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State University of Medicine and Pharmacy “N. Testemițanu”
Chair of General Surgery and Semiology

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DRESSINGS AND BANDAGES

Methodical recommendation
for III year students of medical faculty

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INTRODUCTION

A dressing is a pad that is placed in direct contact with the wound. It should be large enough to cover the entire area of the wound and to extend at least 2-3 cm in every direction beyond the edges. If the dressing is not large enough, the edges of the wound are almost certain to become contaminated. The dressing material which cover wound always should be sterile. However, emergencies will sometimes arise when they will be impossible to obtain. In such a situation, use the cleanest cloth available. A freshly laundered handkerchief, towel, or shirt may be used. Unfold these materials carefully so that you do not touch the part that goes next to the skin. Always be ready to improvise, but never put materials directly in contact with wounds that are likely to stick to the wound, leave lint, or be difficult to remove.

Bandages are strips or rolls of gauze or other materials that are used for wrapping or binding any part of the body and to hold compresses in place. The types of bandages that are most commonly used are (1) the triangular bandage, (2) the cravat bandage, (3) the roller bandage, and (4) elastic net retention bandage.

1. TRIANGULAR BANDAGE

Triangular bandages are usually made of cotton. They are made by cutting a 90 to 100 cm square of a piece of cloth and then

cutting the square diagonally, thus making two triangular bandages. A smaller bandage may be made by folding a large handkerchief diagonally. The longest side of the triangular bandage is called the base; the corner directly opposite the middle of the base is called the point; and the other two corners are called ends (**Fig. 1**).

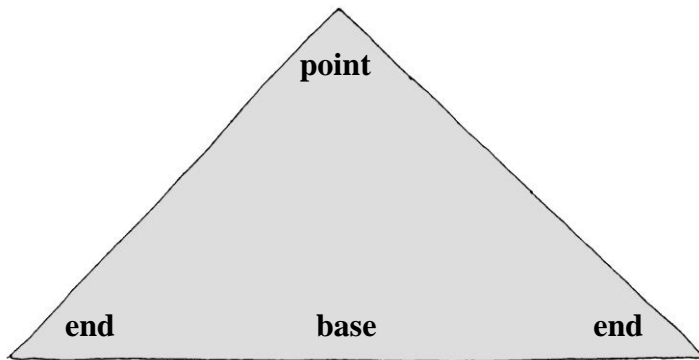


Fig.1. Triangular bandage

The triangular bandage is useful because it can be folded in a variety of ways to fit almost any part of the body. Padding may be added to areas that may become uncomfortable.

TRIANGULAR BANDAGE FOR HEAD

This bandage is used to retain compresses on the forehead or scalp. Fold back the base about 5 cm to make a border. Place the

middle of the base on the forehead, just above the eyebrows, with the border on the outside. Let the point fall over the head and down over the back of the head. Bring the ends of the triangle around the back of the head above the ears, cross them over the point, carry them around the forehead and tie in a knot. Hold the compress firmly with one hand and, with the other, gently pull down the point until the compress is comfortable; then bring the point up and fold it over the bandage where it crosses the back part of the head (**Fig. 2**).

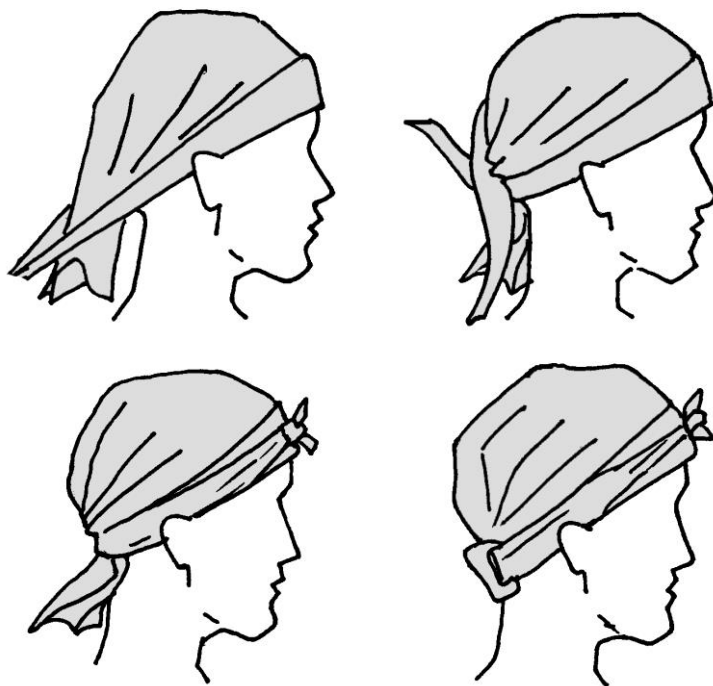


Fig.2. Triangular bandage for the head

TRIANGULAR BANDAGE FOR SHOULDER

Cut or tear the point, perpendicular to the base, about 25 cm. Tie the two points loosely around the patient's neck, allowing the base to drape down over the compress on the injured side (**Fig. 3A**).

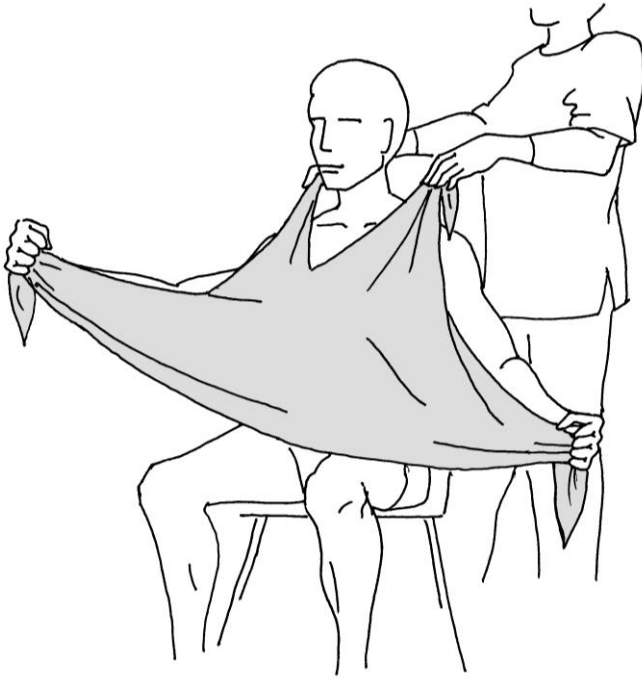


Fig.3A. Triangular bandage for the shoulder (initial step)

Fold the base to the desired width, grasp the ends, and fold or roll the sides toward the shoulder to store the excess bandage.

Wrap the ends around the upper arm, and tie on the outside surface of the arm (**Fig. 3B**).

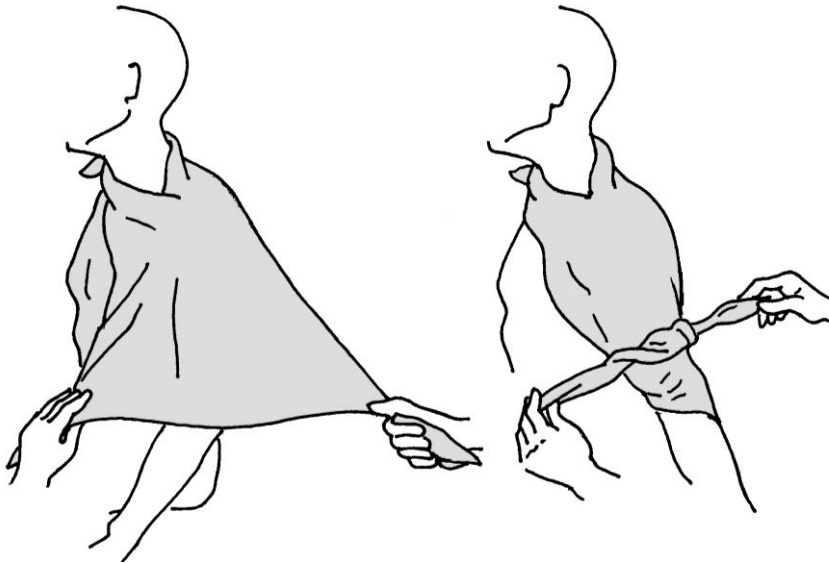


Fig.3B. Triangular bandage for the shoulder

TRIANGULAR BANDAGE FOR CHEST

Cut or tear the point, perpendicular to the base about 25 cm. Tie the two points loosely around the patient's neck, allowing the bandage to drape down over the chest.

Fold the bandage to the desired width, carry the ends around to the back, and secure by tying (**Fig. 4**).

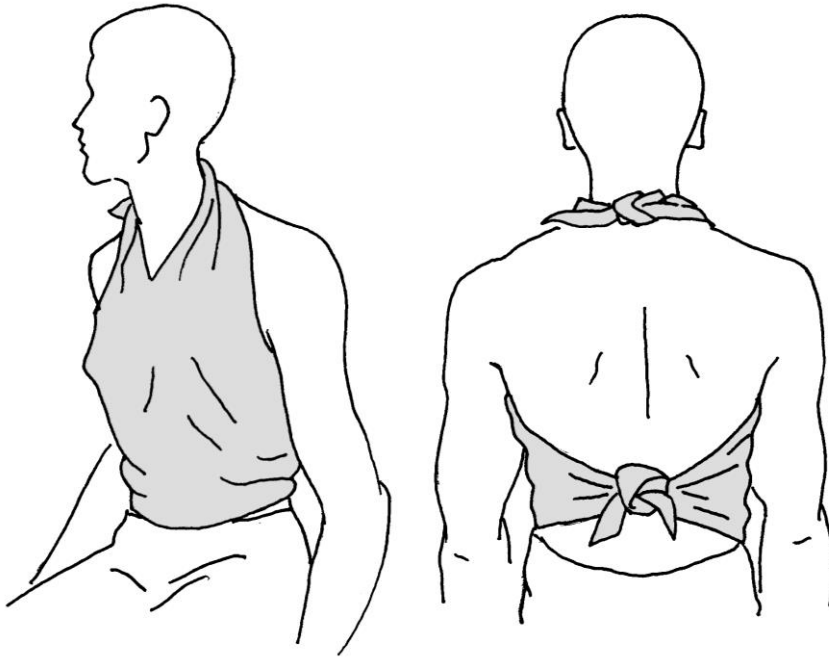


Fig.4. Triangular bandage for the chest

TRIANGULAR BANDAGE FOR HIP OR BUTTOCK

Cut or tear the point, perpendicular to the base, about 25 cm.
Tie the two points around the thigh on the injured side.

Lift the base up to the waistline, fold to the desired width, grasp the ends, fold or roll the sides to store the excess bandage, carry the ends around the waist, and tie on the opposite side of the body (**Fig. 5**).

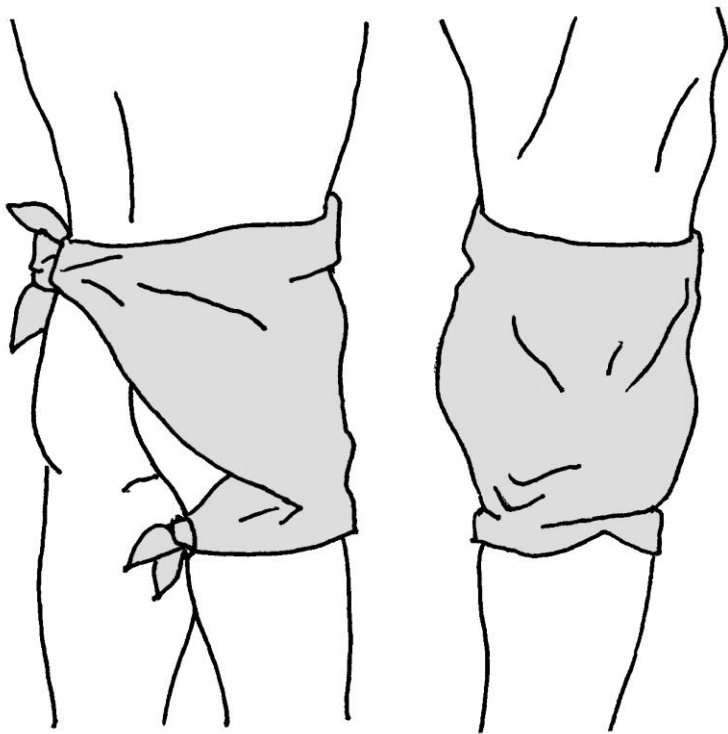


Fig.5. Triangular bandage for the hip and buttock

TRIANGULAR BANDAGE FOR SIDE OF CHEST

Cut or tear the point, perpendicular to the base, about 25 cm. Place the bandage, points up, under the arm on the injured side. Tie the two points on top of the shoulder. Fold the base to the desired width, carry the ends around the chest, and tie on the opposite side (**Fig.6**).

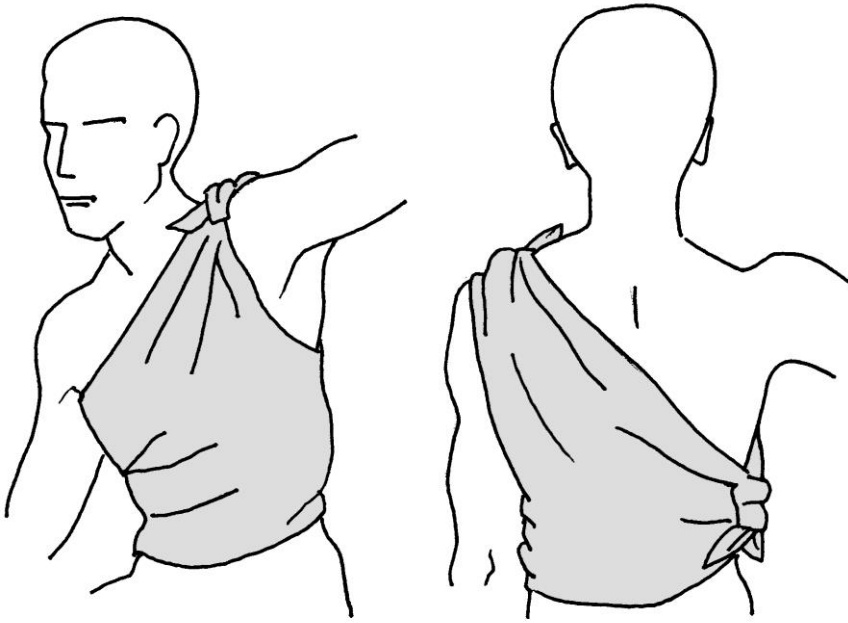


Fig.6. Triangular bandage for the side of the chest

TRIANGULAR BANDAGE FOR FOOT

This bandage is used to retain large compresses on the foot. After the compresses are applied, place the foot in the center of a triangular bandage and carry the point over the ends of the toes and over the upper side of the foot to the ankle. Fold in excess bandage at the side of the foot, cross the ends, and tie in a square knot in front (**Fig.7**).

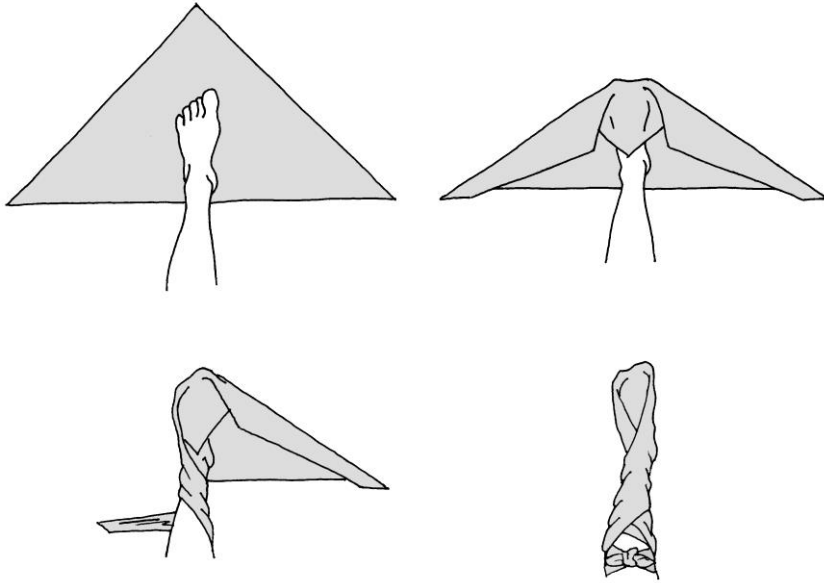


Fig.7. Triangular bandage for the foot

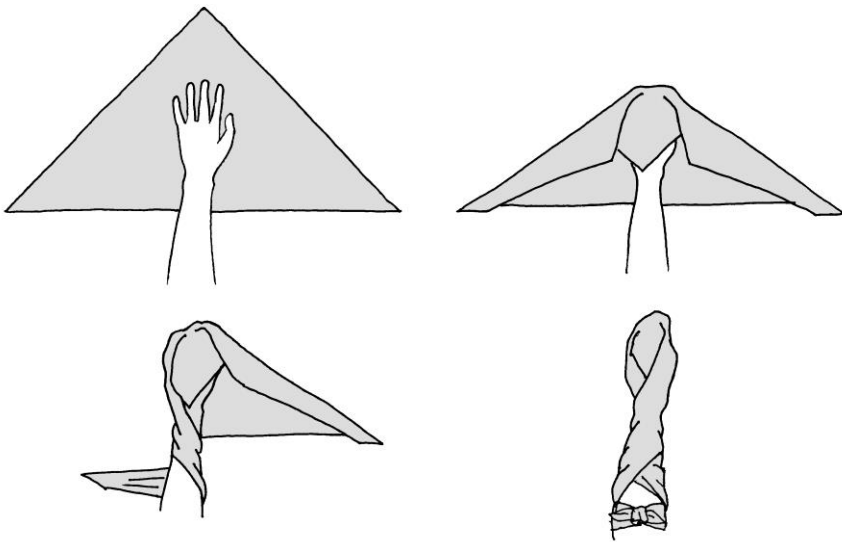


Fig.8. Triangular bandage for the hand

TRIANGULAR BANDAGE FOR HAND

This bandage is used to retain large dressings on the hand. After the dressings are applied, place the base of the triangle well up in the palmar surface of the wrist. Carry the point over the ends of the fingers and back of the hand well up on the wrist. Fold the excess bandage at the side of the hand, cross the ends around the wrist, and tie a knot in front (**Fig.8**).

2. CRAVAT BANDAGE

To make a cravat bandage, bring the point of the triangular bandage to the middle of the base and continue to fold until a 5 cm width is obtained (**Fig.9**).

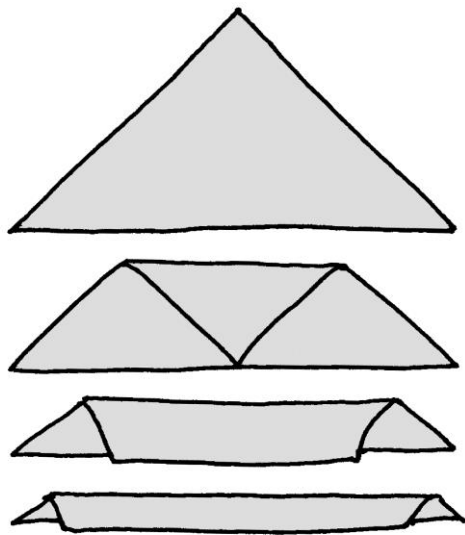


Fig.9. Folding of cravat bandage

CRAVAT BANDAGE FOR EYE

After applying a compress to the affected eye, place the center of the cravat over the compress and on a rotation so that the lower end is directed downward. Bring the lower end around under the ear on the opposite side. Cross the ends in back of the head, bring them forward, and tie them over the compress (**Fig.10**).

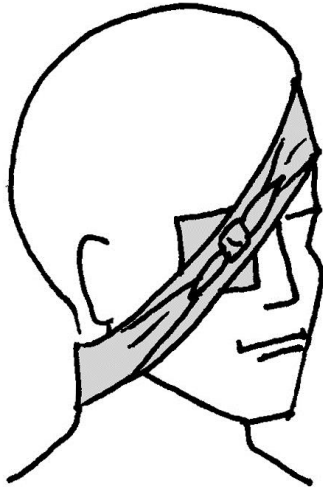


Fig.10. Cravat bandage for the eye

CRAVAT BANDAGE FOR HEAD

This bandage is useful to control bleeding from wounds of the scalp or forehead. After placing a compress over the wound, place the center of the cravat over the compress and carry the ends around to the opposite side; cross them, continue to carry them around to the starting point, and tie in a knot.

CRAVAT BANDAGE FOR TEMPLE, CHEEK, OR EAR

After a compress is applied to the wound, place the center of the cravat over it and hold one end over the top of the head, carry the other under the jaw and up the opposite side, over the top of the head, and cross them at right angles over the temple on the injured side. Continue one end around over the forehead and the other around the back of the head to meet over the temple on the uninjured side. Tie the ends in a knot (**Fig.11**).

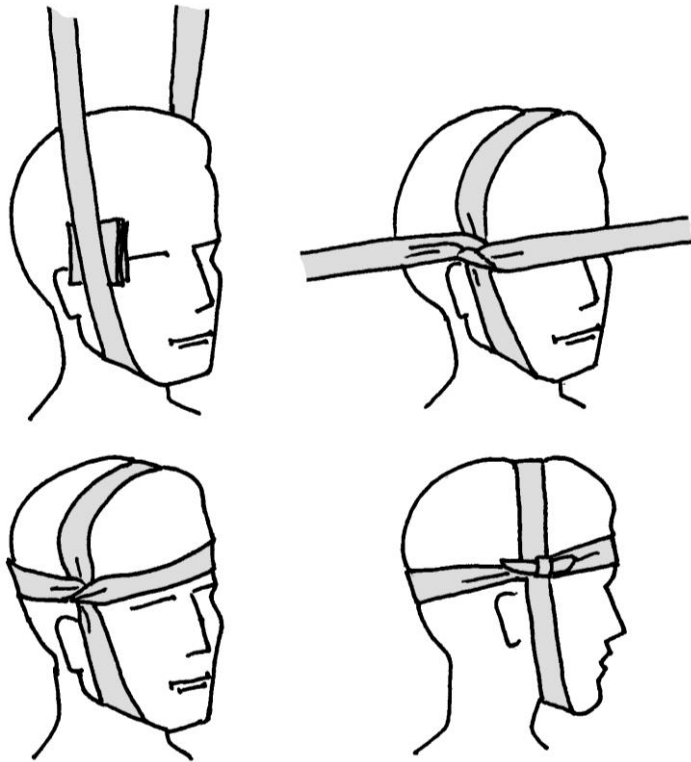


Fig.11. Cravat bandage for the temple, cheek or ear

CRAVAT BANDAGE FOR ELBOW OR KNEE

After applying the compress, and if the injury or pain is not too severe, bend the elbow or knee to a right angle position before applying the bandage. Place the middle of a more wide cravat over the point of the elbow or knee, and carry the upper end around the upper part of the elbow or knee, bringing it back to the hollow, and the lower end entirely around the lower part, bringing it back to the hollow. See that the bandage is smooth and fits comfortable; then tie in a knot outside of the hollow (**Fig.12**).

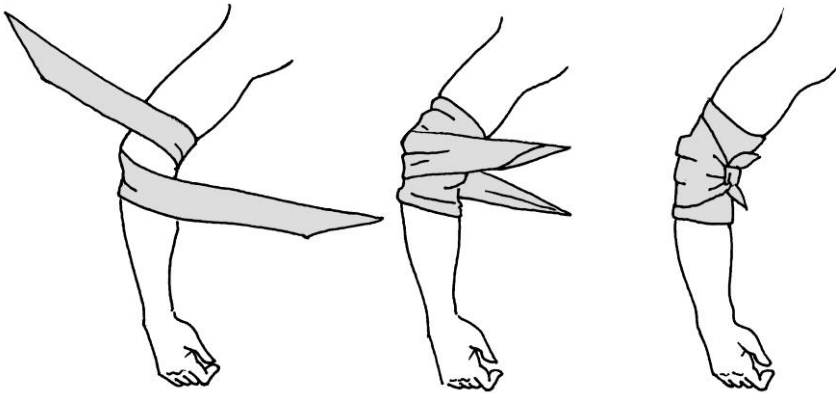


Fig.12. Cravat bandage for the elbow

CRAVAT BANDAGE FOR ARM, FOREARM, LEG OR THIGH

The width of the cravat you use will depend on the extent and area of the injury. For a small area, place a compress over the

wound and center the cravat bandage over the compress. Bring the ends around in back, cross them, and tie over the compress. For a small extremity it may be necessary to make several turns around to use all the bandage for tying.

If the wound covers a larger area, hold one end of the bandage above the compress and turn the other end spirally downward across the compress until it is secure, then upward and around again, and tie a knot where both ends meet (**Fig.13**).

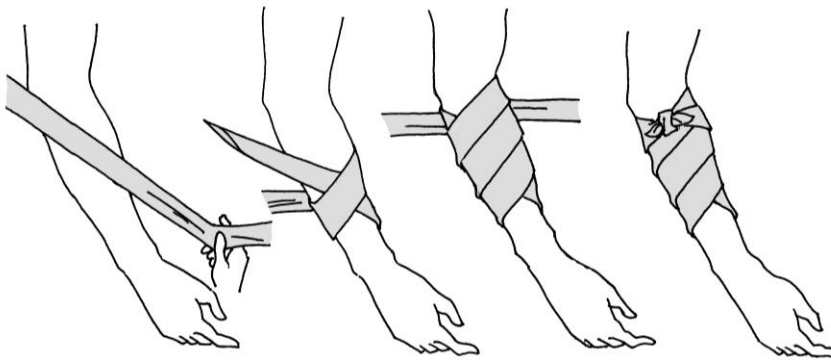


Fig.13. Cravat bandage for the forearm

CRAVAT BANDAGE FOR AXILLA

This cravat is used to hold a compress in the axilla. It is similar to the bandage used to control bleeding from the axilla. Place the center of the bandage in the axilla over the compress and carry the ends up over the top of the shoulder and cross them.

Continue across the back and chest, to the opposite axilla and tie them (**Fig.14**).

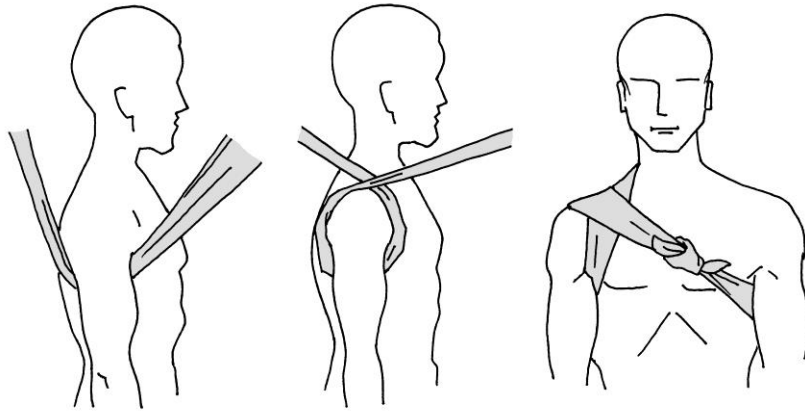


Fig.14. Cravat bandage for the axilla

3. ROLLER BANDAGE

The roller bandage, shown in **Fig.15**, consists of a long strip of material (usually gauze or elastic) that is coiled into a cylindrical shape.

Roller bandages come in various widths and lengths. If the roller bandages have been sterilized, it may be cut off and used as compresses in direct contact with wounds. If you use a piece of roller bandage in this manner, you must be careful not to touch it with your hands or with any other unsterile object.

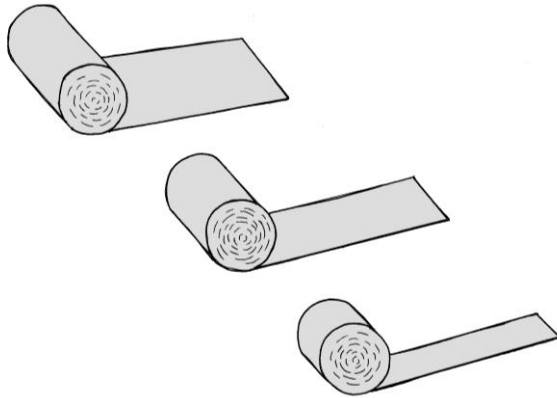


Fig.15. Roller bandages

A piece of roller bandage may be used to make a four-tailed bandage. This is done by splitting the cloth from each end, leaving as large a center area as necessary. It is good for bandaging any protruding part of the body, because the center portion of the bandage forms a smoothly fitting pocket when the tails are crossed over. **Fig.16** shows a bandage of this kind.

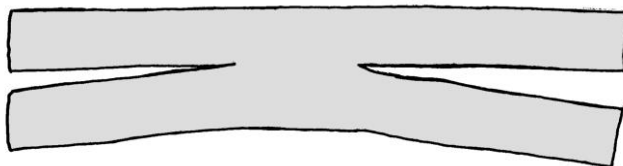


Fig.16. Four-tailed bandage

The four-tailed bandage is often used to hold a compress on the chin, as shown in **Fig.17A**, or on the nose, as shown in **Fig.17B**.

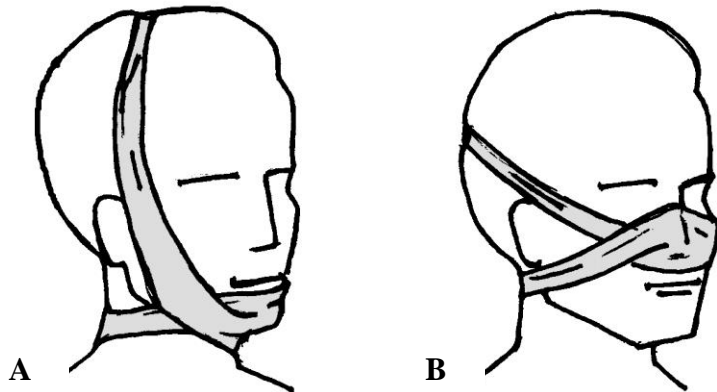


Fig.17. Four-tailed bandages for the chin (**A**) and nose (**B**)

In applying a roller bandage, hold the roll in the right hand so that the loose end is on the bottom; the outside surface of the loose or initial end is next applied to and held on the body part by the left hand.

The roll is then passed around the body part by the right hand, which controls the tension and application of the bandage. Two or three of the initial turns of a roller bandage should overlie each other to secure the bandage and to keep it in place (**Fig.18**).

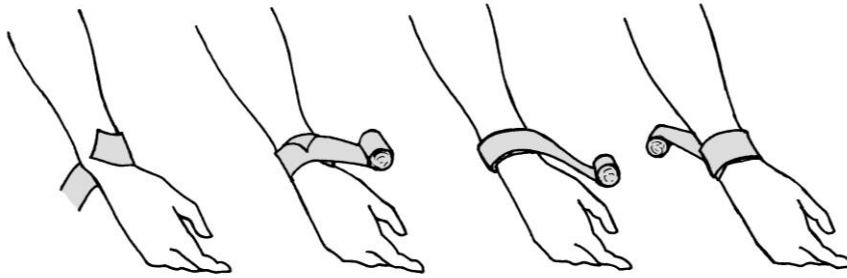


Fig.18. Applying a roller bandage

In applying the turns of the bandage, it is often necessary to transfer the roll from one hand to another. Bandages should be applied evenly, firmly, but not too tightly. Excessive pressure may cause disturbances of circulation and may lead to ischemic complications.

In bandaging an extremity, it is recommended to leave the fingers or toes exposed so the circulation of these parts may be permanently observed. It is likewise safer to apply a large number of turns of a bandage, rather than a few turns applied too firmly to secure a compress.

In applying a wet bandage, or one that may become wet, you must take into account a following contraction. The turns of a bandage should completely cover the skin, because any uncovered areas of skin may become pinched between the turns and result pain. In bandaging any extremity, it is advisable to include the

whole member so that uniform pressure may be maintained. It is also mandatory in bandaging a limb, that the part is placed in the position it will occupy when the dressing is finally completed, because variations in the flexion and extension of the part will cause changes in the pressure of the bandage. The initial turns of a bandage on an extremity should be applied firmly, and when possible, around the part of the limb, that has the smallest circumference. Thus, in bandaging the arm or hand, the initial turns usually are applied around the wrist. In bandaging the leg or foot, the initial turns are applied immediately above the ankle. The final turns of a completed bandage usually are secured in the same manner as the initial turns, by using two or more overlying circular turns. The terminal end of the completed bandage is turned under and secured to the final turns by either a safety pin or adhesive tape. When these are not available, the end of the bandage may be split lengthwise for several centimeters, and the two resulting tails may be secured around the part by tying.

ROLLER BANDAGE FOR ELBOW

A spica or figure-of-eight type of bandage is used around the elbow joint to retain a compress in the elbow region and to allow a certain amount of movement. Flex the elbow slightly, if you can do so without causing further pain or injury, or anchor a medium-

width bandage above the elbow and encircle the forearm below the elbow with a circular turn. Continue the bandage upward across the hollow of the elbow to the starting point. Make another circular turn around the upper arm, carry it downward, repeating the figure-of-eight procedure, and gradually ascend the arm. Overlap each previous turn about two-thirds of the width of the bandage. Secure the bandage with two circular turns above the elbow and tie. To secure a dressing on the tip of the elbow, reverse the procedure and cross the bandage in the back (**Fig.19**).

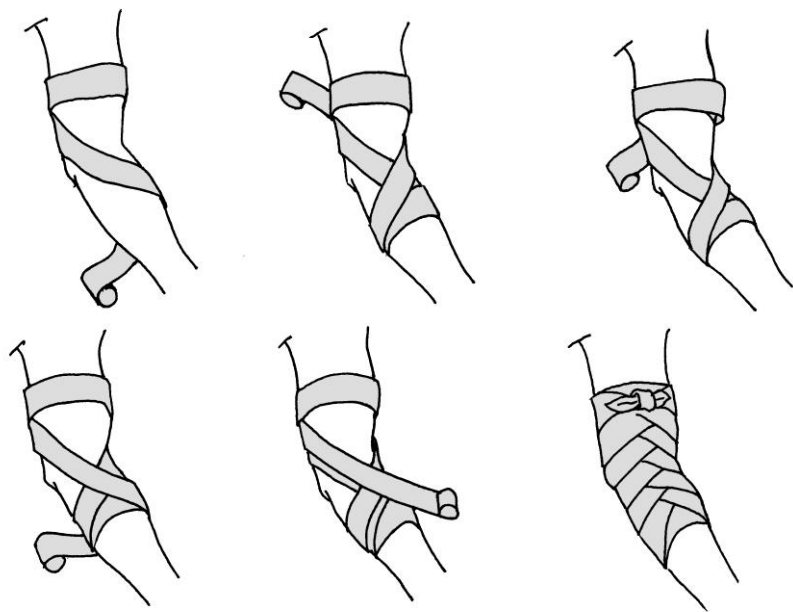


Fig.19. Roller bandage for the elbow

ROLLER BANDAGE FOR HAND AND WRIST

A figure-of-eight bandage is ideal for the hand and wrist. Anchor the dressing, whether it is on the hand or wrist, with several turns of a medium-width bandage. If on the hand, anchor the dressing with several turns and continue the bandage diagonally upward and around the wrist and back over the wound. Make as many turns as necessary to secure the compress properly (**Fig.20**).

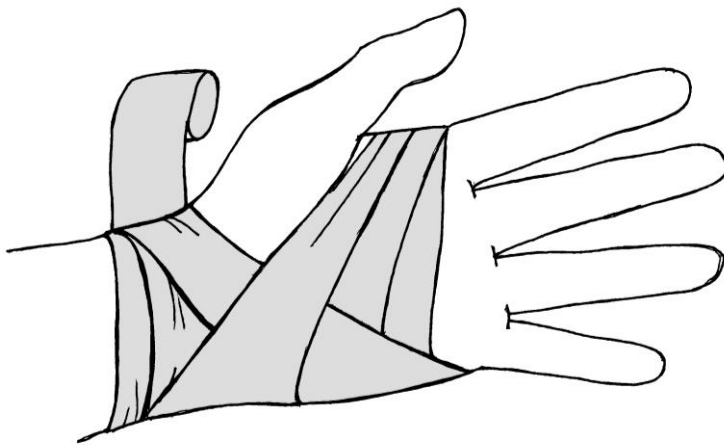


Fig.20. Roller bandage for the hand and wrist

ROLLER BANDAGE FOR FINGER

Place sterile dressing upon the wound and cover dorsal surface of finger with free end of narrow roller bandage leaving excess of appreciatively 40 cm. Continue downward covering tip and palmar

surface of finger and change direction of bandage applying two-three circular turns around the finger. Repeat this technique using both ends of bandage. Continue as long as necessary and secure around base of finger (**Fig.21**).

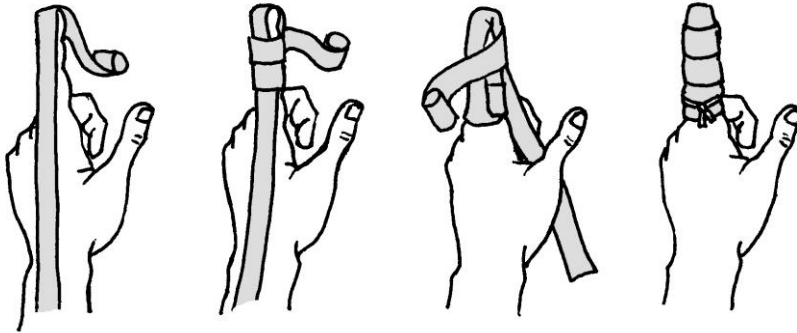


Fig.21. Roller bandage for the finger

SPIRAL REVERSE BANDAGE FOR THUMB

Anchor the bandage making two or three circular turns around the wrist (**Fig.22**).

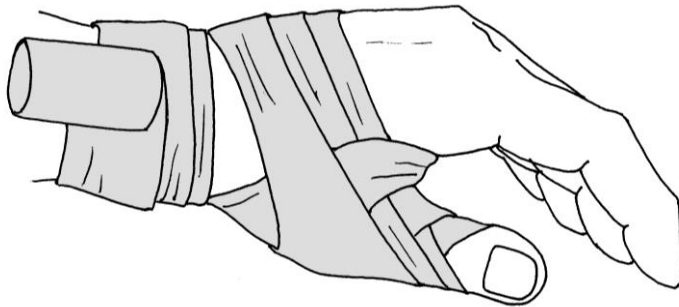


Fig.22. Spiral reverse bandage for the thumb

Then cover the finger downward to the tip, going around and making the reverse laps on each turning, overlapping about one-third to one-half the width of the previous turn. Continue as long as each turn lies flat. Then go up, repeating the manipulation, and tie the end around the wrist.

ROLLER BANDAGE FOR ALL FINGERS

Make two or three circular turns around the lower and smaller part of the limb to anchor the bandage and go downward cross the dorsal surface of hand to the point of finger (**Fig.23**).

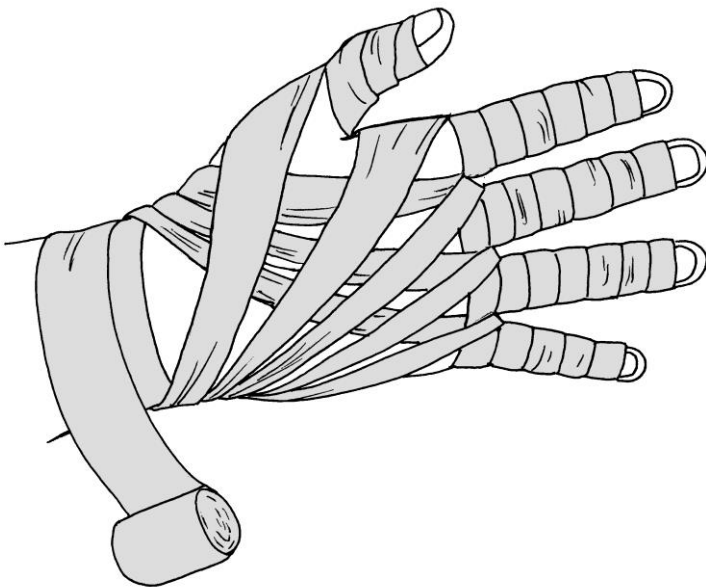


Fig.23. Roller bandage for all fingers

Roll the bandage around the finger upward, continue the bandage crossing the dorsal surface of hand and making several turns around the wrist, then make the same on the next finger. Start the bandage from the 1-st finger on the right hand and from the 5-th on the left hand. Finish the bandage on the wrist.

ROLLER BANDAGE FOR ANKLE AND FOOT

The figure-of-eight bandage is also used for dressings of the ankle, as well as for supporting a sprain (**Fig. 24**).

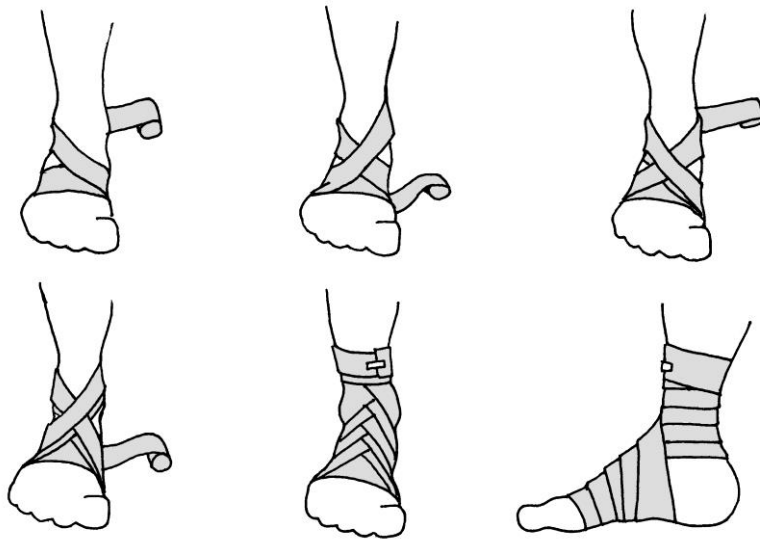


Fig.24. Roller bandage for the ankle and foot

While keeping the foot at a right angle, start a medium-width bandage around the instep for several turns to anchor it. Carry the

bandage upward over the instep and around behind the ankle, forward and again across the instep and down under the arch, thus completing one figure- of-eight. Continue the figure-of-eight turns, overlapping one-third to one-half its width, with an occasional turn around the ankle, until the compress is secured or until adequate support is obtained.

ROLLER BANDAGE FOR HEEL

The heel is one of the most difficult parts of the body to bandage. Place the free end of the bandage on the external part of the ankle and bring the bandage under the foot and up (**Fig.25**).

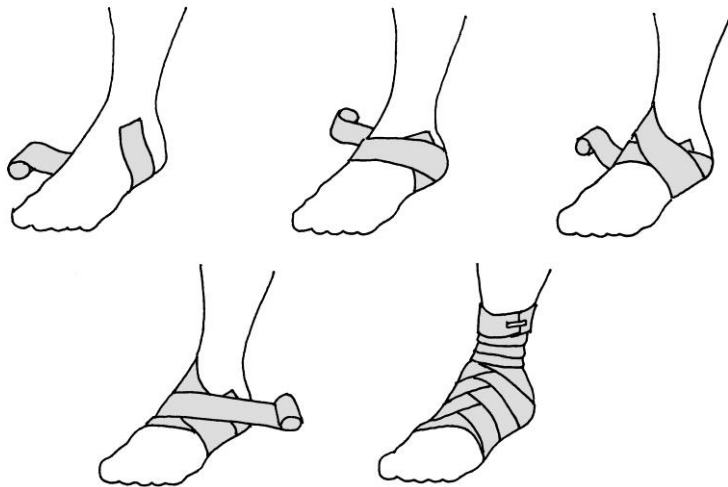


Fig.25. Roller bandage for the heel

Then carry the bandage over the instep, around the heel, and back over the instep to the starting point. Overlap the lower border of the first loop around the heel and repeat the turn, overlapping the upper border of the loop around the heel. Continue this procedure until the desired number of turns is obtained, and secure with several turns around the lower leg.

ROLLER BANDAGE FOR ARM OR LEG

The spiral reverse bandage must be used to cover wounds of the forearms and lower extremities; only such bandages can keep the dressing flat and smooth (**Fig.26**).

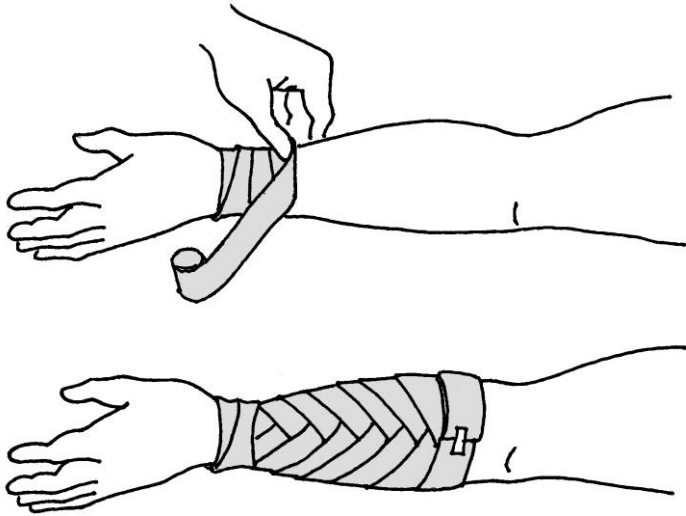


Fig.26. Roller bandage for the arm

Make two or three circular turns around the lower and smaller part of the limb to anchor the bandage and start upward, going around and making the reverse laps on each turning, overlapping about one-third to one-half the width of the previous turn. Continue as long as each turn lies flat. Continue the spiral and tie the end when completed.

VELPEAU'S BANDAGE

Velpeau's dressing is a bandage which serves to immobilize arm to chest wall, with the forearm positioned obliquely across and upward on front of chest.

Velpeau's dressing generally is used in case of clavicular fracture and after reduction of humeral dislocation.

Anchor the dressing with several turns of a medium-width bandage around the chest taking affected arm. Continue the bandage under the armpit of the healthy arm crossing the back and covering the affected shoulder. Carry the bandage crossing the clavicle down, turn around the elbow grasping it and go to the armpit of the healthy arm to make another turn around the chest and so on.

Horizontal turns gradually progress downward, vertical turns go from outside to inside (**Fig.27**).

DESAULT'S BANDAGE

Desault's bandage is a bandage which serves to immobilize arm to chest wall, with the forearm positioned horizontally making with upper arm an angle of 90° . It is also used for immobilization in case of clavicular fracture after reduction of humeral dislocation (Fig.28).



Fig.27. Velpeau's bandage



Fig.28. Desault's bandage

Place a cotton bolster under the armpit of affected arm. Anchor the dressing with several turns of a medium-width bandage

around the chest taking affected arm. Bandaging left arm start the turns from left to right and bandaging right arm go from right to left. Continue dressing from healthy armpit across the chest to affected clavicle; cover it go down making a turn behind the shoulder and upper arm. Then carry the bandage under the elbow raising the arm up, continue dressing to the healthy armpit across the chest, go to the affected shoulder behind the back. Make a turn going down, covering the upper arm in front, turn round the elbow and go behind the back to the healthy armpit. Continue the bandage in the same way.

BARTON BANDAGE

With the initial end of the roller bandage applied to the head, just behind the right mastoid process, the bandage is carried under the bony prominence at the occipital region, upward and forward back of the left ear, obliquely across the top of the head, and downward in front of the right ear. It is then carried under the chin, upward in front of the left ear, obliquely across the top of the head, crossing the first turn in the midline of the head, and then backward and downward to the point of origin behind the right mastoid. Now it is carried around the back of the head under the left ear, around the front of the chin, and under the right ear to the point of origin. This procedure is repeated several times, each turn

exactly overlying the preceding turn. The bandage is secured with a pin or strip of adhesive tape at the crossing on top of the head. It may be used for fractures of the mandibula and to retain compresses to the chin (**Fig.29**).

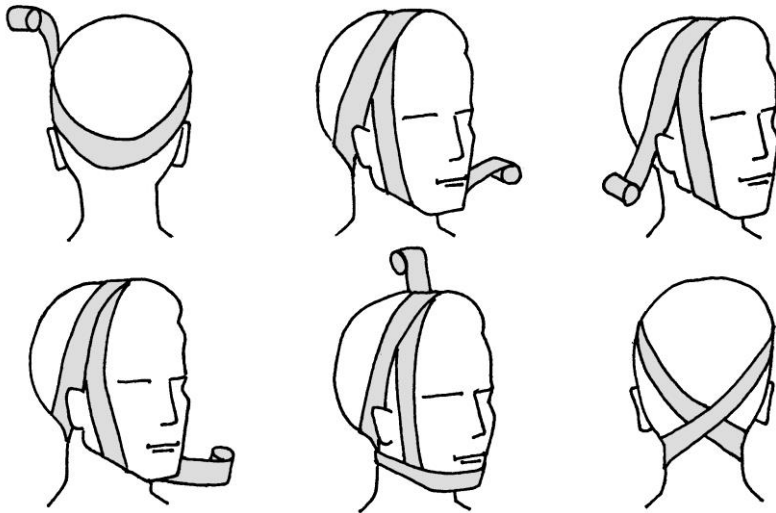


Fig.29. Barton bandage

ROLLER BANDAGE FOR EYE

Take the bandage in the right arm applying a bandage on the right eye and in the left arm in case of applying on the left eye. Place some gauze on the affected eye and make two or three circular turns around the forehead and occiput to anchor the bandage. Continue the bandage moving from occiput behind the ear across the face covering the affected eye. Then repeat a

circular turn around the forehead and occiput, go behind the ear and repeat the same movement across the face covering the former turn for a third. Repeat the same several times to cover completely affected orbital area (**Fig.30A**).

Bandaging starts from right eye in case of necessity to cover both eyes. Make two or three circular turns around the forehead and occiput to anchor the bandage.

Continue the bandage moving from occiput behind the right ear across the face covering the eye. Then repeat a circular turn around the forehead and occiput. Make a turn above the right ear across the face behind the left ear, covering the left eye, go upward and make a turn around the head. Repeat the same until both orbital areas are covered completely (**Fig.30B**).

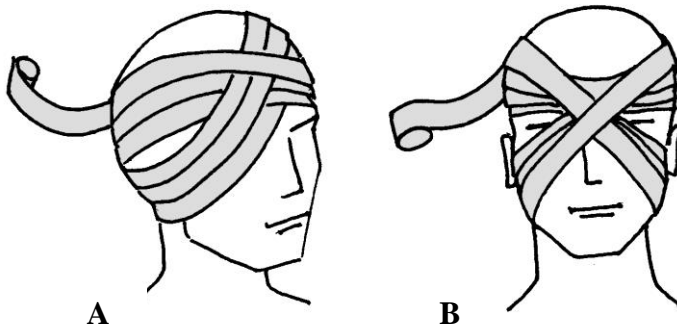


Fig.30. Roller bandage for one (A) or both eyes (B)

HIPPOCRATES' BANDAGE

Hippocrates' bandage is a complicate bandage of head. It is applied using a double-headed bandage, moving its heads in two perpendicular planes, periodically crossing them to form a bandage looking like Hippocrates' bandage (**Fig.31**).

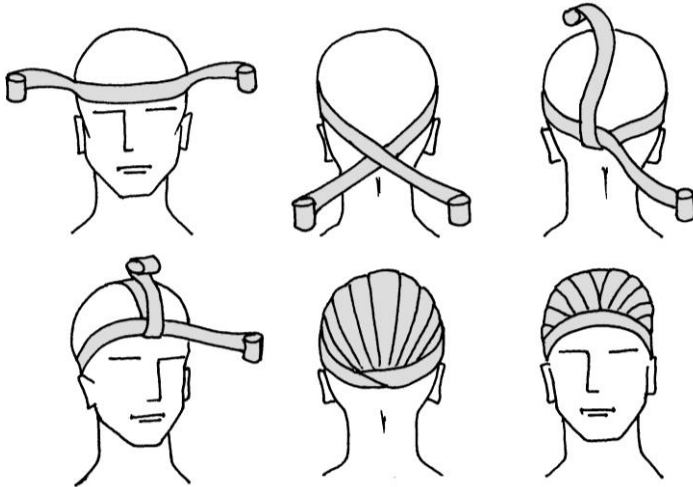


Fig.31. Hippocrates' bandage

CAPELINE BANDAGE

Capeline bandage is a complicate bandage of head, applied using a medium-width bandage, crossing a band of gauze in that way changing its direction to cover completely the head in form of a capeline (**Fig.32**).

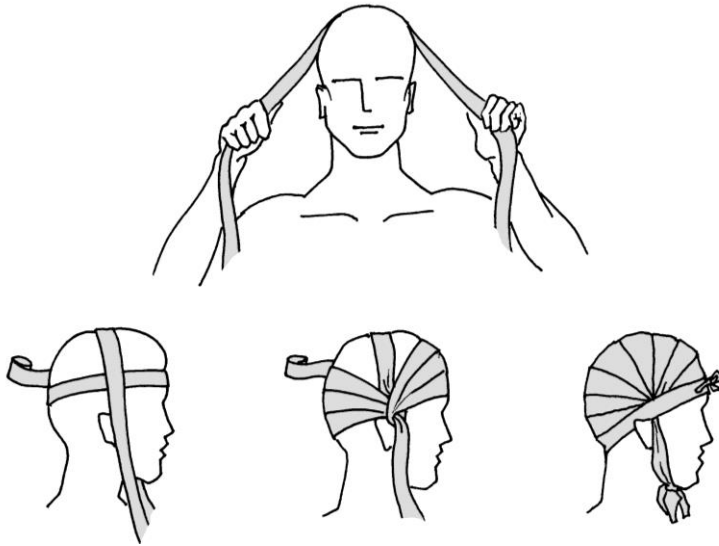


Fig.32. Capeline bandage

4. ELASTIC NET RETENTION BANDAGE

Elastic net retention bandage is designed to secure other dressings in place without using adhesive. Possessing of elastic property, it fits tightly to any part of human body, does not become loose during cutting and does not disturb movement. This type of bandage also allows monitoring the damaged area.

There are several sizes of elastic net retention bandage: size 1-3 for toes, fingers, wrist or ankle; size 4-7 for hands, feet, legs, arms, head and neck; size 8-14 for torso, abdomen, perineum; size 20 for large chest and abdomen. One can choose appropriate bandage to be applied on different part of human body.