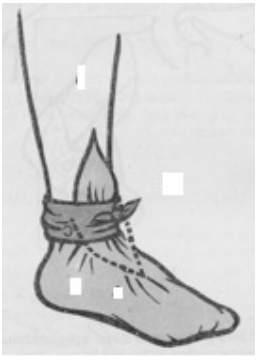


1. Bend the knee to a right angle.
2. With a narrow inward hem, place the open bandage in front of the knee with the point upon the thigh.
3. Cross the ends, take them upwards on the back of the thigh, bring them to the front of the thigh and tie up.
4. Bring the point down over the knot and the knee and pin it up.

In case the knee is not to be bend, a figure of eight bandage using a narrow or a broad bandage is applied.

O.2.1.3.9 FOOT BANDAGE

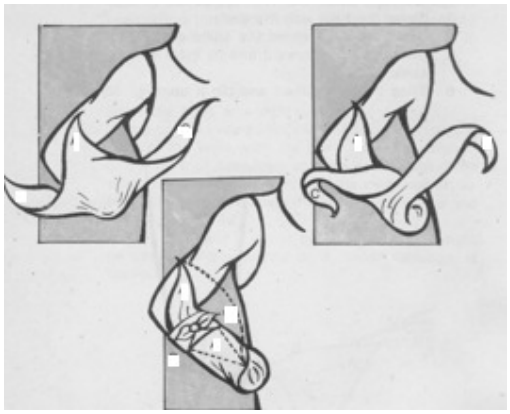
Use an open triangular bandage.



1. Place the foot in the centre of an open bandage with the point beyond the toes.
2. Draw the point over the foot on to the leg.
3. Cover the heel with the ends.
4. Cross the ends around the ankle at the back.
5. Bring the ends forward and tie them in front of the ankle.
6. Bring the point down and pin it up.

O.2.1.3.10 STUMP BANDAGE

Use an open triangular bandage.



1. Place the base of a bandage well up on the inside of the stump, the point hanging downwards.
2. Draw up the point over the stump and cross the ends in front, over the point.
3. Carry the ends behind the stump, cross them and bring them forward, tying off in front.
4. Draw the point firmly downwards over the knot and secure with a safety pin.

O.2.2 ROLLER BANDAGES

Roller bandages are used in hospitals and first aid posts. They are made out of cotton material with loose mesh. They are of various lengths and widths.

Used for	Width in cm	Width in inch
Finger	2	1
Hand	5	2
Arm	5 or 6	2 or 2.5
Leg	7.5 or 9	3 or 3.5
Trunk	10 or 15	4 to 6 inch

Roller bandages are also meant to keep dressings in position. The rolled part is called the "drum" or "*head*", the unrolled portion the "*tail*".

Roller bandages should be applied firmly and evenly.

To apply a roller bandage, always:

1. Face the patient.
2. Always keep the "tail" of the bandage towards the patient and the "head or drum" towards you.
3. When bandaging left limb, hold the head of the bandage in the right hand and vice versa.

4. Apply the outer surface of the bandage over the pad and wind it around the injury twice so that it is firm.
5. Bandage from below upwards over the limb. Also make it a rule to apply bandage from the inner side to the outer side.
6. Check that the bandage is neither too loose nor too tight.
7. Roll bandage so that each layer covers two thirds of the earlier layer.
8. Fix the bandage by pinning it up or using adhesive plaster. The usual practice of tearing the final end into two long tails and tying them up is quite satisfactory and practical.

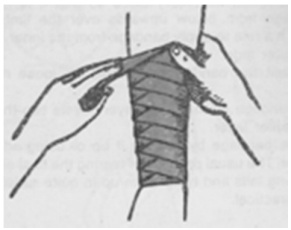
There are four methods of applying roller bandages as follows:

O.2.2.1 SINGLE OR SIMPLE SPIRAL

PICTURE CHANGE

The roller bandage is applied in a simple spiral. This is used on fingers or other uniform surfaces. The bandage is just carried around in spirals.

O.2.2.2 REVERSE SPIRAL

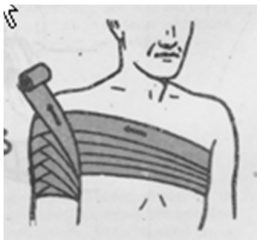


This is a modified spiral in which the roll is reversed downwards on itself at each round. This technique should be used where the thickness of the part varies such as a leg, forearm, etc.

O.2.2.3 FIGURE OF EIGHT

In this, the bandage is applied obliquely alternative up and down, so that the loops appear like the figure of eight. It is used for joints like the elbow, knee etc.

O.2.2.4 SPICA



This is a modified figure-of-eight, and is usefull for bandaging the hip, shoulder, groin or tumb.

O.2.3 CREPE BANDAGES

These are roller bandages made of elastic cotton weaving material. These are used to support sprains or other soft tissue injuries where there is no wound. These serve the purpose of supporting the injured joints and also help in reducing the pain and swelling.

These can be applied directly on the skin. The techniques of application are same as a roller bandage. These should not be applied too tightly.

O.3 FAST EVACUATION TECHNIQUES (SINGLE RESCUER)

In case the casualty is in a dangerous situation following are possible one-rescuer evacuation techniques to move an unconscious casualty over a very short distance to get him into safety.

Only attempt to rescue a casualty if the scene is safe for yourself!

O.3.1 SHOULDER PULL

1. Grasp the casualty by the clothing under the shoulders.
2. Keep your arms on both sides of the head and support the head.
3. Try to pull the casualty in a straight line, if possible.

O.3.2 ANKLE PULL

This method is the fastest method to move a casualty over a short smooth distance. However it is not a preferred method as the head is unsupported and may bounce over the surface bumps.

1. Grasp the casualty by both ankles and pant cuffs.
2. Pull the casualty. Use your legs to apply force to pull, not your back. Keep your back as straight as possible.
3. Pull the casualty in a straight line if possible.
4. If the casualty is lying on a sheet, a plastic or a blanket, pull the same as per convenience.

O.4 TRANSPORT TECHNIQUES

After appropriate first aid has been given, the patient may need to be transported.

Keep following guidelines in mind when transporting a casualty:

- The position assumed by the casualty or in which he has been placed, should not be disturbed unnecessarily.
- Throughout the transport a careful watch must be kept on:
  - the general condition of the casualty (breathing, consciousness);
  - any dressing that may have been applied;
  - any recurrence of haemorrhage, and
  - any signs of changes or worsening of the casualty's condition.
- The transport must be safe, steady and speedy.

The injured or sick person may be moved to a shelter, medical facility or hospital by:

- a single helper;
- hand seats and the 'kitchen-chair' carry technique by multiple helpers;
- blanket lift by multiple helpers;
- stretcher by multiple helpers;
- wheeled transport (ambulance, car, …); or
- air and sea travel (with specially trained staff).

The method to be used (and it may be necessary to use more than one technique) may depend on:

- the nature and severity of the injury;
- the number of helpers and facilities available;
- the distance to the shelter, medical facility or hospital; and
- the nature of route to be covered.

O.4.1 SINGLE HELPER TRANSPORT.

If you are the only person available, following techniques can be used to transport a casualty:

- the cradle technique,
- the human crutch technique,
- the pick-a-back technique, or
- the fire man's lift and carry technique

O.4.1.1 CRADLE TECHNIQUE

This technique is only to be used in the case of light casualty or children.

Lift the casualty by passing one of your arms well beneath his two knees and the other round his back.

O.4.1.2 HUMAN CRUTCH TECHNIQUE

Standing at his injured side except where there is injury to an upper limb, assist the casualty by putting your arm round his waist, grasping the clothing at him and placing his arm round your neck, holding his hand with your free hand.

If his upper limbs are injured and his other hand is free, the casualty may gain additional help from a staff or walking stick.

If both legs are injured, another first aider might hold the other side in a similar way (see human crutch technique with two helpers).

O.4.1.3 PICK-A-BACK TECHNIQUE

If the casualty is conscious and able to hold, he may be carried in the ordinary "pick-a-back" fashion.

O.4.1.4 FIREMAN'S LIFT AND CARRY TECHNIQUE

To be used only when the casualty is not heavy for the bearer.

1. Help the casualty to rise to upright position.
2. Grasp his right wrist with your left hand.
3. Bend down with your head under his extended right arm so that your right shoulder is level with the lower part of his abdomen and place your right arm between or around his legs.
4. Taking his weight on your right shoulder come to the erect position.
5. Pull the casualty across both shoulder and transfer his right wrist to your right hand, so leaving your left hand free. This allows the helper also to move up or down a ladder whilst carrying the casualty.

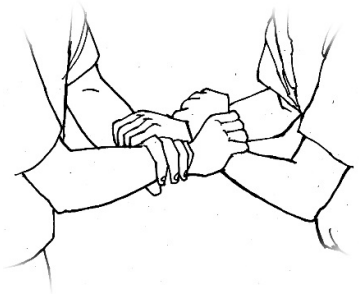
O.4.2 MULTIPLE HELPER TRANSPORT.

When multiple helpers are available, following transport techniques can be used.

O.4.2.1 HUMAN CRUTCH TECHNIQUE

Standing at both sides of the casualty, both helpers assist the casualty by putting their arm round his waist, grasping the clothing at him and placing each of his arm on their side around their neck, holding his hand with their free hand.

O.4.2.2 HAND SEAT TECHNIQUES



Also known as the four-handed seat technique. This seat is used when the casualty can assist the bearer by using one or both arms.

1. Two bearers face each other behind the casualty and grasp their left wrists with their right hands and each other's right wrist their left hands.
2. The casually is instructed to place one arm around the neck of each bearer so that he may raise himself to sit on their hands and steady himself during transport.
3. The bearers rise together and step off, the bearer on the right hand side of the casually with the right foot and the left hand bearer with the left foot.
4. The bearers walk with the cross-over step and not by side paces.

O.4.2.3 THE TWO-HANDED SEAT TECHNIQUE

This seat is mostly used to carry a casualty who is unable to assist the bearers by using his arms.

1. Two bearers face each other and stoop down (not kneel) one on each side of the casualty.
2. Each bearer passes his forearm nearest the casualty's head under his back just below the shoulders and if possible takes hold of his clothing.
3. They slightly raise the casualty's back and then pass their other forearms under the middle of his thighs and grasp their hands, the bearer on the left of the casualty with his palm upwards and holding a folded handkerchief to prevent hurting by the finger nails; the bearer on the right of the casualty with his palm downwards, as shown in ("*hook grip*").
4. The bearers rise together and stoop off, the right- hand bearer with the right foot and the left-hand bearer with the left foot.
5. The bearers walk with the cross-over step and not by side paces.

O.4.2.4 THE FORE AND AFT METHOD TECHNIQUE

This method of carrying should be used only when space does not permit a hand seat.

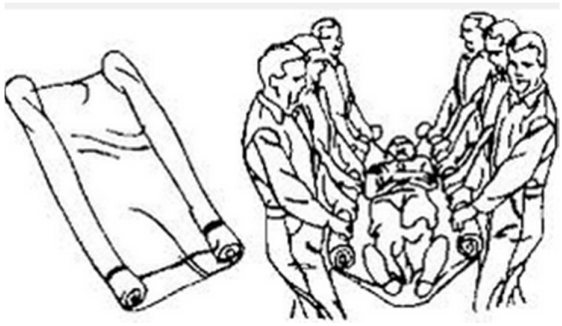
1. One bearer stands between the casualty's legs, facing the feet with hands down and grasps the casualty under his knees.
2. The other bearer takes a position behind the casualty and after raising his trunk passes his hands under the casualty's armpits and grasps his own wrists on the casualty's chest.
3. The casualty is then lifted.
4. The bearers walk in step.
5. A chair can be used also to carry the casualty when negotiating a narrow passage or moving up/down the stairs (see kitchen-chair carry technique).

O.4.2.5 THE KITCHEN-CHAIR CARRY TECHNIQUE

The bearers walk in step by carrying the patient in a chair. Use this method when the casualty is light weight and the distance is small.

This technique allows to climb up or down steps or stairs whilst carrying the casualty.

O.4.2.6 BLANKET LIFT TECHNIQUE



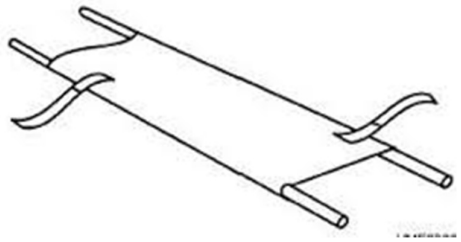
1. Place the casualty on to a blanket:
    a. Place the blanket or rug on the ground in line with the casualty, and rolled lengthwise for half its width.
    b. Place the roller portion of the blanket or rug close to the casualty's back and gently rolls him over the roll until he is lying on his opposite side.
2. If the casualty is suspected to have suffered a head, neck or spine injury or a fracture, two bearers maintain control of the head and lower limbs. The other 4-6 bearers very carefully turn the casualty on to his side every precaution being taken against movement at the site of the fracture. The bearers at the head and at the lower limbs conform to the rolling of the casualty throughout.
3. Unroll the rolled portion of the blanket or rug gently lowering the casualty on his back so that he lies on the centre of the open blanket or rug.
4. During lifting by a blanket, the edges are rolled up close to the casualty's sides and lifted by two or three persons on either side.

O.4.2.7 THREE PERSON CARRY AND STRETCHER LIFT

1. Each person kneels on the same knee nearest the victim's feet.
2. On the command of the person at the head, the rescuers lift the victim up and rest the victim on their knees.
3. If the patient is being placed on a low stretcher or litter basket: On the command of the person at the head, the patient is placed down on the litter basket/stretcher.
4. If the victim is to be carried: At this point, the rescuers will rotate the victim so that the victim is facing the rescuers, resting against the rescuers' chests.
5. On the command of the person at the head, all the rescuers will stand.
6. To walk, all rescuers will start out on the same foot, walking in a line abreast.
7. Special care has to be taken in case of suspected backbone or neck injuries (see also section O.6).

O.5 STRETCHERS

Stretchers are of two patterns viz. "ordinary" and "telescopic-handled". In general principle they are similar.



A stretcher consists of following parts

- poles,
- handles,
- jointed traverses,
- runners,
- bed,
- pillow-sack, and
- slings.

The '*head*' and '*foot*' of a stretcher correspond to the head and feet of the casualty.

At the head of the stretcher may be a canvas overlay (the pillow sack) which can be filled with straw, hay, clothing etc. to form a pillow. The pillow- sack opens at the head and its contents can therefore be adjusted without due disturbance of the casualty.

The traverses are provided with joints for opening or closing the stretcher.

The telescopic-handled pattern is similar but its length can be reduced to 6 feet by sliding the handles underneath the poles. This is of a great value when working in confined space, or when a casualty has to be taken up or down a narrow stair-case with sharp turns.

When closed, the poles of the stretcher lie close together, the transverse bars being bent inwards, the canvas bed neatly folded on the top of the poles and held in position by the slings, which are laid along with canvas and secured by a strap which is placed transversely at the end of each sling and passed through the large loop of the other, and round the poles and bed.

O.5.1 LOADING A STRETCHER

Two methods are used to load a patient on a stretcher:

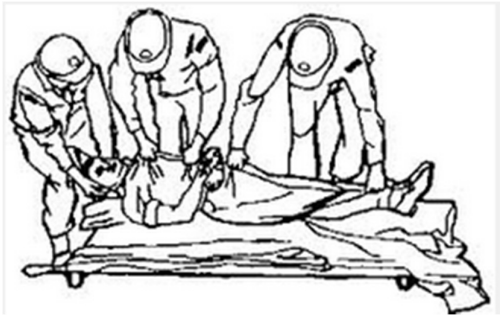
- blanket lift, and
- emergency lift.

O.5.1.1 BLANKET LIFT

1. In the blanket lift, a blanket is placed under the casualty (as described earlier).
2. If poles of good length and rigidity are available, roll the blanket over the poles until the poles are pressed to the sides of the casualty.

   If poles are not available, the blanket itself is rolled up tightly to the sides of the casualty.
3. If necessary, broad bandages are places around the body, one at the level of the thigh, another at the level of the shoulders.
4. Lift the casualty and place the stretcher exactly under the casualty.
5. In case of potential injuries to head, neck, spine or legs, two bearers should support the neck and ankle.
6. Lower the casualty on the stretcher.
7. Secure the casualty on the stretcher.

O.5.1.2 EMERGENCY LIFT

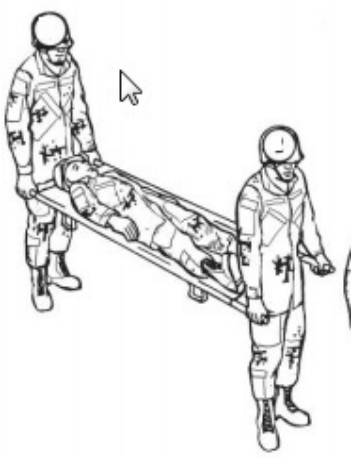


1. If no blanket is available, the following method is used: Open the casualty's coat or bush-coat and roll the free ends firmly close up to the side of the casualty's body.
2. Lift the casualty and put him on the stretcher as described above.

O.5.2 LIFTING AND LOWERING A STRETCHER

1. At the command "Lower Stretcher", the two or four bearers will stoop, gently lower the stretcher to the ground and rise together.
2. At the command "Lift Stretcher", they will then rise steadily together keeping the stretcher level.

O.5.3 CARRYING A LOADED STRETCHER



Depending on the availability of manpower one can decide whether the stretcher is to be carried by four or two persons.

In case of four helpers, each helper takes one handle of the stretcher and walks on the outside of the stretcher.

In case of two helpers carrying, one helper takes the head side, the other the opposite side. They are positioned between the handles and take the both handles to hold the stretcher. They may decide to use a sling well over their shoulders and on the handles of the stretcher to help them to carry the stretcher.

O.5.4 LOADING A STRETCHER INTO AN AMBULANCE

The stretcher is lowered with its head one pace from the door of the ambulance. The casualty will be loaded head first. While loading, take side pace to the ambulance raising the stretcher evenly to the level of the berth to be loaded. The front bearers place the runners in the grooves

and then assist the rear bearers to slide the stretcher into its place and secure it. If slings have been used these should be kept with their stretcher.

O.6 MOVING AND TRANSPORTING A CASUALTY SUSPECTED OF A HEAD, NECK OR SPINAL INJURY

To prevent further injury, a casualty with a suspected head, neck or spinal injury shall be handled with the greatest care.

To transport a casualty suspected of a head, neck or spinal injury:

1. Prepare the stretcher; the soft bed of the canvas type of stretcher must be stiffened, preferably by placing short boards across the stretchers, or long ones lengthwise on the canvas if only these are available. If no stretcher is available, a narrow shutter, door or board of at least the same width and length as the patient may be used.
2. Cover the stretcher with a folded blanket and then blanket the stretcher.

   Place pillows or pads in readiness on the stretcher in a position to support the neck, and small part of the back. Those should be sufficiently large, but not too large, to preserve the normal curves of the spine.
3. Whenever the casualty is to be moved or lifted he must not be bent, twisted or over extended. One bearer must apply firm but gentle support to the head and face, so as to prevent neck movement and another bearer must steady and support the lower limbs to prevent trunk movement. This must be continued until the casualty has been placed on the stretcher.
4. When the casualty is not already lying on a blanket or rug.
   a. Place the blanket or rug on the ground in line with the casualty, and rolled lengthwise for half its width.
   b. While the two bearers maintain control of the head and lower limbs, other bearers very carefully turn the casualty on to his side every precaution being taken against movement at the site of the fracture. Place the roller portion of the blanket or rug close to the casualty's back and gently rolls him over the roll until he is lying on his opposite side. Unroll the rolled portion of the blanket or rug gently lowering the casualty on his back so that he lies on the centre of the open blanket or rug. The bearers at the head and at the lower limbs conform to the rolling of the casualty throughout.
5. Loading the stretcher.

   There are two methods of loading a stretcher- a standard method (when there is a blanket under the casualty), and an emergency method (when there is no blanket under the casualty), in which case the stretcher can be pushed under the casualty for that it will be necessary for the bearer at the feet to keep his legs wide apart to allow the stretcher to be placed between them.
   a. "Blanket lift" is the standard method for loading cases of fractures of the spine when there is blanket under the casualty.

      Roll the two edges of the blanket up against the casualty's side.

      If poles of sufficient length and rigidity are available the edges of the blanket should be rolled around them. This will make the lifting of the casualty very much easier.

While two bearers maintain support of the head and lower limbs, the remaining bearers distribute themselves as required on each side of the casualty facing one another.

On the word of command they raise him by grasping the rolled edges of the blanket and, acting together, carefully and evenly lift him to a sufficient height to enable the stretcher to be pushed underneath him.

If this is for any reason impossible the stretcher should be brought as near to the casualty as circumstances permit and the bearers should move short even side paces until the casualty is directly over the stretcher, when he should be gently and cautiously lowered onto it.

Ensure that the pads are in the correct position.

b. The "Emergency method" for loading fractures of the spine is used when there is no blanket under the casualty and none is available.

Open out the casualty jacket and roll it firmly so that the rolls are close to each side.

Place the casualty on the stretcher adopting the same procedure as described for the blanket lift method except that the bearers grasp the rolled up jacket and/or the clothing and /or bandage round the casualty's thighs instead of the rolled edges of the blanket. When the clothing is insecure, a broad bandage must be placed round the body just below the shoulder for the bearers to grasp.

6. In the case of cervical injuries, place firm supports such as rolled-up blankets or sandbags on each side of the head to steady it.
7. Place a folded blanket in the hollow above the heels so as to relieve pressure on them.
8. Wrap the casualty.
9. If he is to be carried over rough ground, reduce his body movements to a minimum by binding him firmly but not too tightly to the stretcher, with broad bandages. These should be applied round the pelvis, thighs and calves, and round the body and arms, just above the elbows.
10. On reaching the shelter, medical facility or hospital, do nothing further until the arrival of medical aid.
11. The above method of transportation of spinal injury case is to be used only if hard board is not available.

O.6.1.1 TRANSPORTING UNCONSCIOUS VICTIMS

After giving emergency first aid, the victim is to be placed on a large hardboard or inverted "*charpai*'. Secure him on the board and strap him. The head of the victim is to be secured tightly.

Breathing unconscious victims are to be placed in the recovery position and transported in that position. They should be observed continuously. If they stop breathing, they should be turned back on their back and CPR is to be started.

Unconscious non-breathing casualties are transported whilst lying on their back and whilst CPR is continued to be applied.

If due to certain conditions it is not possible to rescue in horizontal position, a vertical position may be required to be used.