FIRST AID HAND BOOK

GoI-UNDP Disaster Risk Management Programme
FIRST AID HAND BOOK
## Contents

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Chapter</th>
<th>Page No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>VICTIM ASSESSMENT AND GOALS OF FIRST AID</td>
<td>1</td>
</tr>
<tr>
<td>2.</td>
<td>CARDIOPULMONARY RESUSCITATION</td>
<td>2</td>
</tr>
<tr>
<td>3.</td>
<td>CHOKING AND OBLERCTED AIRWAY</td>
<td>9</td>
</tr>
<tr>
<td>4.</td>
<td>FRACTURES</td>
<td>13</td>
</tr>
<tr>
<td>5.</td>
<td>BLEEDING</td>
<td>16</td>
</tr>
<tr>
<td>6.</td>
<td>BURNS</td>
<td>17</td>
</tr>
<tr>
<td>7.</td>
<td>ELECTRIC SHOCK</td>
<td>18</td>
</tr>
<tr>
<td>8.</td>
<td>HEAT - EXHAUSTION &amp; HEAT - STROKE</td>
<td>19</td>
</tr>
<tr>
<td>9.</td>
<td>DROWNING</td>
<td>21</td>
</tr>
<tr>
<td>10.</td>
<td>POISONING</td>
<td>23</td>
</tr>
<tr>
<td>11.</td>
<td>SNAKE BITE</td>
<td>23</td>
</tr>
</tbody>
</table>
FIRST AID

First Aid is the immediate treatment given to the victim of an accident or sudden illness, before medical help is obtained.

Aims of First Aid

The main aims of First Aid are:

- To preserve life
- To promote recovery
- To prevent the worsening of the victim's condition

CHAPTER 1

VICTIM ASSESSMENT AND GOALS OF FIRST AID

The effective application of first-aid techniques depends primarily on the ability of the rescuer to assess the situation and to make the proper decisions without delay. These situations can be divided into three types:

- Life-threatening emergencies that require immediate action on the part of the rescuer as well as complex medical follow-up.
- Potentially serious situations that are not life-threatening but that require medical care. This is the most difficult situation for a layperson to judge without first-aid training.
- Those that require simple first aid or self-care.

The goals of first aid are:

1. To restore and maintain vital functions. The ABC of basic life support (Airway, Breathing, and Circulation) are always the first priority.
2. To prevent further injury or deterioration
3. To reassure the victim and make him or her as comfortable as possible

The order in which first aid should be provided is:

- First: Assess victim for signs of life. For an adult if signs of life are absent, call for help. (For children, attempt rescue breathing for one minute before calling for help.)
- Second: Restore respiration if breathing has stopped. (See "Cardiopulmonary Resuscitation" and "Choking and Obstructed Airway"
- Third: Restore heart action if there is no discernible heartbeat or
- Fourth: Stop bleeding.
- Fifth: Treat for shock.
• If there are other bystanders, one should immediately summon help while emergency first aid is being administered. After help has been called, other first-aid measures can then be initiated, depending upon the circumstances.

CHAPTER 2
CARDIOPULMONARY RESUSCITATION

DEFINITION
Cardiopulmonary resuscitation encompasses more than one simple rescue technique for saving someone whose heart or breathing has stopped. It requires learning the physical skills of artificial respiration (mouth-to-mouth breathing) and closed chest compressions, as well as the proper timing and a specific sequence in which to use the skills.

Always perform life support techniques as quickly as possible after an injury. Except under very unusual circumstances, brain damage is likely to occur 4 to 6 minutes after cardiopulmonary arrest and the likelihood and severity of this damage increase each minute thereafter. In the case of a life-threatening medical emergency, life-support techniques should be offered in the following order:

1. Call for help.
2. Restore breathing if breathing has stopped (particularly important for children pulled from the water).
3. Restore circulation if there is no heartbeat or pulse.
4. Stop any bleeding.
5. Treat for shock.

DIAGNOSIS: WHEN TO OFFER CPR
CPR should be offered to victims who are unconscious and have no breath or heartbeat. When you approach an apparently unconscious person, call and shake the victim to determine whether he or she is indeed unconscious or merely sleeping.

If the victim is indeed unconscious, you must be sure that the airway—the passage between the mouth and lungs—is not blocked by the tongue or an object, which would prevent breathing. If there is no obstruction, determine if the victim is breathing and if there is a pulse, indicating circulation.

Depending on the state of the victim, you will start mouth-to-mouth breathing alone or chest compressions interspersed with breathing. You must continue until the victim revives, a trained person takes over, or you become exhausted.

PERFORMING CPR
Treatment must be offered quickly to avoid brain damage from lack of blood and oxygen. To help you establish a sense of timing, and to make sure that you are spending adequate, but not too much, time on each step, the recommended time span for each activity is provided in parentheses.
The three most important emergency medical procedures are:
- Artificial respiration (for drowning victims, this action alone may be life-preserving)
- Cardiopulmonary resuscitation (CPR)
- Clearing obstructed airways from choking (Heimlich maneuver)

FIRST STEPS (4–10 SECONDS)

1. ESTABLISH UNRESPONSIVENESS
When presented with a seemingly unconscious victim, first establish unresponsiveness by shaking the person firmly and shouting "Are you okay?" It is important to be sure that the person really is unconscious, so that you don't do CPR unnecessarily.

Establish unresponsiveness by shaking the victim gently by the shoulders. At the same time, call out for help.

Support the victim's neck with one hand as you turn him over with the other.

2. CALL FOR HELP At the same time as you establish unconsciousness; call out for help, even if no one is in sight.

3. POSITION THE VICTIM
If you find the victim lying face down, turn him over, rolling him toward you. First, take the arm that will be on the underside as he rolls and stretch it out straight over his head. Put one of your hands behind his neck to support it as you turn him (see figure) with your other hand, grasp his upper arm and roll him over gently.
RESTORE BREATHING (3–5 SECONDS)

1. OPEN THE AIRWAY

Once the person is on his back and you are sure he is unconscious, open the airway to be sure that he can breathe. In an unconscious person, the tongue relaxes and falls against the back of the throat, preventing air from getting from the mouth and nose to the lungs.

Kneel at right angles to the person's shoulder on whichever side is more convenient or comfortable. Using the hand closer to the victim's head, place your palm across his forehead, and firmly tilt the head backward. Two fingers of the other hand are placed below the bone of the chin and lifted forward. This chin lift tilts the head back and opens the airway (see figure below). Avoid closing the mouth completely as you will need the lips open slightly for mouth-to-mouth breathing.

![Airway obstruction drawings]

The drawing at left shows airway obstruction from the tongue and epiglottis. Figure at right shows the airway obstruction cleared by tilting the head and lifting the chin.

If an injury to the neck is suspected, the chin lift alone should be used to open the airway. Tilting of the head in the presence of injury to the spine or the neck could cause further injury to the spinal cord.

Practice tip: Lie on the floor and extend your neck back until your chin is pointing straight up and you have trouble swallowing. This is approximately the correct position for opening the airway.

2. CHECK FOR BREATHING

With your hands still in place on the victim's forehead and lifted chin, check for breathing. Looking toward his chest, bend over so that your cheek is almost touching his nose and mouth.

- Look to see if his chest is rising and falling.
- Listen for sounds of breathing.
- Feel if there is expired air on your cheek.
If you see the chest rise and fall, but do not hear or feel air, the victim is attempting to breathe, but the airway is still blocked.

3. GIVE 2 EVEN BREATHS (3-5 SECONDS)

If there is no evidence of breathing, keep your hands in place on the forehead and lifted chin (see figure). Using the hand on his forehead, pinch his nostrils together tightly with your thumb and forefinger to keep the air from escaping through his nose.

Take a deep breath, open your mouth wide, and place it completely over the victim's mouth to make a tight seal with your lips. Exhale deliberately and evenly 2 breaths of 1 to 1 1/2 seconds each. Take your mouth away to inhale between breaths and to allow air to escape from the victim's lungs.

As you administer rescue breathing, note chest movement as an indication of an open airway. Although you will feel some resistance from the victim's lungs, you should be able to feel air going in as you blow and to see the chest rise and fall.

Practise tip: To get a sense of what rescue breathing feels like, blow against your tightly clenched fist. The resistance you feel is akin to the feeling of a blocked airway. Now make a tiny hole in your fist and blow again. You will have to blow forcefully and you will still feel some resistance, but you should feel the air going through.

4. CHECK FOR PULSE (5-10 SECONDS)
Once you have given 2 even breaths, check to see if the victim has a pulse. The easiest place to check a pulse is on either of the carotid arteries, which run down on both sides of the neck. Keeping one hand on the forehead, take your hand from under the victim's neck and place 2 fingers on his Adam's apple. Then slide them over into the groove between the Adam's apple and the neck muscle on the side closer to you. (see figure). The carotid pulse should be felt in the space between these structures.

**Practice tip:** Practice finding your own carotid pulse and then try it on someone else.

5. CONTINUE RESCUE BREATHING
If the victim does not have a pulse, skip this section and go on to Circulation.

If the victim has a pulse but is not breathing, you must continue mouth-to-mouth respiration. Check the pulse after every 12 breaths. If there is a pulse, continue breathing once every 5 seconds or 12 breaths per min until the victim begins to breathe on his own or medical help arrives.

**RESTORE CIRCULATION**
If there is no pulse, you will have to create artificial circulation of the blood by compressing and releasing the chest.

1. **POSITION YOURSELF**

Kneel next to the victim's chest, about midway between shoulder and waist. Find the bottom margin of the rib cage, down near the abdomen. Using the hand closer to the victim's feet, follow the edge of the ribs as your fingers move up toward the center of the chest. You will feel a notch where the ribs meet the breastbone (see figure below,left). Put your middle finger on this spot and then put your index finger next to your middle finger (see figure on the right). Now place the other hand next to the index finger. Place your other hand on top of the first. You can either interlace your fingers or keep them straight, *but at no time should they rest on the chest* (see figures). To avoid injuring the ribs, *only the heel of your hand should touch the chest*.

2. **BEGIN COMPRESSIONS**

Shift your weight forward on your knees until your shoulders are directly over your hands
and your elbows are locked. Now, bear down and then come up, bear down and come up, keeping your elbows locked. In order to create enough pressure to circulate the blood, you must depress the chest of an average adult 1 1/2 to 2 inches with each compression. The proper speed is 80 to 100 compressions per minute. To get the right speed and rhythm, count out loud as you do the compressions, saying "1 and 2 and 3 and 4 and 5!" Rest on each "and," then compress on each number.
3. ALTERNATE COMPRESSIONS WITH RESCUE BREATHING

After each 15 compressions (counting to 5, 3 times), perform 2 rescue breaths. Take your hands off the chest, place them on the chin and forehead as before, pinch the nostrils, seal the mouth, and give 2 strong breaths, watching out of the corner of your eye for the chest to rise.

Go back to the chest, find the correct hand position again, and do 15 more compressions, followed by 2 more breaths. Repeat this cycle of 15 and 2 for a total of 4 times, which takes about 1 minute. Then check again for pulse and breathing. If neither has returned, you must continue alternating compressions and breathing until the patient revives, qualified help comes, or you are too exhausted to continue.

CPR ON INFANTS AND CHILDREN

Although the steps and the sequence in which they are performed remain the same for infants and children as for adults, modifications should be made to compensate for the smaller lung capacity and faster respiration rate of babies. In infants excessive backward tilting of the head should be avoided. It is easier to seal your mouth over both the baby's nose and mouth. Remember that an infant will need much less air than an adult. A slow, deliberate delivery will reduce the likelihood of forcing air into the stomach, causing distention. Rescue breathing is the single most important maneuver in rescuing a non breathing child or infant. If repeated rescue breathing attempts do not result in airflow into the lungs, evidenced by chest movement, a foreign body obstruction should be suspected. Chest compressions should be considerably less forceful than those used on adults.
CHAPTER 3

CHOKING AND OBSTRUCTED AIRWAY

DEFINITION AND CAUSE
People who are choking may still be conscious and have circulation but are unable to breathe because something—usually food—is lodged in the throat. Frequently, a choking victim clutches the throat with thumb and forefinger, a universal signal of distress.

Children choke more frequently than adults, usually on a toy or food fragment.

DIAGNOSIS AND TREATMENT OF A CONSCIOUS VICTIM
Before you do anything to assist a person you think is choking, ask the victim to talk. If talk is possible, the airway is not completely obstructed and it is best to leave the victim alone until he can dislodge the food or object himself by coughing, throat-clearing, or with his fingers. If the victim cannot talk, the airway is completely obstructed and you should assist in dislodging the obstruction. The technique recommended by the American Heart Association is a series of abdominal thrusts known as the Heimlich maneuver.

ABDOMINAL THRUSTS, OR HEIMLICH MANEUVER
1. The victim should be sitting or standing. Grasp the victim from behind with your hands around his waist.

2. Make a fist with one hand and place the thumb side on the victim's abdomen, midway between the waist and the rib cage. Grasp the fist with your other hand and thrust forcefully inward and upward. Each new thrust should be a separate and distinct movement (see figure below left). This maneuver can be done successfully if the victim is sitting in a straight-backed chair (such as in a restaurant).

You can also perform the Heimlich maneuver on yourself. Make a fist with one hand, place the thumb side midline in the upper abdomen above your navel and below your breastbone, grasp the fist with your other hand and then press inward and upward with a quick motion.
CHEST THRUSTS If the victim is pregnant or especially obese, it is safer and easier to do a chest thrust rather than an abdominal maneuver. The same two-fist technique is used, but the victim is grasped at the breastbone instead of the abdomen. (see figure above right)

DIAGNOSIS AND TREATMENT OF AN UNCONSCIOUS VICTIM
If you have begun the initial steps of CPR, including attempts to open the airway, and you cannot see the chest rise and fall when you administer rescue breathing, you should assume that the airway is obstructed and assist the victim as follows.

1. ABDOMINAL THRUSTS 1. Kneeling next to or astride the victim, place the heel of one hand on the abdomen midway between the waist and the rib cage.

2. Place the other hand on top of the first (as you would for chest compressions, but on the abdomen rather than the chest) and thrust inward and upward. Give several quick thrusts.
3. **FINGER SWEEP**
Sweep the mouth of the victim if abdominal or chest thrusts do not dislodge the obstruction.

1) Open the victim's mouth wide by grasping the chin.
2) Still holding the chin, bend the forefinger of the other hand and with your hooked finger probe deep into the mouth along the insides of the cheeks. Then go back to the open airway position and attempt rescue breathing (see figure below).
3) If the airway is still not open, back blows, abdominal (or chest) thrusts, finger sweeps, and rescue breathing should be repeated rapidly as many times as is necessary to remove the obstruction. Occasionally, an open handed blow to the back may dislodge the obstruction and can be tried at this time. The longer the victim goes without oxygen, the more relaxed the muscles become, and this may release the foreign object, so that one of these maneuvers may ultimately be successful.
IN INFANTS: If an infant does not have an infection and the airway is completely obstructed, a combination of back blows and chest thrusts should be used to dislodge the obstruction, whether or not the infant is conscious. If the airway is only partially blocked (the infant can make noise) and the infant is making attempts to breathe and cough, let her continue. Use a combination of back blows and chest thrusts to dislodge the airway obstruction while straddling the infant on your arm.

TRANSPORTING THE VICTIM

A fundamental rule of first aid dictates that the victim should not be moved but should be treated where he/she lies. However, there are circumstances in which a severely injured person must be moved to prevent further injury from fire, an explosion, fumes, or other potentially life-threatening hazards. Follow these guidelines.

- If possible, short-distance transport should be accomplished on a firm surface such as a stretcher, or a board that will provide even support for the entire body.
- If the victim must be dragged to a safe place, pull her lengthwise, not sideways.
- If possible, try to place a blanket under the person so that the edge of the blanket can be pulled carrying her weight.
- In any situation where spinal injury is suspected and the patient must be moved, the spine and the neck must be kept in alignment. Do not move the neck.
CHAPTER 4

FRACTURES

Fractures are of two types:

**Simple or closed fractures:** The broken bone is not visible through the skin nor is there a skin wound near the fracture site.

**Compound or open fracture** The bone protrudes through the skin or the skin has been cut due to the injury. Here a skin wound is always present.

All broken bones need medical attention. If you are not sure whether or not a bone has been broken, consult the doctor.

**GENERAL FRACTURE SYMPTOMS**

- Inability to move the injured part
- Pain, tenderness to the touch
- Swelling, discoloration
- Deformity or misalignment
- Bone pokes through the skin (compound fracture)
- Internal bleeding (particularly in the case of broken ribs or pelvis)
- Bone can be heard or felt breaking

**GENERAL TREATMENT OF FRACTURES**

- Check the ABC’s (airway, breathing, circulation). Survey the victim for other injuries and observe closely for signs of shock.
- No attempt should be made to reset or straighten a broken bone; it should be splinted where it lies, with a minimum of movement.
- If the bone has pierced the skin, bleeding should be controlled by direct pressure. Place a sterile dressing over the wound, splint the extremity, and take the victim to an emergency room.

Does the victim have severe bleeding from an open fracture?

- Monitor for shock, breathing and pulse.
- Have the victim lie flat.
- Elevate the victim’s feet 8 to 12 inches.
- Cover the victim with a blanket or other item to keep him or her warm.
- Remove clothing covering the wound. Cut clothing away, if necessary.
- To protect yourself against possible disease:
If available, put on disposable latex gloves. If not available, use a plastic bag, plastic wrap or many layers of gauze pads to apply direct pressure to the wound to stop the bleeding. Try not to push on the injured bone.

- Cover the wounded area with a clean cloth or dressing.
- Continue to apply pressure as long as the wound bleeds. Add new dressings over existing ones.
- Immobilize the injured area. A splint is a good way to immobilize the affected area, reduce pain and prevent shock.
- Effective splints can be made from rolled-up newspapers and magazines, an umbrella, a stick, a cane and rolled up blankets. Place this type of item around the injury and gently hold it in place with a strip of cloth or belt. The general rule is to splint a joint above and below the fracture.
- Or, lightly tape or tie an injured leg to the uninjured one, putting padding between the legs, if possible. Or, tape an injured arm to the chest, if the elbow is bent, or to the side if the elbow is straight, placing padding between the body and the arm.
- For a broken arm, make a sling out of a triangular piece of cloth. Place the forearm in it and tie the ends around the neck so the arm is resting at a 90 degree angle.
- Check the pulse in the limb with the splint. If you cannot find it, the splint is too tight and must be loosened at once.
- Check for swelling, numbness, tingling or a blue tinge to the skin. Any of these signs indicate the splint is too tight and must be loosened right away to prevent permanent injury.

To make a splint:

1. Make the splint longer than the bone it will support.
2. Pad the splint with soft material such as a sheet, cloth, or clothing before placing it against the fractured bone.
3. Tie the splint to the injured limb snugly but not so tightly that it constricts circulation. Leave the tops of the fingers or toes out and check regularly to make sure circulation is not impeded.
4. Support a fracture of the arm with a sling to prevent further injury and provide pain relief.

HEAD AND NECK INJURIES

SYMPTOMS OF MILD HEAD INJURY
The person is conscious and shows no sign of brain or neck injury or fracture (see below) but is bleeding from the scalp.

TREATMENT

- Control bleeding by placing clean gauze over the injury. (Direct pressure may be applied.) Scalp lacerations can bleed profusely because of the large number of
blood vessels in this part of the body, but bleeding can usually be easily
controlled with pressure.
- Take the person to a doctor.

SYMPTOMS OF A NECK OR SPINE FRACTURE

- Neck or back pain
- Odd position of the head or neck
- Feelings of numbness, weakness, or paralysis in an arm, hand, leg or other part of
  the body

TREATMENT

- Check for vital signs and perform CPR if necessary.
- Keep the person absolutely still. Reassure the person if she is conscious, but do
  not allow her to move the head or neck. Immobilize the individual's head and
  neck in the position in which she lies. Support the back of the neck by carefully
  sliding a rolled pad underneath and by placing pads, pocketbooks, or other
  stabilizing items at the sides of the head.
- If the person must be moved because of immediate, life-threatening danger (for
  example, fire, explosion, or noxious fumes), head and spine movement must be
  prevented. Immobilize head and spine by rolling her onto a firm object such as a
  stretcher, board, or door. If these are not available, a blanket may be used under
  the victim and dragged along the ground (see figure). At all times head and spine
  movement must be prevented.

Transferring the victim. If it is absolutely necessary to remove a victim from an
accident scene, try to place the patient on a blanket, and then drag the blanket instead
of bodily pulling the injured person. If a blanket is not available, drag the person by the
armpits using your body as a support.
CHAPTER 5

BLEEDING

First Aid:

- Apply a clean dressing to the wound with firm, constant pressure, which should be held for up to twenty minutes.
- If there is a foreign body in the wound, such as glass, applies pressure alongside.
- If you are sure there is no fracture or dislocation, raise the part and support it while maintaining pressure. This should decrease the flow of blood.
- If bleeding continues, apply indirect pressure. Press the artery at the next pressure point (pressure points are difficult and sometimes dangerous to use, and should only be used by someone trained in first aid).
- Cover and/or dress the wound as soon as possible.
- Wrap any severed part, (such as a finger) in a bag and place it in ice if possible, and send with casualty (Don't place the finger in direct contact with the ice).
CHAPTER 6

BURNS

Burns are caused by fire, heated liquids, steam, sun, chemicals, and electricity. In evaluating the type of first aid appropriate for a burn, the source and extent of the injury and degree of the burn should be determined. Burns are generally classified according to their depth and degree of tissue damage.

First-Degree Burns. Limited to the outer layer of the skin (epidermis). The skin is red and tender and there may be swelling without blistering.

Second-Degree Burns. Involve both the epidermis and underlying dermis. In addition to redness, tenderness, and pain, significant blistering occurs. These burns are not serious unless a large area is involved or secondary infection takes place.

Third-Degree Burns. Involve destruction of the full thickness of the skin and also may damage underlying tissue. Skin may be blackened or white and leathery feeling. Although these burns are always serious, there often is no pain because the nerves have been destroyed.

BURNS REQUIRING MEDICAL TREATMENT

- All widespread burns, including extensive sunburn.
- All second-degree burns greater than 2 to 3 inches in diameter or those involving the hands, face, or genitals.
- All-third degree burns regardless of size.

MINOR BURNS

Minor burns include first-degree sunburn and small scalds or burns from hot objects.

FIRST-DEGREE BURNS

- Flush the burned area with cool water from a tap or use cool, wet compresses applied to the skin.
- Cleanse the burnt area. Aspirin or any analgesic can be taken to alleviate pain. Usually, further medical care is not necessary.

SECOND-DEGREE BURNS LESS THAN 2 TO 3 INCHES IN DIAMETER
- Rinse the area with cool water, gently wash with soap and water, and rinse again. Cover with sterile dressing.
- Do not apply ointments, oil, butter, or other home remedies.
- Avoid breaking blisters, which increases the risk of infection. If blisters become infected, seek medical attention.

**MAJOR BURNS**

- Remove the victim from the fire or other source of injury. Douse flames or flush chemicals off the skin surface.
- If clothing is ignited, lay the victim down and extinguish flames with water or by covering with a blanket or coat, or by having the victim roll over slowly. Do not allow the victim to run. Running fans the flames and spreads the burns to the upper body and face.
- All larger second-degree burns require medical treatment. In the case of extensive burns, check for respiration, circulation, and signs of shock, and treat appropriately. Then look for other serious injuries and treat.
- Apply cool compresses briefly to bring skin temperature back to normal. Avoid prolonged cooling of a large area because it can lead to excessive body cooling.
- Wrap the victim loosely in a clean sheet & transport to an emergency room.
- Do not try to remove burned clothing or objects that adhere to the burned area, and do not apply any ointments or other medication.
- Loss of body fluids, pulmonary complications, and infection are major dangers of extensive burns. All extensive burns should be treated in a medical treatment center with a specialized burn facility.

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**CHAPTER 7**

**Electric Shock**

People can be electrocuted when they touch high-tension wires that fall during a storm or are struck by lightning. A bolt of lightning carries as many as 30 million volts, more than 250,000 times the voltage of ordinary household current. July is the most dangerous month for lightning.

*Take care when rescuing someone who has been electrocuted so you do not become a victim as well.*

**If a person has received a shock from a high voltage wire**

- Do not try to remove the person from the wire and stay at least 20 feet away.
• Do not remove the victim from the electric source until the power source has been shut off.
• Separate the person from the source of electric current using a dry broom handle or other type of non-conducting material such as wood or rubber. It may be easier to loop dry rope or cloth, throw it around a person’s arm or leg and drag the person away from the live wire.
• Or, dry your hands and put on dry gloves or use a dry cloth. Stand on something dry like a stack of newspapers, a thick book or a rubber door mat before removing the person from the source of the electric shock. Unless you do this first, you may also get a shock when you touch the person.
• Check for heartbeat and breathing. Feel for a pulse along the neck, under the earlobe, on the chest or on the wrist. Watch the rise and fall of the chest to see if the person is breathing.
• If there is no heartbeat and no breathing, do CPR. If there is a heartbeat, but no breathing, immediately start rescue breathing.

If a person has been struck by lightning

• Check immediately to see if the person is breathing and has a heartbeat.
• (Note: You will not get an electric shock from someone who has been struck by lightning.)
• If the person has no heartbeat and is not breathing, do CPR & Get Emergency Care.

If the person has received a shock from low-voltage current

• Switch off the current, if possible, by removing the fuse or switching
• Do not touch the person who is in contact with electricity.
• If you can’t turn off the source of current, use a board, wooden stick, rope or other non-insulating device to pull the victim away from the source of the electric current.
• Make sure your hands and feet are dry and you are standing on a dry surface.
• If it is safe for you to touch the victim
• Check for heartbeat and breathing.

CHAPTER 8

Heat Exhaustion & Heat Stroke

Sweat acts like our natural air conditioner. As sweat evaporates from our skin, it cools us off. Our personal cooling system can fail, if we overexert ourselves on hot and humid days. When this happens, our body heat can climb to dangerous levels. This can results in heat exhaustion or a heat stroke which is life-threatening.
Heat exhaustion takes time to develop. Fluids and salt are vital for health. They are lost as children and adults sweat a lot during exercise or other strenuous activities. It is very important to drink lots of liquids before, during and after exercise in hot weather. People suffering from heat exhaustion have low, normal or only slightly elevated body temperatures.

Signs and Symptoms of heat exhaustion include:

- Cool, clammy, sweating, dry mouth, fatigue, weakness, dizziness, headache, nausea, sometimes vomiting

Heat stroke, unlike heat exhaustion, strikes suddenly, with little warning. When the body's cooling system fails, the body's temperature rises fast. This creates an emergency condition.

Signs of heat stroke include:

- Very high temperature, hot, dry, red skin, no sweating, deep breathing and fast pulse, then shallow breathing and weak pulse, dilated pupils, confusion, convulsions, loss of consciousness

Prevention

1. Do not stay in or leave anyone in very hot sun
2. Take caution when you must be in the sun. At the first signs of heat exhaustion, get out of the sun or your body temperature will continue to rise.
3. Wear light, loose-fitting clothing, such as cotton, so sweat can evaporate.
4. Drink lots of liquids, especially if your urine is dark yellow, to replace the fluids you lose from sweating. Thirst is not a reliable sign that your body needs fluids.
5. Drink water or water with salt added if you sweat a lot. (Use 1/2 teaspoon salt in 1 glass of water.)
6. Some people perspire more than others. Those who do should drink as much fluid as they can during hot, humid days.

To lower the body temperature.

- Move the person to a cool place indoors or under a shady tree. Place the feet higher than the head.
- Remove the clothing and either wrap the person in a cold, wet sheet; sponge the person with towels or sheets that are soaked in cold water; or spray the person with cool water.
- Fan the person.
- Put ice packs or cold compresses to the neck, under the armpits and to the groin area.
CHAPTER 9

Drowning

Note: Saving a drowning person carries risk. Before swimming out to someone in trouble, be sure you can handle the situation. Many people drown in the brave effort of trying to save someone else because they are not well trained and have not properly thought through the risks of the situation.

- Get the victim out of the water safely.
- If the person is unconscious & is not breathing and has no pulse. Do CPR.
- If victim is breathing and has a pulse, put him or her in the recovery position (see below).
- Take cold, wet clothes off the victim and cover him or her with something warm to prevent hypothermia.

Recovery Position

This position helps a semiconscious or unconscious person breathe and permits fluids to drain from the nose and throat so they are not breathed in. If the person is unconscious or semiconscious move the person into the recovery position while waiting for help to arrive.

Kneel next to the person Place the arm closest to you straight out from the body Position the far arm with the back of the hand against the near cheek

Grab and bend the person's far knee.

Protecting the head with one hand, gently roll the person towards you by pulling the far knee over and to the ground
Tilt the head up slightly so that the airway is open. Make sure that the hand is under the cheek. Place a blanket or coat over the person and stay close until help arrives.

CHAPTER 10

POISONING

First aid for a poisoning emergency follows the same general guidelines applicable for any injury:

- Check first for vital signs—breathing and pulse—and, if they are absent start CPR and transport the victim to the nearest emergency service.

If you are far from medical assistance the following general guidelines should be applied.

Determine the nature of the ingested substance. If there are no visible bottles or other clues, examine the mouth for signs of burns, which would indicate an acid or alkali. Smell the breath for a petroleum-like odor.

- Diluting the poison by administering water or milk is advised for most substances. Water is recommended for acid and alkali ingestion if the person can swallow.
- If the substance that has been swallowed is a medication, poisonous plant, pesticide, or other product with significant systemic toxicity and has been ingested within the previous hour, induce vomiting.
- Aid vomiting by tickling the back of the throat or make the person drink salt water (2 tablespoons of common salt in one tumbler of water)

Do not induce vomiting if:

1. The nature of the substance is unknown.
2. A corrosive substance (acid or alkali product) is suspected.
3. A petroleum product is suspected. Vomiting a petroleum product carries the danger of inhaling it into the lungs, causing chemical pneumonia.
4. The person is having seizures, is unconscious or appears to be losing consciousness.
5. The victim is less than 1 year of age.

Take the poisoning victim, along with the bottle or container of whatever was ingested, and any vomitus to the nearest hospital emergency department for further treatment.

CHAPTER 11

SNAKE BITES

Although not all bites from snakes result in the release of poison, once the skin is punctured by snake fangs you should assume that poison is present and act accordingly. It is urgent that a snakebite victim be taken to a hospital for antivenin serum as quickly as possible.

First Aid

- Reassure the person and keep him supine and as quiet as possible.
- Remove any rings or constricting items because the affected area may swell. Create a loose splint to help restrict movement of the area
- Keep the stricken limb below the heart
- Allow bite to bleed freely for 15-30 secs.
- Wash the wound with soap and water and rapidly disinfect the area with Betadine/ Savlon lotion.
- Suck and squeeze - as much venom as possible directly from the wound. Suck it out by mouth, but do not swallow—spit the venom out. Rinse your mouth afterwards. Do not suck the venom out if you have a cut or sore in your mouth.
- Take the victim to the nearest hospital or emergency service as soon as possible

Anti-venom serum is the only sure cure

What Not to Do if Bitten by a Venomous Snake

1. Do not eat or drink anything unless okayed by medical sources
2. Do not engage in strenuous physical activity
3. Do not cut into or incise bite marks with a blade
4. Do not apply a narrow, constrictive tourniquet such as a belt, necktie or cord
5. Do not waste time or take any risks trying to kill, bag or bring in offending snake
6. Do not apply either hot or cold packs
**Dog Bite**

The aim of First Aid in a case of dog bite is to prevent rabies, to reduce the risk of infection and to get medical aid as soon as possible.

1. Wipe the saliva away from the wound using a clean cloth or handkerchief. Do not come into contact with the saliva that gets wiped away.
2. Wash the wound thoroughly with plenty of soap and water.
3. Cover the wound with a dry, sterile dressing.
4. Get medical aid or send the patient to the hospital as soon as possible.

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**Fainting**

Fainting is a brief loss of consciousness.

**Here are some dos and don'ts to remember if someone is about to faint or faints:**

**Dos:**

- Catch the person before he or she falls.
- Have the person lie down with the head below the level of the heart. Raise the legs 8 to 12 inches. This promotes blood flow to the brain. If a victim who is about to faint can lie down right away, he or she may not lose consciousness.
- Turn the victim's head to the side so the tongue doesn't fall back into the throat.
- Loosen any tight clothing.
- Apply moist towels to the person's face and neck.
- Keep the victim warm, especially if the surroundings are chilly.

**Don'ts:**

- Don't slap or shake anyone who's just fainted.
- Don't try to give the person anything to eat or drink, not even water, until they are fully conscious.
- Don't allow the person who's fainted to get up until the sense of physical weakness passes. Then be watchful for a few minutes to be sure he or she doesn't faint again.

**Self-Care/First Aid**

Do these things when you feel faint:

- Sit down, bend forward and put your head between your knees, or
• Lie down and elevate both legs 8 to 12 inches.

SUMMING UP

Every capable person should know basic life-support techniques, since first-aid procedures are frequently life-saving in emergency situations. In many cases, knowing what not to do is just as important as knowing what measures to take. In addition, every family member should know how to summon emergency medical help over the phone.

This section is intended to outline the major first-aid procedures and preventive techniques. It is not intended to cover all of the hundreds of different emergency situations that may arise, but instead to give basic principles enabling readers to evaluate and cope with the most common medical emergencies.