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U. S. BUREAU OF MEDICINE AND SURGERY
FIRST AID FOR BATTLE CASUALTIES

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FIRST AID FOR
BATTLE
CASUALTIES



YOU MAY SAVE HIS LIFE



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THE BUREAU OF MEDICINE AND SURGERY
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FIRST AID INSTRUCTIONS

Every sailor must know first aid. At isolated stations or during battle you may be faced with the responsibility of saving your own or a shipmate's life. Medical officers and hospital corpsmen will help you to learn first aid, but it is your *duty* to be prepared.

FUNDAMENTALS OF FIRST AID

Follow This Routine in Every Case

(Speed is essential in treating the first two emergencies.)

1. Look for rapid (arterial) bleeding. If it is present, control it.
2. If breathing has stopped due to apparent drowning, electric shock, or suffocation, start artificial respiration.

Then

3. Examine the injured man to determine the nature and extent of his injuries.
4. If the injuries are minor, have him return to his battle station until the all-clear is sounded.
5. If there are severe injuries, keep the man lying down, warmly covered. Give morphine for pain. Dress wounds, treat burns, splint fractures as required. Move him carefully to the sick bay or battle dressing station. Any wounded man may have sips of water if he asks for it.

EXAMINATION OF AN INJURED MAN

Systematic examination prevents overlooking serious injuries and gives you the information necessary to proceed with first-aid treatment.

Move the injured man no more than absolutely necessary and keep him lying down until your examination is complete.

WOUNDS AND BURNS

Remove or look beneath the clothing so you can see his whole body.

FRACTURES

SYMPTOMS AND SIGNS OF A FRACTURE

1. **The Head.**—Headache; dizziness; unconsciousness; bruises and cuts on the head; bleeding from the nose, ears, or mouth.
2. **Arms and Legs.**—Deformed position; pain or inability to use the limb; a localized spot very tender to pressure.
3. **Neck and Back.**—Pain in the neck or back; a spot on the spine tender to pressure; paralysis of arms or legs. Feel along the whole spine from the neck to the pelvis, lifting him gently with the finger tips.
4. **Collar Bones.**—Tenderness to pressure over the bone and pain on attempted use of the shoulder.
5. **Ribs.**—Pain on taking a deep breath or coughing, and tenderness to pressure.
6. **Pelvis.**—Pressure about the hips causes pain.

MORPHINE

DO use it to stop pain and prevent shock.

DO use it for severe injuries or burns.

DON'T give it to a man with minor injuries.

DON'T give it to an unconscious man.

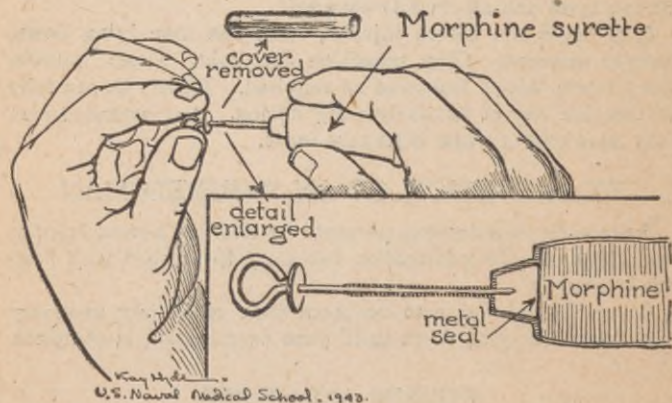


FIGURE 1.—Assembly and manner of opening the morphine syrette.

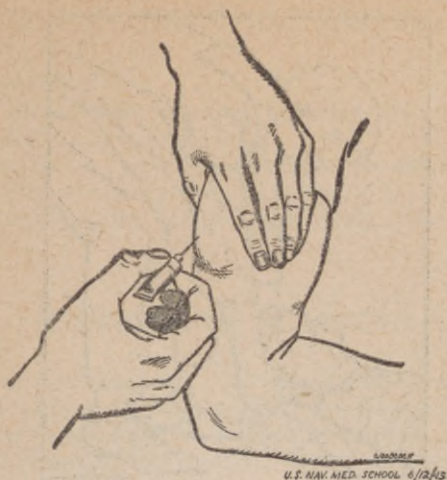


FIGURE 2.—Correct method of using morphine syrette:

How to Give a Morphine Syrette:

1. Paint iodine or other antiseptic on an uninjured skin area. The outer side of the arm or thigh are the best places.
2. Grasp the tube of the syrette at its neck with your finger tips. Remove the shield. Hold the wire by the loop, push it through the needle to break the seal, then discard the wire.
3. Force the needle through the skin into the flesh beneath.
4. Squeeze out the contents of the syrette.
5. Withdraw the needle and discard it.
6. Note the time of injection on a tag and tie it to the injured man's identification disk.
7. If the first dose does not ease the pain within an hour, give a second one. Usually one dose will last 3 or 4 hours.



FIGURE 3.—The collar drag.



FIGURE 4.—The one-man carry.

TRANSPORTATION OF AN INJURED MAN

Learn These Methods:

1. The Stokes wire stretcher or army litter—the safest transportation methods.
2. The blanket-lift and carry—the next best method.
3. The collar or blanket drag—use if no help is available.
4. The one man lift and carry—use only when absolutely necessary.

CONTROL OF BLEEDING

1. *Pressure over the wound.*—Nature stops bleeding from small cuts and wounds by clotting the blood. A pressure dressing on a wound slows bleeding and allows the blood to clot. Always try to control bleeding by this method. If bandage has been put on tightly, remember to loosen it every 30 minutes.

2. *Pressure points and tourniquets.* Because the blood in an artery is under direct pressure from the heart, it will spurt or well out in time with the heart beat if the artery is cut or torn. The loss of blood is fatal unless stopped quickly. Arterial bleeding can be stopped by applying pressure with the hand at places called pressure points. Learn to feel the artery at these points so that you can apply hand pressure there to stop arterial bleeding. After you have stopped bleeding from an arm or leg by hand pressure, apply a tourniquet to maintain the pressure. Apply the tourniquet as high as possible on the arm or leg over clothing pulled free of wrinkles.

A *rubber tourniquet* is applied by stretching it and wrapping it twice around the arm or leg. Secure it by tucking the free end beneath one of the turns.

A *woven tourniquet*, neckerchief, or a strip of cloth is applied by tying it loosely around the limb and twisting it with a stick or knife slowly until the bleeding stops.

Tag each tourniquet case. Apply a firm dressing to the wound. Release the tourniquet every half hour; reapply it only if rapid bleeding begins again.

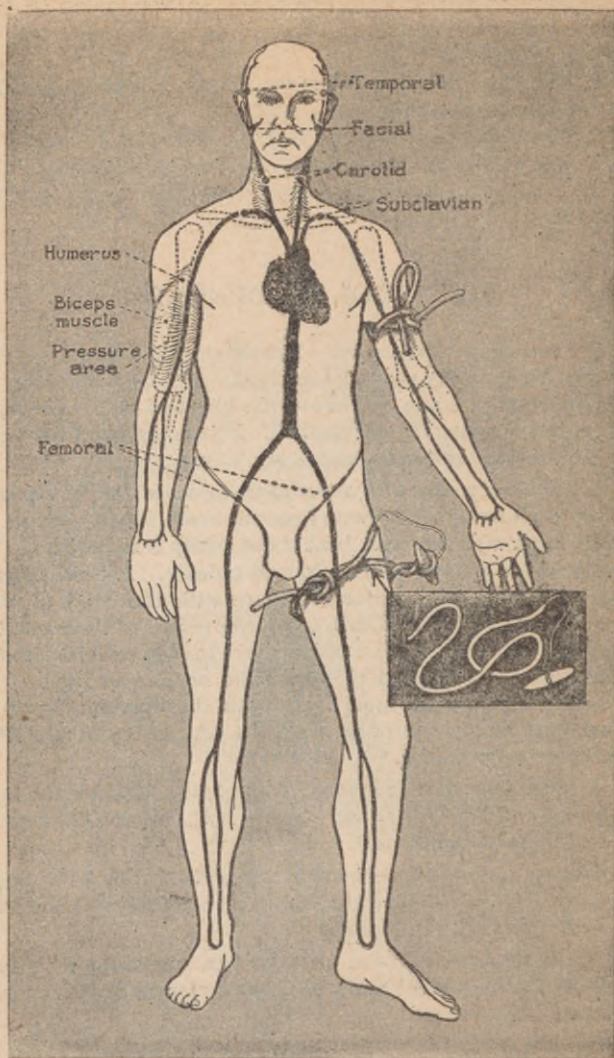


FIGURE 5.—Pressure points and application of tourniquets.

MAIN PRESSURE POINTS

Bleeding from:	Pressure point location
Arm or hand.....	Inner side of the arm halfway between the shoulder and elbow.
Thigh, leg, or foot....	In the groin at the skin crease.
Shoulder.....	In the hollow just above the inner end of the collar bone.
Head or neck.....	Beside the windpipe.
Face wounds.....	The edge of the jaw bone.
Scalp wounds.....	Just in front of the ear.

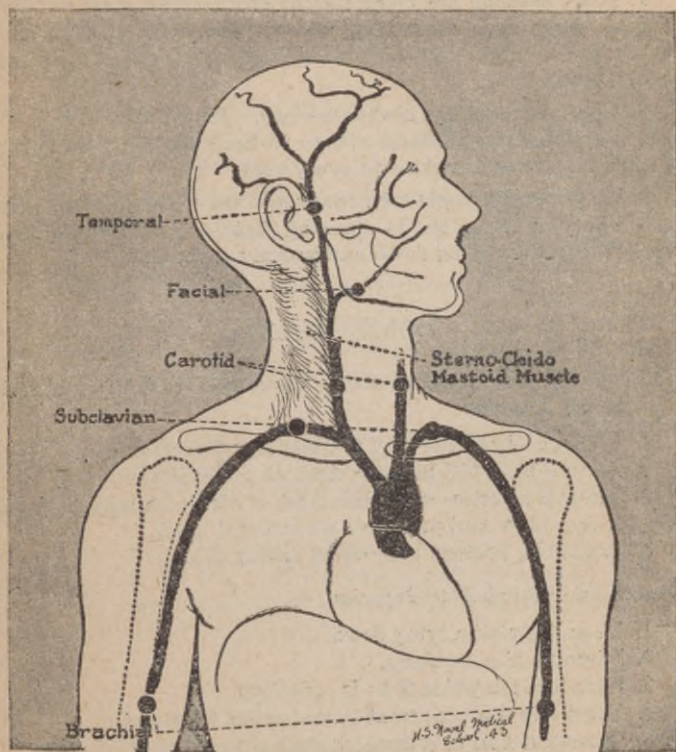


FIGURE 6.—Pressure points, head and neck.

DRESSING THE WOUND

1. Sprinkle the contents of a packet of Sulfa powder into each wound. Don't use more than two packets on one person even if he has multiple wounds. Don't use anything else in or around the wound.

2. Apply a sterile dressing over the wound. Bandage it snugly if bleeding needs to be stopped.

3. Use Sulfa tablets by mouth as directed on the package.

The procedure for dressing the wound will vary with the location of the wound.

1. **Head wounds** are often serious as the skull may be fractured. Keep such cases lying down. Use Sulfa powder and apply a dressing lightly. Give no morphine unless there is severe pain.

2. **Chest wounds** are always serious. Plug the wound with gauze and seal with adhesive tape to keep the air from being sucked in. Give morphine to every case.

3. **Abdominal wounds** are always serious. Use Sulfa powder and apply a large sterile dressing lightly. Give morphine. Keep the patient lying down and warmly covered.

BOMB BLAST

High Explosives (Shell, Grenade, Torpedo, Land Mine, Aerial Bomb) Produce:

1. Wounds—from the steel fragments and secondary missiles.
2. Burns—from the blinding flash of the explosion.
3. Internal injuries—from the blast of air which may strike a very severe blow and yet leave no external mark.
4. Fractures, bruises, etc.—from falling debris.

Treatment of Bomb Blast Injuries.

1. Keep the victim lying down.
2. Examine him carefully.
3. Give him morphine if he is conscious.
4. Dress any wounds; treat burns; splint fractures.
5. Transport him to a dressing station by stretcher or litter.

TREATMENT OF SEVERE BURNS

If a medical officer is immediately available, get the victim to him at once by stretcher.

If medical aid is not available:

1. Make the victim lie down.
2. Cover him warmly.
3. Give morphine.
4. Remove clothing carefully from the burned area.
5. Apply "burn jelly" thickly over the burn and cover it lightly with a sterile dressing.
6. Transport him by stretcher to the dressing station.

TREATMENT OF FRACTURES

If you suspect that there is a fracture, treat the injury as though you are sure it is a fracture. Keep the victim lying down until your examination is complete.

1. *Examine carefully.*—Strong indications of a fracture are:

Inability to use an arm or leg.

Deformed position.

Pain and localized tenderness to touch.

Don't overlook a fractured skull or broken back.

2. *Morphine.*—Give morphine to every fracture case in which there is severe pain. Don't give it to unconscious persons or to those with minor injuries.

3. *Wounds.*—A compound fracture is one in which there is a skin wound connecting with the fracture. Sprinkle Sulfa powder in the wound and apply a dressing carefully before splinting the fractured bone.

4. *Splints.*—"Splint them where they lie." Straighten a broken arm or leg out carefully and slowly before applying a splint. Be sure the splint is long enough so that it extends beyond the ends of the broken bone.

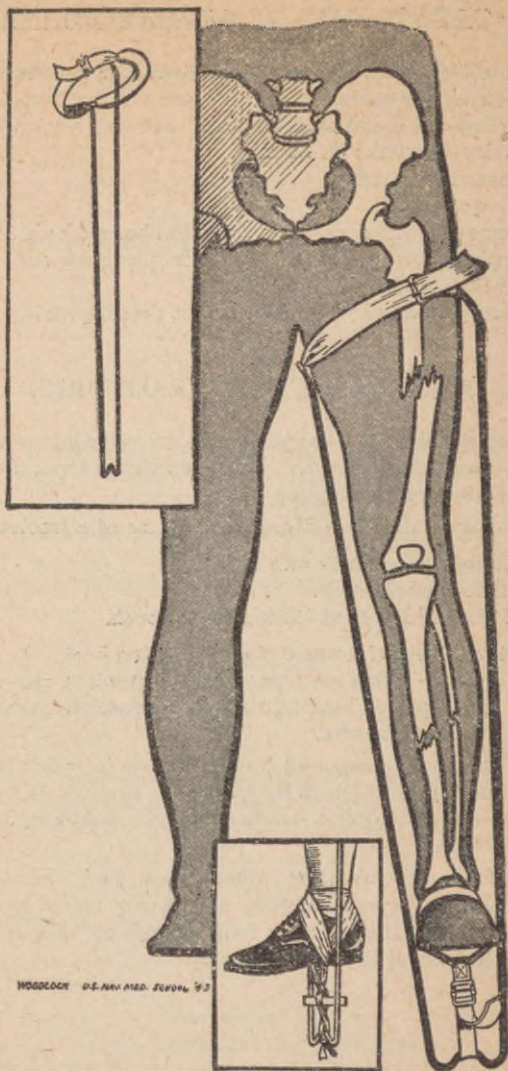


FIGURE 7.—Thomas splint, and diagrams showing fractures of thigh and leg bones with splint applied, and manner of applying "traction hitch" extension.

A broken arm is more comfortable if splinted with the elbow bent. Practice applying wooden and wire splints to the arm. Learn to use a sling.



FIGURE 8.—Arm splint (wire).

A broken leg or thigh is best splinted in the Thomas ring splint (or Keller-Blake modification). For traction on the foot when using these splints, a cloth strip is applied as follows:

1. Place the center of the strip under the center of the foot like a stirrup.
2. Cross the two ends over the instep.
3. Pass both ends back and around behind the foot, crossing above the heel.
4. Pass each end forward and slip the ends under the first stirrup loop.

5. Tie the ends of the cloth around the end of the splint, pulling out all slack and tying snugly with a square knot.

This traction hitch must be put on smoothly, avoiding wrinkles. Traction is increased by twisting a stick in the cloth strips. Substitute splints are a rifle, pillow and sides, wire, tying the legs together, etc.

A broken ankle is best splinted with the wire roll or the pillow and sides splint.

A fractured skull, spine, or pelvis cannot be splinted. Use the three-man lift to get the victim into a stretcher. Support the head, back, pelvis, and legs, keeping all of them in a straight line during the lift and during transportation to the dressing station or the sick bay.

ARTIFICIAL RESPIRATION

Where breathing has stopped because of apparent drowning, asphyxiation, or electric shock, artificial respiration must be started immediately. The best way to restore breathing is the Schaefer prone pressure method of artificial respiration.



FIGURE 9.

1. Roll the patient onto his belly, his head a little lower than his body, if possible.
2. Cushion his head on his forearm, open his mouth, pull his tongue forward, remove any obstructions so that air can pass freely.



FIGURE 10.

- 3. Kneel astride one of his legs in a position from which you can easily reach the base of his ribs and also see his face.*



FIGURE 11.

- 4. As you lean forward, keep your elbows stiff.*
- 5. Keep your fingers together and the whole hand in contact with the lower ribs as you press down.*



FIGURE 12.

6. *Let the weight of your body rest on your hands.*
7. *When your shoulders are directly above the heel of your hands, start your backward swing.*



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FIGURE 13.

8. *On your backward swing, let your arms drop so that they can rest between strokes.*

Repeat this action in a regular rhythm about 12 to 15 times a minute. The purpose is to force the air steadily in and out of the patient's lungs.

The hand pressure does two things: It compresses the lower ribs and it also exerts pressure on the abdomen, with the result that the diaphragm is pushed up. The combined action of the ribs and the diaphragm forces the air out of the lungs. As the hand pressure is released, the chest, due to its natural resiliency, expands, drawing air back into the lungs. Thus a constant supply of life-giving oxygen is assured until such time as the body resumes its normal respiration.

To help in keeping a regular pace, you should count *slowly*. On the forward stroke, count "one-two-three." On the backward swing, count "one-two."

The victim must be kept warm. As soon as possible, get an assistant to cover him. The rhythm should not be interrupted while this is being done.

If you have someone to assist you, you can relieve each other at intervals. In order not to break the rhythm while making the change, the assistant should carry out the motions until he is in step with the operator.

Lives have been saved following hours of work. If no medical officer is available, continue artificial respiration until breathing is restored or until it becomes obvious that the man is dead. If the patient starts to breathe again, keep him lying down for his heart is still dangerously weak. Get him to the sick bay as soon as possible for further care.

Learn and practice artificial respiration. It may mean the saving of a shipmate's life.



This Manual is Based
on the
Navy Training Film
MN 836
PERSONNEL DAMAGE CONTROL

- (a) Fundamentals of First Aid
- (b) Wounds
- (c) Bomb Blast and Burns
- (d) Fractures
- (e) Artificial Respiration



PRESSBOARD
PAMPHLET BINDER



Manufactured by
GAYLORD BROS. Inc.
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