

# JROTC Distance Learning Courses

## Reference Guide

# First Aid



Navy Junior Reserve Officer Training Corps



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# The Need for First Aid

## *Before Giving First Aid – Part 1 of 2*

**First aid** is the assistance given to an injured or sick person in need of urgent medical assistance. First aid applies to a broad range of medical situations and consists both of specific knowledge and skills (what to do for each type of injury or illness) and the ability to assess a situation and make appropriate decisions, such as when to call for emergency medical assistance.

Being prepared to administer effective first aid involves learning specific skills such as Cardiopulmonary Resuscitation (CPR) and abdominal thrusts to assist choking victims. First aid is required for medical emergencies such as heart attack, stroke, or seizures as well as for minor medical conditions like nosebleed and mild allergic reactions.

Environmental injuries, such as sunburn, poison ivy, heat exhaustion, frostbite, bee or insect stings, and traumatic injuries, such as strains, sprains, burns, puncture wounds, and cuts as well as more severe internal injuries, are other situations where first aid skills is invaluable.



**Reference:** Lesson 1 – The Need for First Aid

## ***Before Giving First Aid – Part 2 of 2***

Before we get started, let's go over a few helpful first aid tips that you should always practice when administering first aid.

First, recognize the emergency and check the scene. You may realize something unusual is happening, such as unusual noises, sights, odors, and appearances or behaviors. Before rushing in to help the victim, make sure you can do so safely. Look for any hazards such as smoke, spilled chemicals, electrical wires, risk of explosion, roadside dangers, or potential personal violence. Make sure you protect yourself from any risk of contracting a blood borne disease.

Second, introduce yourself and decide to help. Once you have assessed the scene, you need to decide to help the victim and determine what to do. In order to help you must act. Request permission or obtain consent from the victim to provide first aid.

Third, Call 9-1-1 immediately if you recognize a life-threatening injury or illness such as a problem threatening the victim's airway, breathing, or circulation of blood.

Next, Check the victim for life-threatening conditions requiring immediate first aid.

And finally, give first aid.

FIRST AID CHECKLIST	
<input checked="" type="checkbox"/>	Survey the scene
<input checked="" type="checkbox"/>	Survey the patient
<input checked="" type="checkbox"/>	Call for emergency services
<input checked="" type="checkbox"/>	Wear protective gear
<input checked="" type="checkbox"/>	Get permission
<input checked="" type="checkbox"/>	Be prepared

**Reference:** Lesson 1 – The Need for First Aid

## Universal Precautions

Universal Precautions are intended to protect providers of first aid by minimizing their exposure to blood borne pathogens, which may be infected with viruses and diseases. Therefore, when available, first aid providers should take the following precautions when providing first aid to an injured victim. First aid providers should ensure that the materials and supplies needed to protect themselves are included in their first aid kits.

1. Wash hands before and after each medical procedure.
2. Wear gloves whenever there is a possibility of coming in contact with blood or other potentially infectious material.
3. Wear full-body gowns whenever there is the possibility of blood splashing onto you.
4. Wear a face mask and eye protection whenever there is the possibility of blood splashing onto you.
5. Wear a face shield or resuscitation mask when providing rescue breaths.
6. Dispose of all contaminated sharp objects in an appropriate puncture-proof container.
7. Dispose of all contaminated personal protective equipment in an appropriate container.



**Reference:** Lesson 1 – The Need for First Aid

## Considerations – The Elderly

When attending to an elderly victim or an infant in an emergency situation, you will need to take a slightly different approach. Elderly victims may be confused. Because of physical and mental challenges, many older adults are particularly susceptible to certain problems that may require you to adapt your way of communicating. Be aware of certain potential age-related conditions.

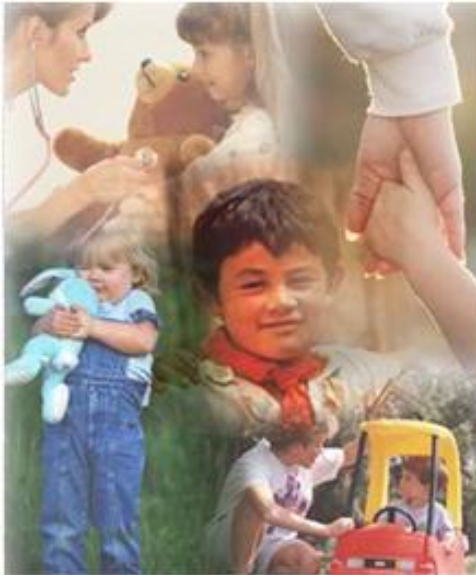
### Tips for Elderly

- Speak slowly and clearly to an elderly person at eye level so that he or she can see or hear you more clearly
- Attempt to learn the individual's name and use it when you speak to the victim
- Confusion may be the result of impaired vision/hearing or an injury
- If the victim usually wears eyeglasses, attempt to locate them
- Notice if they are wearing a hearing aid
- Get as much information as possible from family member or bystander
- Offer an arm or hand if the victim is attempting to stand to reduce the risk of falling
- Remember an elderly victim may need to move slowly



## Considerations – The Children

Assessing a conscious infant or child's condition can be difficult. Infants and young children present a communication barrier and cannot tell you what is wrong, while young children may be terrified. Also, infants and children may not readily accept you if they do not know you.



### Tips for Children

- Allow a parent to hold the child while you check him or her
- Explain to child and parents what you are going to do. If possible, demonstrate first aid steps on a stuffed animal or doll for a toddler so they can understand how you will care for him or her
- Try to control your emotions and facial expressions
- Try to imagine how the child might feel: afraid of unknown and reacting to strangers
- Reduce the child's anxiety: move in slowly, speak as close to eye level as you can, and keep your voice calm
- Learn the child's name and use it when you speak to them
- Talk slowly and clearly and use language the child will understand
- Reassure the child you are there to help and will not leave them

**Reference:** Lesson 1 – The Need for First Aid



## Good Samaritan Laws

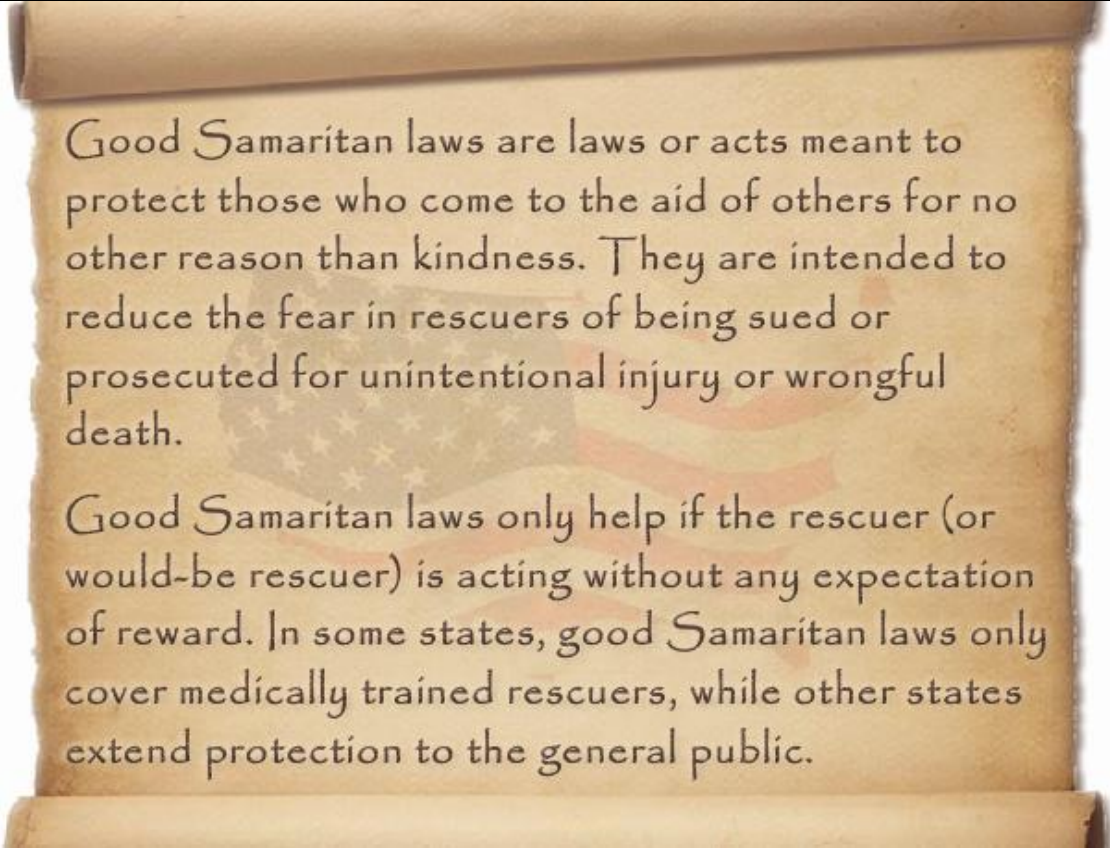
In today's society, where lawsuits have become commonplace, there can be a reluctance to help out in emergency situations. Fear of liability for any misstep can paralyze even the most helpful good Samaritan.

The truth is that each state has laws or regulations to protect the general public from liability during rescues or rescue attempts. Specifics about your state should be discussed with a legal expert or attorney from your area.

Good Samaritan laws are meant to protect those who come to the aid of others for no other reason than kindness. Good Samaritan laws only help if the rescuer (or would-be rescuer) is acting without any expectation of reward. In other words, if you are getting paid to rescue then you aren't a good Samaritan. Paid rescuers are expected to do their jobs correctly and can be held accountable for mistakes.

Depending on the state, getting rewarded after the fact can also count as expectation of reward. If you help someone at a car accident and then are rewarded monetarily or otherwise, you may be excluded from good Samaritan protection.

In some states, good Samaritan laws only cover medically trained rescuers, while other states extend protection to the general public. The good Samaritan concept is commonly applied in the courts, which means a case going that far may still be ruled in favor of the rescuer who was trying to help. What good Samaritan laws do for rescuers is provide a get-out-of-court-free card. In other words, unpaid rescuers may prevail in court with or without a good Samaritan law, but it's a lot easier if they have the protection.



Good Samaritan laws are laws or acts meant to protect those who come to the aid of others for no other reason than kindness. They are intended to reduce the fear in rescuers of being sued or prosecuted for unintentional injury or wrongful death.

Good Samaritan laws only help if the rescuer (or would-be rescuer) is acting without any expectation of reward. In some states, good Samaritan laws only cover medically trained rescuers, while other states extend protection to the general public.

**Reference:** Lesson 1 – The Need for First Aid



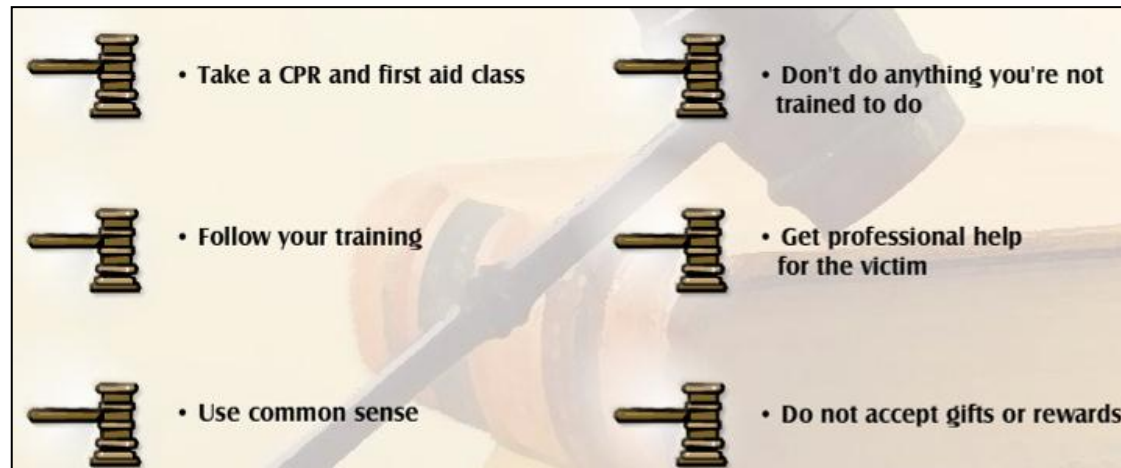
## Liability

Liability is anything that is a hindrance or puts an individual at a disadvantage in which a person is financially and legally responsible. The best way to protect you from possible liability when helping others is to always act on behalf of the victim. That may sound obvious, but if your motivation is to be a hero and not to help out a fellow human, then you risk making the types of mistakes not covered by good Samaritan laws.

Good Samaritan laws do not protect you from everything. It is human nature to make mistakes. Good Samaritan laws take this into account and protect helpful citizens if the mistakes made are reasonable.

Since defining "reasonable" is so difficult – even those covered under the good Samaritan law may find themselves defending a lawsuit. Luckily, most lawyers make judgments about when to file lawsuits based on an examination of their return on investment. Since the plaintiff doesn't usually pay up front, the lawyer must decide to take the case on contingency. That means "reasonable" is defined by the lawyer. Believe it or not, that's good. It means those lawsuits that will most likely lose in court won't ever get there.

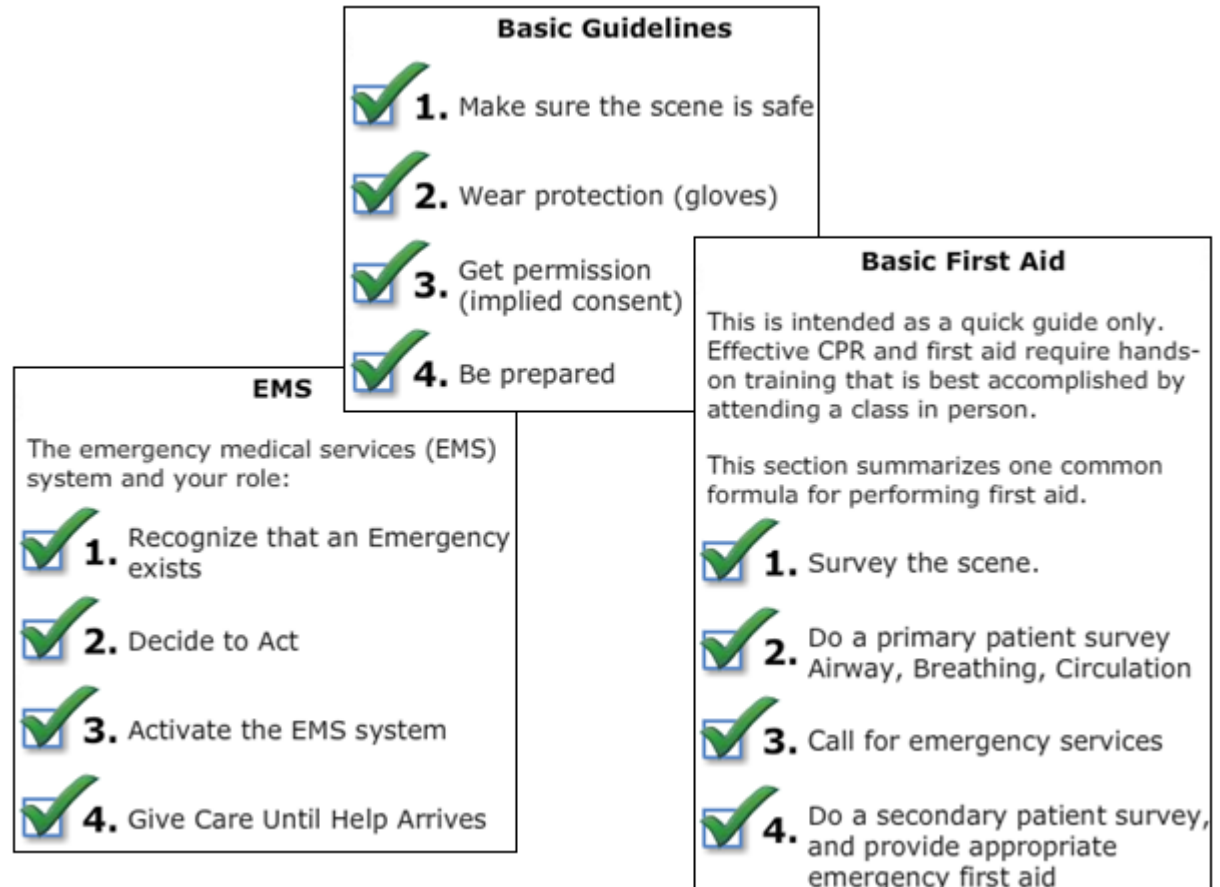
Here are some good tips for staying out of court:



**Reference:** Lesson 1 – The Need for First Aid

## Call 9-1-1

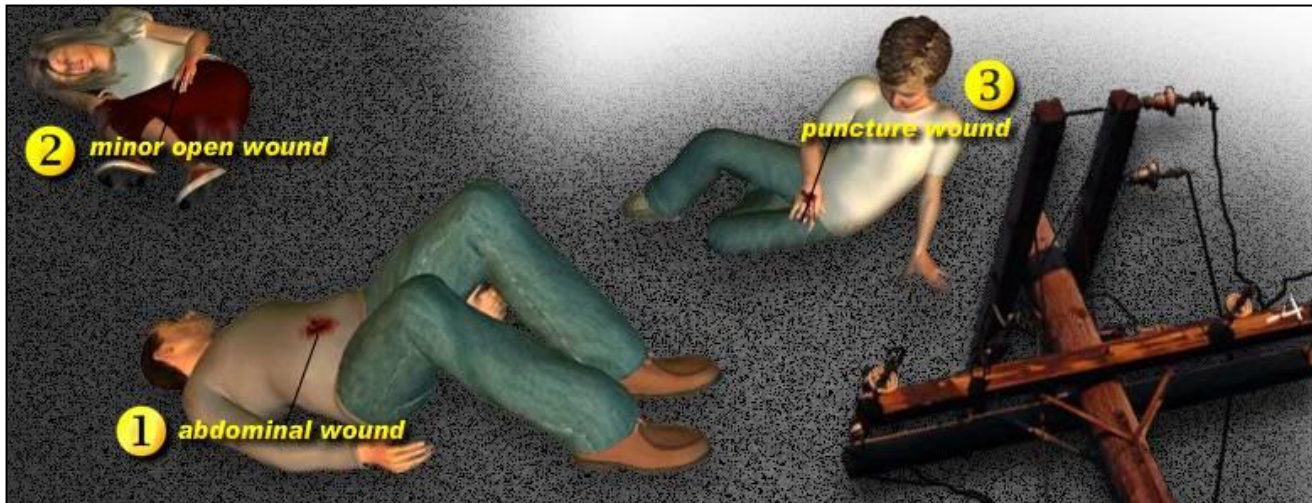
Regardless of your level of skill or degree of first aid training, if you find yourself in a true medical emergency, always call 9-1-1 for emergency medical assistance immediately. Likewise, if you are involved in any medical situation that is beyond your personal abilities to provide first aid, you should never hesitate to summon emergency medical assistance right away.



**Reference:** Lesson 1 – The Need for First Aid

## Survey the Scene

Determine whether the scene is safe. Look for dangers, such as downed power lines, traffic, unstable structures or swift-moving water. Determine what may have happened, how many victims are involved, and if any bystanders can help. If several persons appear to be injured, perform triage.



### Note

Triage is the process of prioritizing victims based on the severity of their injuries. This rations patient treatment efficiently when resources are insufficient for all to be treated immediately.

**Reference:** Lesson 1 – The Need for First Aid

## Survey the Patient

Get consent from a conscious victim (parent/guardian if the victim is a minor) before providing care. If the victim is unconscious, consent is implied. Use infection control precautions and check for signs and symptoms of any life-threatening conditions and care for them. Follow these steps to perform an initial assessment.

Do not move victims unless it is necessary to remove them from danger, or to make treatment possible such as onto a hard surface for CPR.

Calling for emergency medical services must take priority over extended care such as long term rescue breathing or extended CPR, since these techniques are intended to gain time for emergency services to arrive as part of the chain of survival. However, if bystanders are available, both can be pursued at the same time.



STEP 1: Check the victim for consciousness and obtain consent if the victim is conscious



STEP 2: Check the ABCs (airway, breathing and circulation)



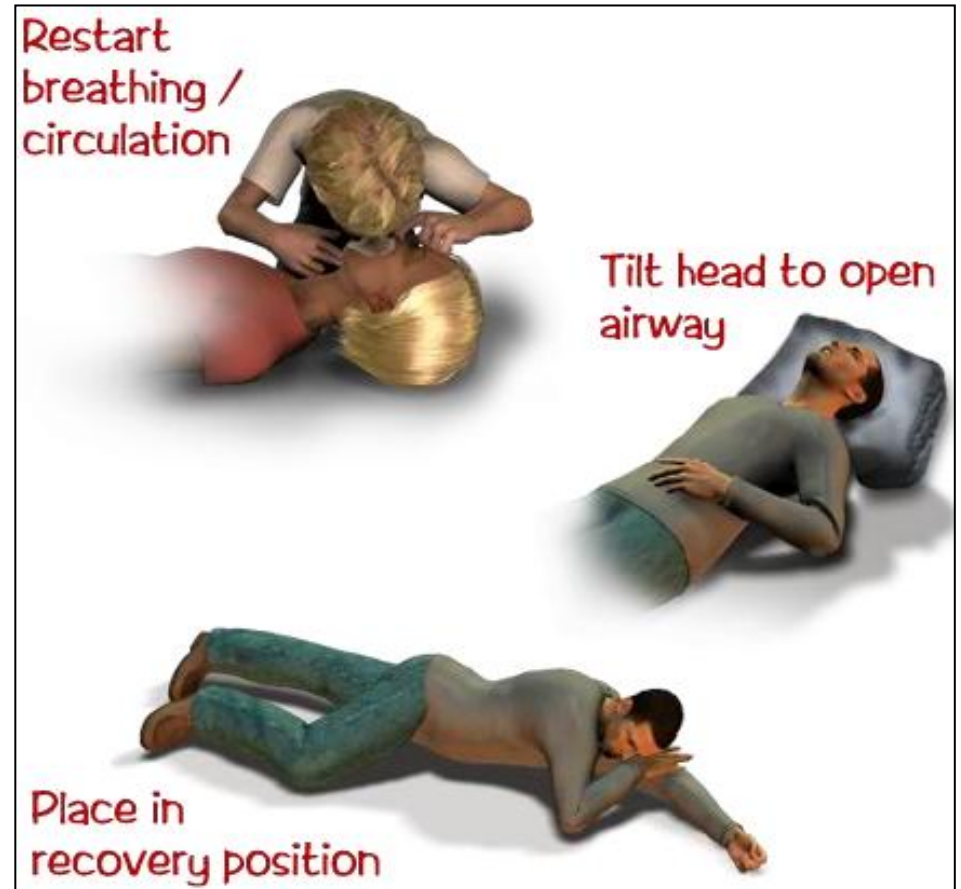
STEP 3: Check for severe bleeding

**Reference:** Lesson 1 – The Need for First Aid

## Surveying the Patient

One should provide adequate care when checking for airway, breathing, and circulation. If the patient lacks air or circulation, they can die or suffer permanent injury in three to four minutes. This means clearing the airway, and briefly attempting to restart their breathing or circulation with rescue breathing or CPR. This step is crucial, because an unconscious person's airway can be blocked by a normal, comfortable-looking head position, maybe lying on their back with a pillow under their head. Often, simply tilting the head back will open the airway and restart their breathing. Likewise, many people recovering from a blocked airway vomit, and if they are unconscious, they can drown in the vomit. The standard prevention for both these issues is to turn a breathing, unconscious patient on their side, turning their head and spine in the same movement to prevent spinal injury, pillowing their head on one of their arms.

- Clear the airway, and briefly attempt to restart breathing or circulation with rescue breathing or CPR.
- Tilt the head back to open the airway and restart breathing.
- Place unconscious victim in recovery position in case they vomit.



**Reference:** Lesson 1 – The Need for First Aid



## Calling Emergency Services

The next step is to activate emergency medical services by calling for help using a local emergency telephone number, such as 9-1-1, operators will generally require the caller's name and location and some information on person that is being called about (level of consciousness, injuries, name if known, chronic medical illnesses if known). Try to remain calm as you speak to the 9-1-1 operator.

If you ask bystanders to call an ambulance for you, make sure they report back to you once released by the emergency operator to confirm that the call has been made.

- Contact your local emergency number such as 9-1-1.
- The operator will ask question such as name and location and some information about the victim.
- If you ask bystanders to call an ambulance, make sure they report back to you once released by the emergency operator to confirm the call has been made.



**Reference:** Lesson 1 – The Need for First Aid

## Conducting a Secondary Survey – The Interview

The secondary survey is to gather information about conditions or injuries that may not be life threatening, but may become so if not cared for. A properly trained and certified first aid provider performs three stages in the secondary survey:

- Interview
- Vitals (check victim for shock)
- Head-to-toe examination

### Note

Interview should include bystanders as well, to supplement info from the patient.

### Interview

After you are sure the victim does not have any life-threatening conditions, try to find out more about what happened and the victim's condition. If the victim is not responsive, try asking a bystander if they have any information about the situation. Using the Sample method, ask questions to determine some important information that will help you give the right first aid.

- Signs and symptoms – visible indications of injury and patient reported sensations
- Allergies – especially those relevant to treating the injury
- Medications – what current medications are being taken
- Past medical history – any related history or medical conditions that could complicate treatment (i.e., heart condition)
- Last food and/or drink
- Events – how the injuries most likely occurred

## The Vitals

### Vitals

Next, you want to check the victim for their level of consciousness and determine whether or not the victim is alert, aware, disoriented, confused, or unresponsive. First, you can check the breathing rate by counting breaths for ten seconds and multiplying by six, or fifteen seconds and multiplying by four. Next, check the pulse rate by counting the pulse for ten seconds and multiplying by six, or fifteen seconds and multiplying by four. The pulse for an unconscious person is taken on the neck and on the wrist for a conscious person. Finally you want to check the skin condition. Look for color and determine if it is pale or normal; temperature to determine if the skin is cold or hot; and moisture to determine if the skin is clammy, sweaty, or dry.

1. Level of Consciousness (LOC)
2. Breathing rate
3. Pulse rate
4. Skin condition



**Reference:** Lesson 1 – The Need for First Aid



## ***Causes of Shock***

Check the victim for shock. Shock is a dangerous condition in which not enough oxygen-rich blood is reaching vital organs in the body. The brain, heart, and other organs need a continual supply of oxygen. Anything that happens to or in the body that significantly reduces blood flow can cause shock.

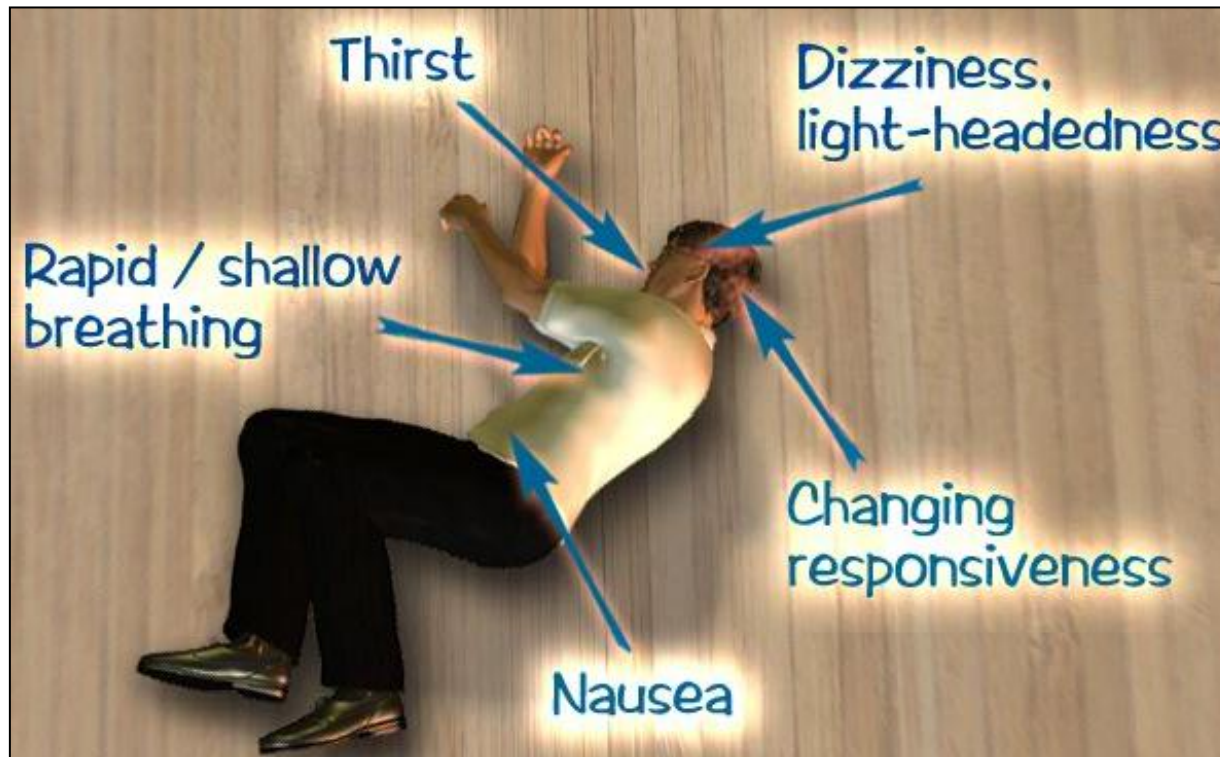
Causes of shock:

- Severe bleeding: Severe bleeding causes shock when there is not enough blood circulating in the body to bring required oxygen to vital organs. Also, if a person sees their own blood or injury, it may help send them into a state of shock. Telling the victim “you’ll be OK,” “I’m here to help,” and “Help is on the way” is a very effective way of preventing the onset of shock.
- Heart problems: Heart problems, like a heart attack or heart rhythm problem, cause shock when the heart cannot pump enough blood to meet the body’s needs.
- Nervous system injuries: Nervous system injuries, such as those caused by neck or spine injuries, can affect the heart or blood vessels in ways that prevent adequate blood from reaching vital organs.
- Other types of injuries:
  - Dehydration (may occur in heat stroke or with severe vomiting or diarrhea)
  - Serious infection
  - Severe burns
  - Allergic reaction

**Reference:** Lesson 1 – The Need for First Aid

## Signs and Symptoms of Shock

Shock has various signs and symptoms depending on its cause and severity. A person can go into shock in a very short amount of time. A victim with any serious injury should be assumed to be at risk of shock, even if you do not see all these signs and symptoms. Some signs and symptoms include anxiety, confusion, light-headedness, pale or bluish skin, rapid or shallow breath, thirst, nausea, and changing responsiveness.



**Reference:** Lesson 1 – The Need for First Aid

## First Aid for Shock

As well as following these steps for attending to a shock victim, make sure you stay with the victim and offer reassurance and comfort and keep bystanders from crowding around the victim.



STEP 1: Check ABCs and care for life-threatening injuries.



STEP 2: Call 911.



STEP 3: Have the victim lie on his or her back and raise their legs about 8 to 12 inches (unless the victim may have a spine injury). Loosen any tight clothing.



STEP 4: Try to maintain the victim's normal body temperature. If lying on the ground put a coat or blanket under the victim. If in doubt, keep the victim warm with a blanket or coat over the victim.



STEP 5: If victim is unresponsive (with no suspected spinal injury), place victim in recovery position.

**Reference:** Lesson 1 – The Need for First Aid

## Head-to-Toe Examination

Perform a head-to-toe examination (for a child, tow-to-head): 1) Look for medical alert bracelets or medallions; 2) Compare one side of the victim against the other; and 3) Look for pain or deformity.



**Reference:** Lesson 1 – The Need for First Aid



# CPR and Choking

## *Vocabulary*

**Abdominal thrusts** – (formerly the Heimlich Maneuver) An upward push to the abdomen given to clear the airway of a person with a complete airway obstruction; procedure used to expel an object lodged in the airway of a choking victim.

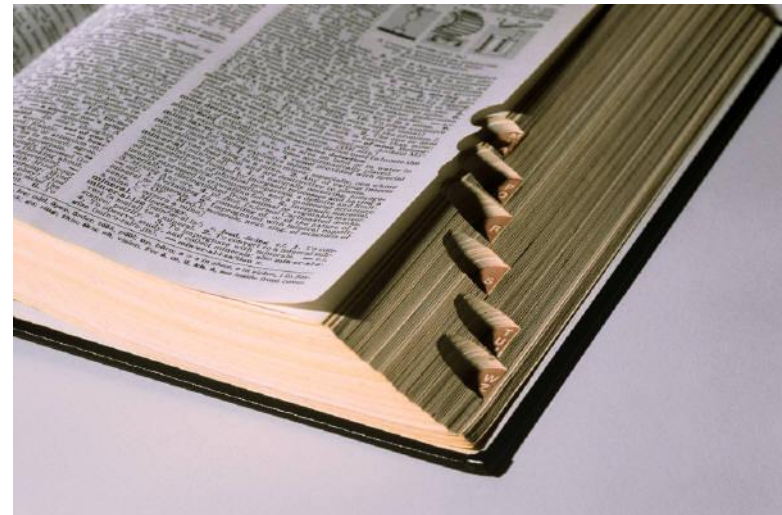
**Automated External Defibrillator (AED)** – A device used to treat a patient with cardiac arrest whose heart is beating irregularly.

**Cardiac arrest** – The sudden stoppage of the heart.

**Cardiopulmonary Resuscitation (CPR)** – An emergency method to keep blood and oxygen flowing through a person whose heart and breathing has stopped.

**Rescue breathing** – The act of forcing air into and out of the lungs of a person by another person.

**Stroke** – A reduction of blood flows to a part of the brain.



**Reference:** Lesson 2 – CPR and Choking

## ***Choking – The Universal Sign***

Choking occurs when a foreign object becomes lodged in the throat or windpipe, blocking the flow of air. In adults, a piece of food is often the culprit. Young children often swallow small objects. Because choking cuts off oxygen to the brain, administer first aid as quickly as possible.

The universal sign for choking is hands clutched to the throat. If a person doesn't give the signal, look for these indications:

- Loss of consciousness
- Inability to cough forcefully
- Noisy or difficulty in breathing
- Inability to talk
- Skin, lips, and nail turning blue



**Reference:** Lesson 2 – CPR and Choking

## Choking – First Aid

The American Red Cross recommends a five and five approach to deliver first aid to choking victims. This approach includes delivering five back blows and five abdominal thrusts.

1. Give up to five (5) blows between the shoulder blades with the heel of your hand.
2. Check the mouth quickly after each blow and remove any obvious obstruction. If the obstruction is still present, continue to Step 3.
3. Give up to five (5) abdominal thrusts. Place a clenched fist between the naval and the bottom of the breast bone and pull inwards and upwards. Check the mouth quickly after each thrust. If the obstruction does not clear after three cycles of back blows and abdominal thrusts, dial your local emergency services for an ambulance.
4. Continue a cycle of back blows and abdominal thrusts until help arrives and resuscitate if necessary.

**Note:** Any casualty who has been given abdominal thrusts must seek medical advice.



**Reference:** Lesson 2 – CPR and Choking

## *Abdominal Thrusts on Yourself*

To perform abdominal thrusts on yourself:



**STEP 1: Place a fist** slightly above your navel.

**STEP 2: Grasp your fist** with the other hand and bend over a hard surface — a countertop or chair will do.

**STEP 3: Shove your fist** inward and upward.



## *Abdominal Thrusts on Unconscious Person*

### **Clearing the airway of an unconscious person:**



**STEP 1: Lower the person** on his or her back onto the floor.

**STEP 2: Clear the airway.** If there's a visible blockage at the back of the throat or high in the throat, reach a finger into the mouth and sweep out the cause of the blockage. Be careful not to push the food or object deeper into the airway, which can happen easily in young children.

**STEP 3: Begin cardiopulmonary resuscitation (CPR)** if the object remains lodged and the person doesn't respond after you take the above measures. The chest compressions used in CPR may dislodge the object. Remember to recheck the mouth periodically.

## Abdominal Thrusts on Conscious Person

To perform abdominal thrusts on someone else:



**STEP 1: Stand behind the person.** Wrap your arms around the waist. Tip the person forward slightly.

**STEP 2: Make a fist with one hand.** Position it slightly above the person's navel.

**STEP 3: Grasp the fist with the other hand.** Press hard into the abdomen with a quick, upward thrust — as if trying to lift the person up.

**STEP 4: Perform a total of five abdominal thrusts,** if needed. If the blockage still isn't dislodged, repeat the "five-and-five" cycle.



**Reference:** Lesson 2 – CPR and Choking

## *Abdominal Thrusts on Pregnant or Obese Person*

**Clearing the airway of a pregnant woman or obese person:**



**STEP 1: Position your hands a little bit higher** than with normal abdominal thrusts, at the base of the breastbone, just above the joining of the lowest ribs.

**STEP 2: Proceed as with abdominal thrusts**, pressing hard into the chest, with a quick thrust.

**STEP 3: Repeat** until the food or other blockage is dislodged or the person becomes unconscious.

## Two Elements of CPR: Rescue Breathing and Chest Compressions

Cardiopulmonary Resuscitation (CPR) is a lifesaving technique useful in many emergencies, including heart attack or near drowning, in which someone's breathing or heartbeat has stopped.

Ideally, CPR involves two elements: chest compressions combined with mouth-to-mouth rescue breathing. However, what you as a bystander actually should do in an emergency situation really depends on your knowledge and comfort level.

The bottom line is that it's far better to do something than to do nothing at all if you're fearful that your knowledge or abilities aren't 100 percent complete. Remember, the difference between your doing something and doing nothing could be someone's life.

### 1. Rescue Breathing



#### **Step 1**

Look inside the mouth for an object.

#### **Step 2**

If you find one, remove it with your finger.

#### **Step 3**

Give 2 rescue breaths.

### 2. Chest Compressions



#### **Step 1**

Locate the correct hand position by placing the heel of one hand on the person's sternum (breastbone) in the center of the person's chest.

#### **Step 2**

Place your other hand directly on top of the first hand. Try to keep your fingers off the chest by interlacing them or holding them upward.

#### **Step 3**

Position yourself so your shoulders are directly over your hands.

#### **Step 4**

Push straight down with the weight of your body, then release, allowing the chest to return to the normal position.

**Reference:** Lesson 2 – CPR and Choking

## Three Categories of CPR Training

CPR training includes individuals that fall into three categories: untrained, trained and ready to go, and trained but rusty. Follow the advice from the American Heart Association if you fall into one of these categories.

### Untrained

If you're not trained in CPR, then provide hands-only CPR. That means uninterrupted chest presses of about two per second until paramedics arrive. You don't need to try rescue breathing.



Untrained

### Trained, but rusty

If you've previously received CPR training, but you're not confident in your abilities, then it's fine to do just chest compressions.



Trained, but rusty

### Trained, and ready to go

If you're well trained, and confident in your ability, then you can opt for one of two approaches:

1. Alternate between 30 chest compressions and two rescue breaths, or
2. Just do chest compressions.



Trained,  
and ready to go

## CPR Skills Comparison Chart

CPR Skills Comparison Chart			
Skill Components	Adult	Child	Infant
<b>HAND POSITION:</b>	Two hands in center of chest (on lower half of sternum)	One or two hands in center of chest (on lower half of sternum)	Two or three fingers on lower half of chest (one finger width below nipple line)
<b>COMPRESS:</b>	1 1/2 to 2 inches	1 to 1 1/2 inches	1/2 to 1 inch
<b>BREATHE:</b>	Until the chest rises (about 1 second per breath)	Until the chest rises (about 1 second per breath)	Until the chest rises (about 1 second per breath)
<b>CYCLE:</b>	30 compressions 2 breaths	30 compressions 2 breaths	30 compressions 2 breaths
<b>RATE:</b>	30 compressions in about 18 seconds (100 compressions per minute)	30 compressions in about 18 seconds (100 compressions per minute)	30 compressions in about 18 seconds (100 compressions per minute)

Reference: Lesson 2 – CPR and Choking



## Assess the Situation Before Performing CPR

An adult in cardiac arrest is unconscious and shows no other signs of life (movement or breathing). Loss of these signs of life can indicate cardiac arrest. A combination of chest compressions and rescue breaths can help circulate blood containing oxygen to vital organs. Before you begin CPR on an adult, assess the situation.

Symptoms  
Compressions  
911  
AED



If the person doesn't respond and two people are available, one should call 911 or the local emergency number and one should begin CPR. If you are alone and have immediate access to a telephone, call 911 before beginning CPR - UNLESS you think the person has become unresponsive because of suffocation (such as from drowning). In this special case, begin CPR for one minute and then call 911.



vs.

Is the person conscious or unconscious?



If an AED is immediately available, deliver one shock if advised by the device, then begin CPR.



If the person appears unconscious, tap or shake his or her shoulder and ask loudly, "Are you OK?"

## Performing CPR on an Adult

An adult in cardiac arrest is unconscious and shows no other signs of life (movement or breathing). Loss of these signs of life can indicate cardiac arrest. A combination of chest compressions and rescue breaths can help circulate blood containing oxygen to vital organs.

1. Put the person on his or her back on a firm surface.
2. Kneel next to the person's neck and shoulders.
3. Open the person's airway using the head-tilt, chin-lift maneuver. Put your palm on the person's forehead and gently tilt the head back. Then with the other hand, gently lift the chin forward to open the airway.
4. Check for normal breathing, taking no more than five (5) or ten (10) seconds: Look for chest motion, listen for breath sounds, and feel for the person's breath on your cheek and ear. Gasping is not considered normal breathing. If the person isn't breathing normally and you are trained in CPR, begin mouth-to-mouth breathing. If you believe the person is unconscious from a heart attack and you haven't been trained in emergency procedures, skip mouth-to-mouth rescue breathing and proceed directly to chest compressions to restore circulation.



**Reference:** Lesson 2 – CPR and Choking



## ***An Automated External Defibrillator (AED)***

An Automated External Defibrillator, AED, is a device that analyzes the heart's electrical rhythm and, if necessary, prompts you to deliver a shock to a person experiencing sudden cardiac arrest. Defibrillation is a process of delivering an electrical shock that disrupts a heart's electrical activity long enough to allow the heart to spontaneously develop an effective rhythm on its own. If the AED prompts you "No shock advised," you may have to perform CPR.

The AED automatically checks the victim's heart rhythm and advises whether the victim needs a shock.

If the victim's heart is in ventricular fibrillation (V-fib), the machine will advise giving an electric shock to return the heart to normal rhythm.



**Reference:** Lesson 2 – CPR and Choking

## Using an Automated External Defibrillator (AED)

In any situation in which a victim suddenly collapses or is found unresponsive, be thinking about the possibility of cardiac arrest even as you come up to the victim. If someone else is present and you know an AED is available, send that person to get it NOW. It is better to have it right away and not use it than to need it and have to wait for it. To use an AED, you must first determine there is a need. First check the victim's Airway, Breathing, and Circulation (ABC). If the victim is not breathing and has no signs of circulation, send someone to call 911 and to get an AED. Perform CPR until an AED arrives and is ready for use.

1. Position the victim away from water and metal.
2. Place unit by victim's shoulder and turn it on.
3. Expose victim's chest and dry or shave the area if necessary.
4. Ensure cables are plugged into the unit. Apply pads to victim's chest.
5. Stand clear during rhythm analysis.
6. Follow prompts from AED unit to:
  - Press shock button.

OR

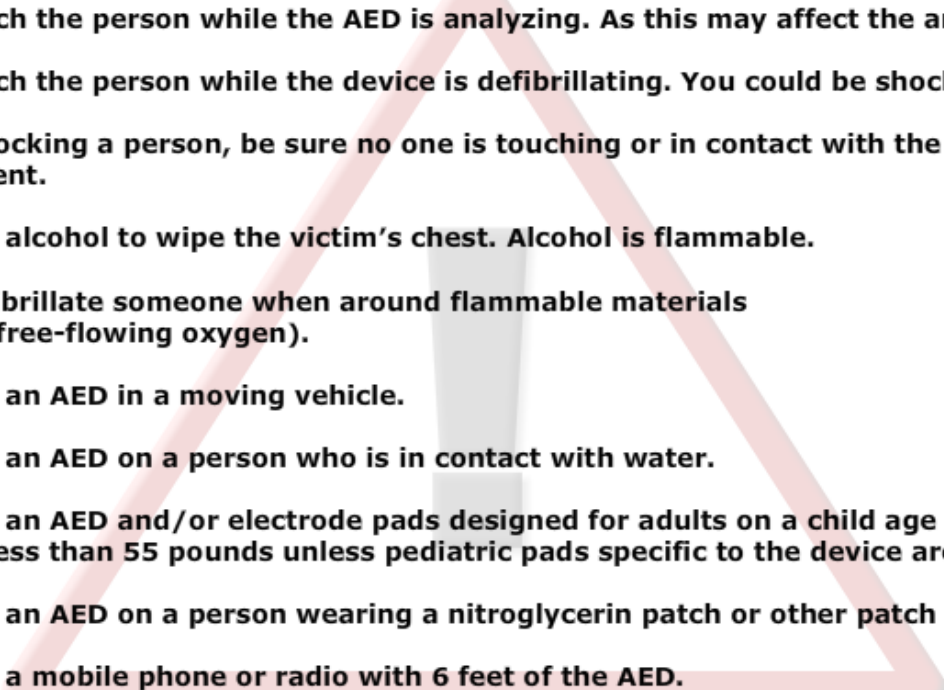
- Do not shock; check circulation, and give CPR if needed.
7. Follow prompts and your local protocol to administer sets of three (3) shocks if needed, along with rechecking signs of circulation and giving CPR as needed.
  8. If victim recovers, put into recovery position and monitor ABC.



**Reference:** Lesson 2 – CPR and Choking

## ***Automated External Defibrillator (AED) Precautions***

### **Precautions**

- 
- **Do not touch the person while the AED is analyzing. As this may affect the analysis.**
  - **Do not touch the person while the device is defibrillating. You could be shocked.**
  - **Prior to shocking a person, be sure no one is touching or in contact with the person or equipment.**
  - **Do not use alcohol to wipe the victim's chest. Alcohol is flammable.**
  - **Do not defibrillate someone when around flammable materials (gasoline, free-flowing oxygen).**
  - **Do not use an AED in a moving vehicle.**
  - **Do not use an AED on a person who is in contact with water.**
  - **Do not use an AED and/or electrode pads designed for adults on a child age 8 and under or weighing less than 55 pounds unless pediatric pads specific to the device are not available.**
  - **Do not use an AED on a person wearing a nitroglycerin patch or other patch on the chest.**
  - **Do not use a mobile phone or radio within 6 feet of the AED.**

## Automated External Defibrillator (AED) – Special Situations

Some situations require you to pay special attention when using an AED. Be familiar with these situations and know how to respond appropriately. Always use common sense when using an AED and follow the manufacturer's recommendations.

**Children:** Follow adult guidelines for children over eight (8). For younger children, it is important to use only approved pediatric AED electrode pads, which are smaller than those for adults and produces lower-energy shocks. You should use an AED with pediatric electrode pads only if you have been trained with the equipment.

**Wet Environment:** If a person has been removed from water, dry the person's chest and attach the AED. If it is raining, take steps to ensure that the person is dry as possible and sheltered from the rain.

**Implantable Devices:** When you expose the victim's chest to apply AED pads, you may see a bulge beneath the victim's skin from an implanted pacemaker or defibrillator. Do not place pad over this area but instead, place it several inches away.

**Medication Patches:** If victim has a medication patch (nitroglycerin) or paste on the chest, remove it and wipe the chest before applying the AED pads.

**Hypothermia:** Handle a hypothermic (low body temperature) victim very carefully because jarring may cause cardiac arrest. Follow you local guidelines for AED use if you find no signs of circulation.



**Reference:** Lesson 2 – CPR and Choking

# First Aid for Bleeding

## *Three Types of Bleeding*

There are three types of external bleeding, capillary, venous, and arterial. For serious bleeding give first aid immediately to stop the bleeding. For minor bleeding, clean and dress the wound. Click each of the bleeding types for more information.

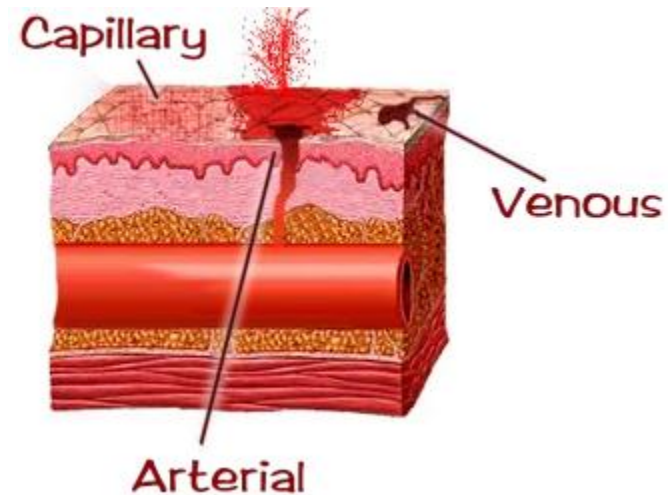
**Capillary Bleeding** is from capillaries that occurs with shallow cuts or scrapes and often stops soon by itself. The wound still needs attention to prevent infection.

**Venous Bleeding** is from injured veins is generally slower and steady but can still be serious. The blood is dark red and flows steadily rather than spurting. This bleeding is usually easier to control.

**Arterial Bleeding** is from injured arteries, is generally more serious, and is more likely with deep injuries. The blood is bright red, may spurt from the wound, and blood loss can be very rapid. This bleeding needs to be controlled immediately.

You should note that serious injuries don't always bleed heavily, and some relatively minor injuries, for example, scalp wounds, can bleed quite a lot. People who take blood-thinning medication or who have a bleeding disorder such as hemophilia may bleed profusely because their blood does not clot properly. Bleeding in such people requires immediate medical attention.

**Reference:** Lesson 3 – First Aid for Bleeding



Serious injuries don't always bleed heavily, and some relatively minor injuries (for example, scalp wounds) can bleed quite a lot. People who take blood-thinning medication or who have a bleeding disorder such as hemophilia may bleed profusely because their blood does not clot properly. Bleeding in such people requires immediate medical attention.



## Controlling External Bleeding

When you encounter an external bleeding victim, follow these important steps to control the bleeding.

**Step 1:** Put on medical gloves or use some type of barrier to protect yourself from contact with the victim's blood.



**Step 2:** Move aside any clothing and place a sterile dressing (or clean cloth) on the wound, then apply direct pressure on the wound with your hand.



**Step 3:** With a bleeding arm or leg, raise the limb above the heart level while keeping pressure on the wound. Be careful moving the victim because of the possibility of other injuries.



**Step 4:** If blood soaks through the dressing, do not remove the old dressing but put another dressing or cloth pad on top of it and keep applying pressure.



**Step 6:** If direct pressure does not control the bleeding, also apply indirect pressure at a pressure point in the arm or leg to squeeze the artery closed.



**Step 5:** If possible, wrap a roller bandage around the limb to hold the dressings in place and apply pressure. Be careful not to over-tighten the roller bandage and cut off circulation to the limb.

**Reference:** Lesson 3 – First Aid for Bleeding

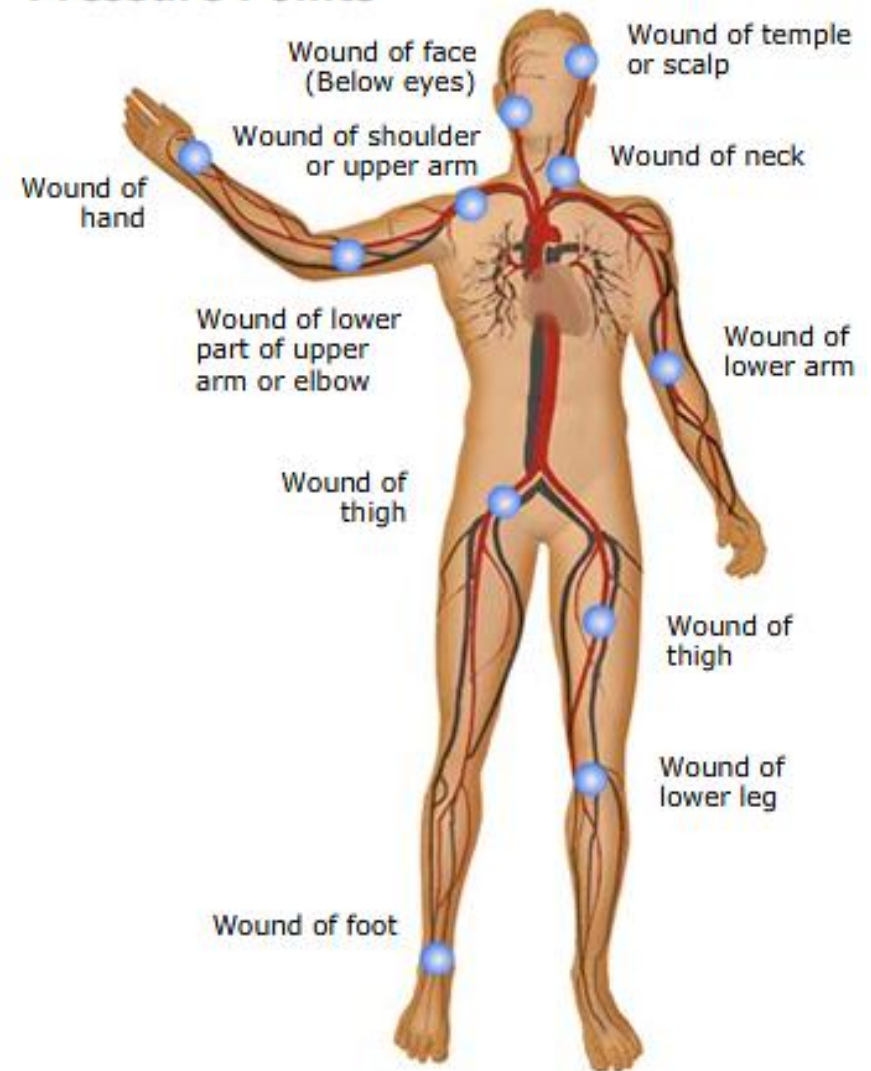


## Pressure Points to Control Bleeding

Shown here are the various pressure points in the body. Pressure points of the arm are on the inside of the arm just above the elbow and just below the armpit. Pressure points of the leg are just behind the knee and in the groin. When using indirect pressure, squeeze the main artery in these areas against the bone. Keep your fingers flat. With your other hand, continue to exert pressure on the wound itself.

**NOTE:** The use of pressure points should not be used unless the technique is absolutely necessary to help stop severe bleeding. To check if bleeding has stopped, release your fingers slowly from the pressure point, but do not release pressure at the bleeding site. If the bleeding continues, continue to apply pressure to the artery. Continue until the bleeding stops or until help arrives. After bleeding stops, do not continue to apply pressure to an artery for longer than 5 minutes.

### Pressure Points



**Reference:** Lesson 3 – First Aid for Bleeding

## Four Types of External Bloody Wounds

### Laceration



**Laceration:** Lacerations, or cuts, may be straight-edged (incisions) or jagged, and may cause heavier bleeding.

Wound care involves cleaning and dressing a wound to prevent infection and protecting the wound so that healing can occur. Remember: Do not waste time cleaning a wound that is severely bleeding. Controlling the bleeding is the FIRST priority.

### Avulsion



**Avulsion:** Avulsions are areas of skin or other tissue torn completely from the body, or partially, like a flap.

### Puncture



**Puncture:** Punctures of the skin are caused by a sharp object penetrating down into the skin and possibly deeper tissues and are more likely to trap foreign material in the body.

### Abrasions



**Abrasion:** Abrasions occur when the top skin is scraped off. Foreign material may be present in the wound that can cause infection.

**Reference:** Lesson 3 – First Aid for Bleeding

## *Wash Your Hands Before Treating External Bloody Wounds*

Wash your hands first or wear gloves if available before you begin cleaning the wound.

Gently wash the wound with soap and water to remove the dirt.



**ALERT**

Do not try to clean a major wound after controlling bleeding (it may start bleeding again); leave that up to trained medical professionals. Do not use alcohol, hydrogen peroxide, or iodine on the wound. Avoid breathing on the wound.

**Reference:** Lesson 3 – First Aid for Bleeding

## Bleeding from a Major Wound

In an open wound, the break in the skin can be as minor as a scrape of the surface layers or as severe as a deep penetration. The amount of bleeding depends on the location and severity of the injury. For major open wounds such as abrasions, lacerations, avulsions, and punctures, follow these important steps.

1. Call 9-1-1.
2. Apply direct pressure to the wound and clean sterile dressing (or clean cloth). If the wound is gaping, hold its edges together firmly.
3. Raise the injured limb (this will reduce the flow of blood from the wound) above the heart level while keeping pressure on the wound.
4. If there is a foreign body in the wound (i.e., glass), apply pressure alongside.
5. If blood soaks through the bandage, do not remove it, but put another dressing or cloth pad on top of it and keep applying pressure.
6. If possible, wrap a roller bandage around the limb to hold the dressings in place and apply pressure. Be careful not to cut off circulation to the limb.
7. If direct pressure does not control the bleeding, also apply indirect pressure at a pressure point in the arm or leg to squeeze the artery closed.
8. Treat the victim for shock. Reassure the victim that he or she will be OK and that help is on the way.
9. Do not remove the dressings/bandages. The wound will be cleaned by medical personnel.



**Reference:** Lesson 3 – First Aid for Bleeding



## Open Abdominal Wound with Protruding Organs

Like a chest injury, an injury to the abdomen may be either open or closed. Injuries to the abdomen can be very painful. Even with a closed wound, the rupture of an organ can cause serious internal bleeding that may result in shock. Always suspect an abdominal injury in a person who has multiple injuries. Signs of serious abdominal injury include severe pain, bruising, external bleeding, nausea, vomiting, weakness, thirst, pain/tenderness in the abdomen, organs protruding from the abdomen, rigid abdomen muscles, and other signals of shock.

1. Call 9-1-1.
2. Have the victim lay on his or her back with knees slightly bent.
3. Do not apply direct pressure.
4. Do not push organs back into the body.
5. Remove any clothing from around the wound.
6. Cover the wound with a dressing moistened with sterile or clean water.
7. Cover the dressings loosely with plastic wrap if available.
8. Monitor the victim's ABCs.
9. Treat for shock.



**Reference:** Lesson 3 – First Aid for Bleeding

## ***Minor Open Wound (may or may not still be bleeding)***

In minor open wounds, such as abrasions, there is only a small amount of damage and bleeding.

1. Gently wash the wound with soap and water to remove dirt.
2. Use tweezers to remove any small particles.
3. Pat dry. If an abrasion, apply an antibiotic ointment.
4. Cover with sterile dressing and bandage.
5. If stitches are needed or victim needs tetanus shot (punctured by rusted metal), seek medical attention.
6. Change dressing daily or if it becomes wet.
7. Seek medical attention if the wound becomes infected.



**Reference:** Lesson 3 – First Aid for Bleeding



## Puncture Wounds

Puncture wounds are usually caused by a pointed object, such as a nail, piercing the skin. They do not bleed very much unless a blood vessel has been injured. However, an object that goes into the soft tissues beneath the skin can carry germs deep into the body. These germs can cause infection, sometimes serious infections.

1. Check to see that nothing is left in the wound.
2. Check to see if the object that caused the wound is intact. If a piece is missing, it may be stuck in the wound.
3. Allow the wound to bleed freely, but if the bleeding is heavy or squirting out, apply pressure until it stops.
4. Minor puncture wounds and cuts usually stop bleeding on their own. If not, apply gentle pressure with a clean cloth or bandage. If the blood spurts or continues after several minutes of pressure, seek medical attention.
5. Cleanse the wound with water. If dirt or debris remains in the wound, clean a pair of tweezers with alcohol and remove the dirt. If you cannot get the dirt or debris out, seek medical attention.
6. Apply antibiotic ointment such as Neosporin or Polysporin in a thin layer over the wound. This will help coat and protect the wound. Large amounts of ointment are not helpful because they can attract bacteria. Apply ointment with a clean swab or gauze. Do not apply directly from tube in order to avoid contamination of the tube. Ointments can be applied up to three (3) times a day, but you should always clean the wound before applying ointment.
7. If bleeding won't stop, or victim needs stitches or a tetanus shot, seek medical attention.



**Reference:** Lesson 3 – First Aid for Bleeding

## ***Impaled Object Wound – No Sign of Sucking Chest Wound***

An impaled object wound consists of objects embedded in the body that may come in all shapes and sizes. Objects could range from pencils, knives, and glass to something as large as a fence post. Removing an object from a wound could cause more injury than bleeding. A sucking chest wound is an open wound in the chest caused by a penetrating injury. The wound lets air move in and out of the chest during breathing. This wound can be life threatening because breathing can be affected. To eliminate the risk of significant internal damage, make sure the object is stabilized. Leave the object in place, but keep it from moving.

1. Call 9-1-1.
2. Control bleeding by applying direct pressure at the sides of the object.
3. Pad the object in place with large dressings or any folded cloths.
4. Support the object while bandaging it in place.
5. Seek medical attention.



**Reference:** Lesson 3 – First Aid for Bleeding

## ***Impaled Object Wound – With Sucking Chest Wound***

An impaled object wound consists of objects embedded in the body that may come in all shapes and sizes. Objects could range from pencils, knives, and glass to something as large as a fence post. Removing an object from a wound could cause more injury than bleeding. A sucking chest wound is an open wound in the chest caused by a penetrating injury. The wound lets air move in and out of the chest during breathing. This wound can be life threatening because breathing can be affected. To eliminate the risk of significant internal damage, make sure the object is stabilized. Leave the object in place, but keep it from moving.

1. Call 9-1-1.
2. Put a thin sterile dressing over the wound.
3. Cover the dressing with a plastic bag or wrap to make air-tight seal.
4. When the victim exhales, tape in place on three sides leaving one side untapped to let exhaled air escape.
5. Seek medical attention.



**Reference:** Lesson 3 – First Aid for Bleeding

## Amputation

In an amputation injury a body part has been severed from the body. Control the bleeding and care for the victim's wound first, then recover and care for the amputated part. Follow these steps carefully when handling an amputation.

1. Call 9-1-1.
2. Control bleeding from the wound. Put direct pressure onto the wound. In the case of fingers and toes, the bleeding won't be immediately life threatening. However, when hands, feet, or limbs are amputated, there will be more serious bleeding.
3. Elevate the remaining part of the limb.
4. Put a sterile bandage on the wound.
5. If blood seeps through the bandage, do not remove it. Simply put another bandage over the first bandage. Do this as often as is necessary.
6. Wrap the severed part in a dry sterile dressing or clean cloth. Do not wash it.
7. Place the part in a plastic bag and seal.
8. Place the sealed bag into another bag or container with ice.
9. Do not let the part touch the ice directly.
10. Do not surround the part with ice.
11. Seek medical attention.



**Reference:** Lesson 3 – First Aid for Bleeding

## Head Injury – No Sign of Skull Fracture

A head injury has the potential of causing death or lifelong neurological damage. They can cause paralysis, speech or memory problems, or other disabling conditions. Any injury to the head may also injure the spine. Whenever you find a serious head injury, suspect a neck or back injury also.

1. Call 9-1-1.
2. Very carefully, try to put any flaps of skin back into position.
3. Cover the wound with sterile dressing.
4. Use direct pressure to control the bleeding.
5. Put a roller or triangle bandage around the victim's head to secure the dressing.
6. If victim is conscious, position the victim with head and shoulders raised to help control bleeding.

1.

911



2.



3.



4.



5.



6.



**Reference:** Lesson 3 – First Aid for Bleeding



## Head Injury – Possible Skull Fracture

A head injury has the potential of causing death or lifelong neurological damage. They can cause paralysis, speech or memory problems, or other disabling conditions. Any injury to the head may also injure the spine. Whenever you find a serious head injury, suspect a neck or back injury also.

1. Call 9-1-1.
2. If the victim is unresponsive, check the ABCs.
3. Do not clean the wound, press on it, or remove impaled object.
4. Cover the wound with a sterile dressing.
5. Use direct pressure around the edges of the wound to control bleeding, not on the wound itself.
6. Do not move the victim unnecessarily in case there might be a spinal injury.
7. Put an unresponsive victim in the recovery position unless there is a spinal injury.



**Reference:** Lesson 3 – First Aid for Bleeding



## ***Bleeding from Ear***

With bleeding from the external ear, control the bleeding with direct pressure and dress the wound. For bleeding within the ear, follow these guidelines.

1. Call 9-1-1.
2. Help victim to sit up, tilting the affected ear lower to let blood drain out.
3. Cover the ear with loose sterile dressing, but do not apply pressure.
4. Keep ear covered to reduce the risk of infection.

**1.**

**911**



**2.**



**3.**



**4.**



**Reference:** Lesson 3 – First Aid for Bleeding

## Bleeding from Nose

Nose injuries are usually caused by a blow from a blunt object. The result is often a nosebleed. High blood pressure or changes in altitude can also cause nosebleeds. In most cases, you can control the bleeding by having the person sit with their head slightly forward while pinching the nostrils together for about ten minutes.

1. Help victim to sit and tilt slightly forward with mouth open.
2. Have victim pinch the nostrils together just below the bridge of the nose for 10 minutes.
3. Ask victim to breath through his or her mouth and not speak, swallow, cough, or sniff.
4. If victim is gasping or choking on blood in throat, call 9-1-1.
5. After 10 minutes, release the pressure slowly.
6. Put a cold compress on the bridge of the nose (do not put ice directly on the skin).
7. Seek medical attention if:
  - Bleeding continues after two attempts
  - Nose is broken
  - Victim has high blood pressure

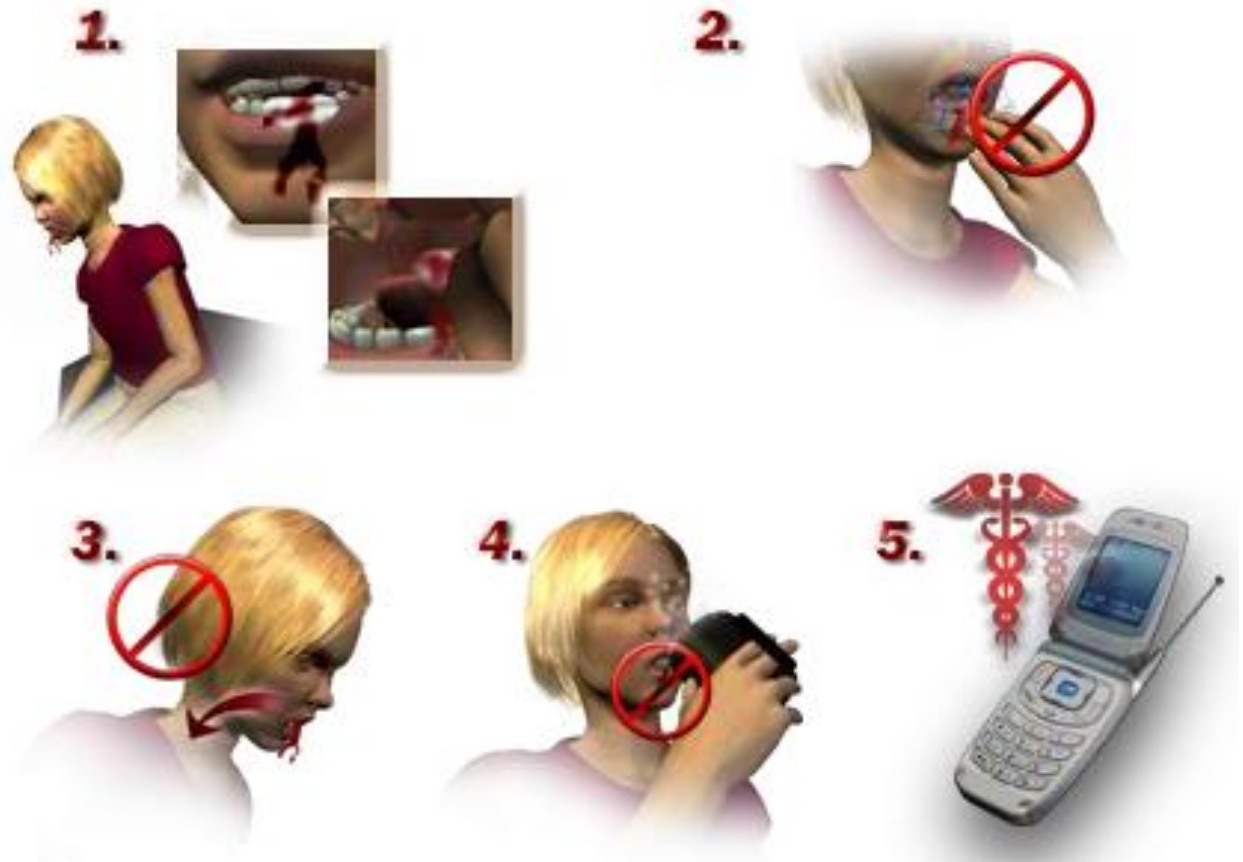


**Reference:** Lesson 3 – First Aid for Bleeding

## Bleeding from Mouth

With mouth injuries, you must make sure the person is able to breathe. Injuries to the mouth may cause breathing problems if blood or loose teeth obstruct the airway.

1. Have the victim sit with head tilted forward to let blood drain out. If wound is penetrating the lip, put a rolled dressing between the lip and gum and then hold a second dressing against the outside lip. If wound is a bleeding tongue, put a dressing on the wound and apply pressure.
2. Do not rinse the mouth.
3. Do not let victim swallow blood, which may cause vomiting.
4. Do not let victim drink anything warm for several hours.
5. Seek medical attention if bleeding is severe or does not stop.

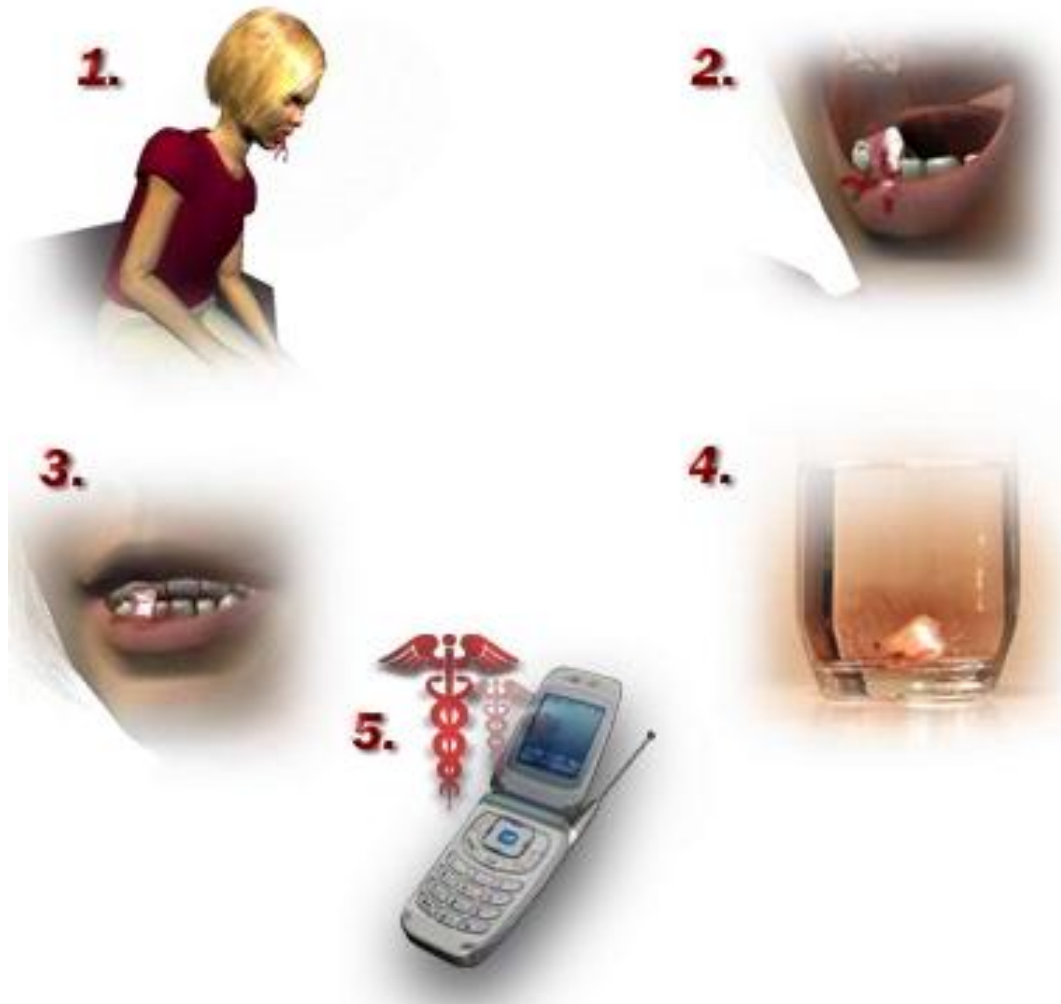


**Reference:** Lesson 3 – First Aid for Bleeding

## Tooth Injury

If a person's tooth is knocked out, control the bleeding and save the tooth so it may possibly be reinserted. When the fibers and tissues are torn from the socket, it is important for the person to seek dental care within 30 minutes to an hour after the injury. Generally, the sooner the tooth is replaced, the better the chance the tooth will survive.

1. Have the victim sit with head tilted forward to let any blood drain out.
2. Control bleeding by folding or rolling gauze into a pad and place into the empty tooth socket.
3. Have victim bite down and apply pressure for 20 to 30 minutes.
4. Place the tooth (touching only the crown and not the roots) into a container of milk or cool water.
5. Seek immediate dental care within 30 minutes to an hour.



**Reference:** Lesson 3 – First Aid for Bleeding

## ***Bruising (a simple closed wound)***

Internal bleeding is any bleeding within the body in which the blood does not escape from an open wound. A closed wound may have minor local bleeding in the skin and other superficial tissue, causing a bruise. A bruise develops when the body is bumped or hit. Typical signs of a closed wound include bruising and signs of pain.

1. Check for signs and symptoms of a fracture or sprain and give appropriate first aid.
2. Put ice or cold pack on the area to control bleeding, reduce swelling, and reduce pain. Do not apply ice directly to skin, place a barrier between the ice and the skin. Put ice on area for 20 minutes and then remove for 20 minutes.
3. With an arm or leg, wrap the area with an elastic bandage. Keep the part raised to help reduce swelling.
4. Seek medical attention if more serious injury such as fracture or sprain.



**Reference:** Lesson 3 – First Aid for Bleeding

## Internal Abdominal Bleeding

Abdominal wounds can be very serious because of the possibility of severe internal bleeding. They may not look very serious, but can result in shock. Seek immediate medical care immediately for any abdominal wound.

1. Call 9-1-1.
2. Have the victim lie down on his or her back with knees bent slightly.
3. Be alert for vomiting. If victim vomits or becomes unresponsive, place him or her in the recovery position.
4. Keep victim comfortable (keep them from becoming too warm or too chilled).
5. Monitor the ABC.
6. Treat for shock.



**Reference:** Lesson 3 – First Aid for Bleeding



## Pelvic Injury

A broken pelvis may cause severe internal bleeding and organ damage. It can also be a life-threatening injury for some victims such as the elderly.

1. Call 9-1-1.
2. Have victim lie down with his or her knees bent slightly.
3. Immobilize the victim's legs by padding between the legs and then bandaging them together unless this causes more pain.
4. Monitor the ABCs.
5. Treat for shock.

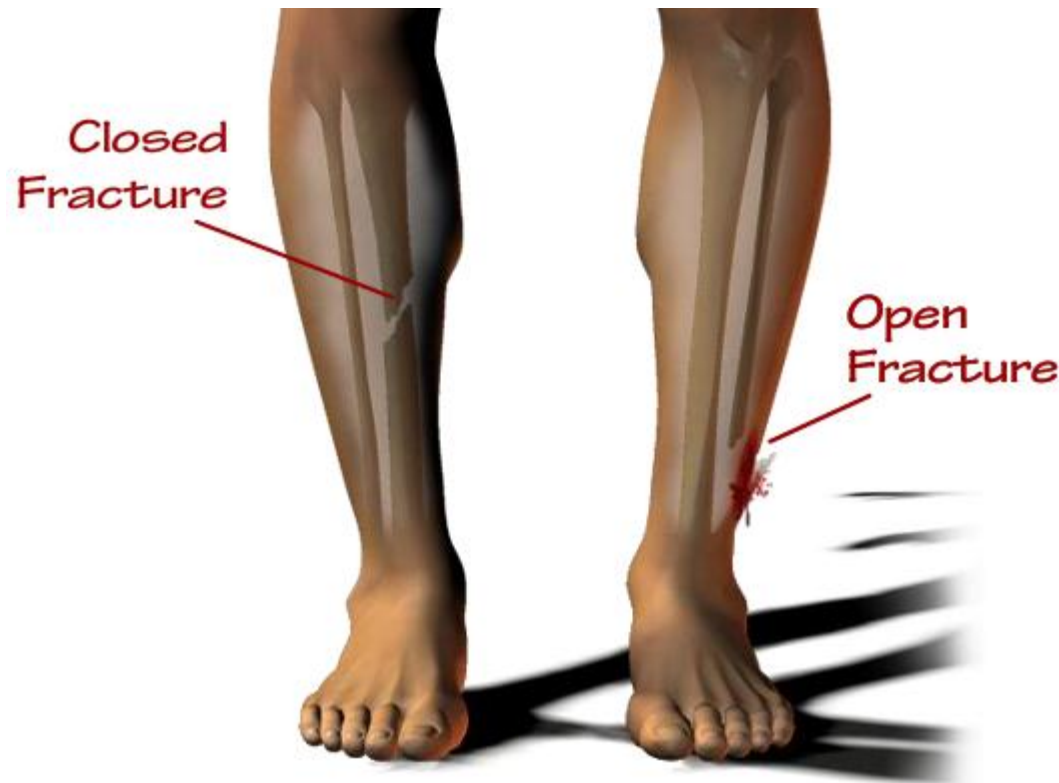


**Reference:** Lesson 3 – First Aid for Bleeding

# First Aid for Fractures, Sprains, and Strains

## *Closed Versus Open Fractures*

A fracture is a break or crack in a bone that can be caused by an accident, fall, or blow. Fractures may be opened or closed. With an open fracture there is an open wound at the fracture site, and bone may protrude through the wound. Bleeding can be severe with fractures of large bones, and organs may be injured. With a closed fracture, the skin is not broken.



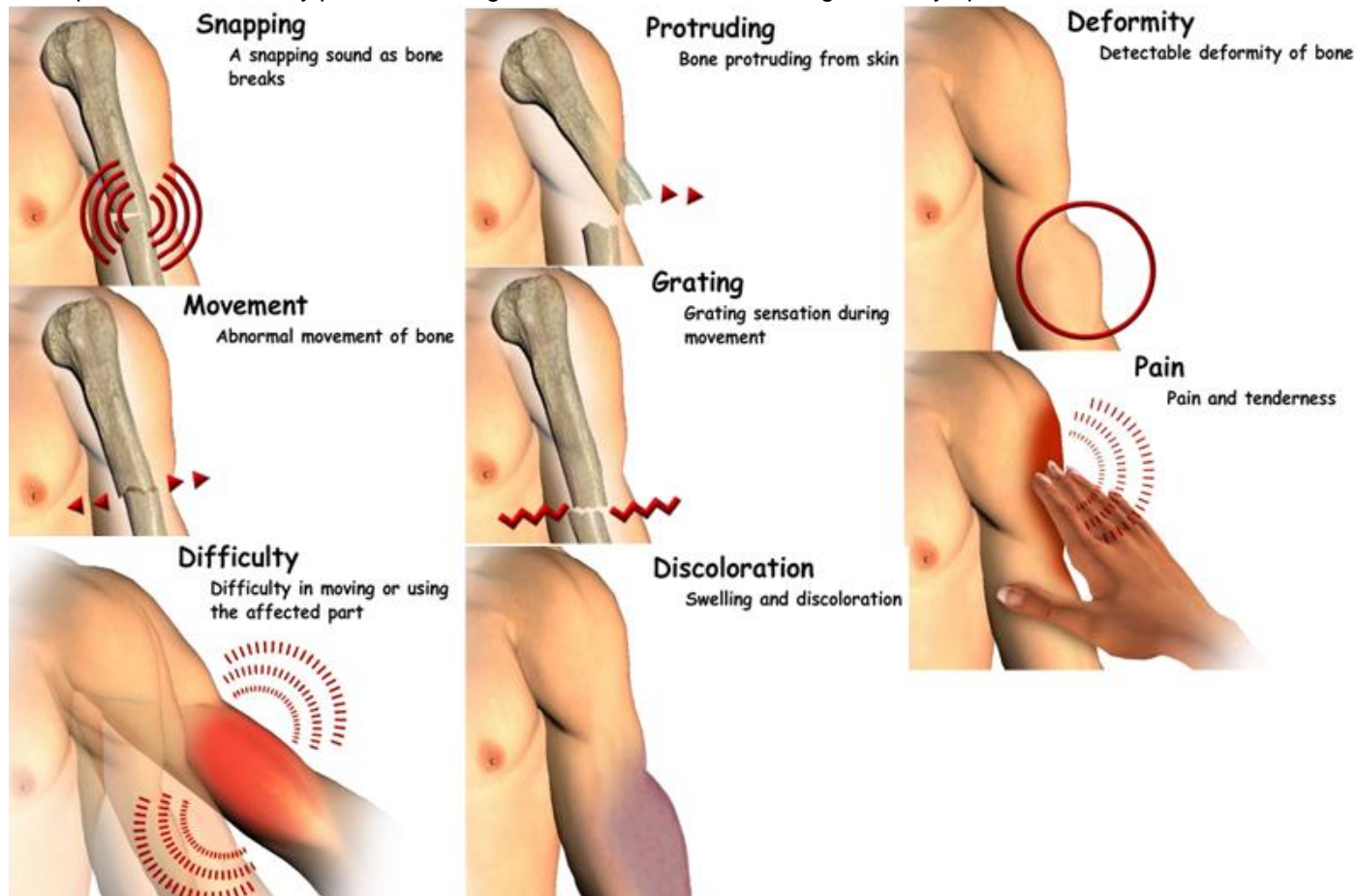
**Do not try to align the ends of a broken bone.**

**Do not give the victim anything to eat or drink.**

**Reference:** Lesson 4 – First Aid for Fractures, Sprains, and Strains

## Signs and Symptoms of Fractures

Usually, you will know immediately if you have broken a bone. You may hear a snap or cracking sound. The area around the fracture will be tender and swollen. A limb may be deformed, or a part of the bone may puncture through the skin. Here are a few signs and symptoms of a fracture.

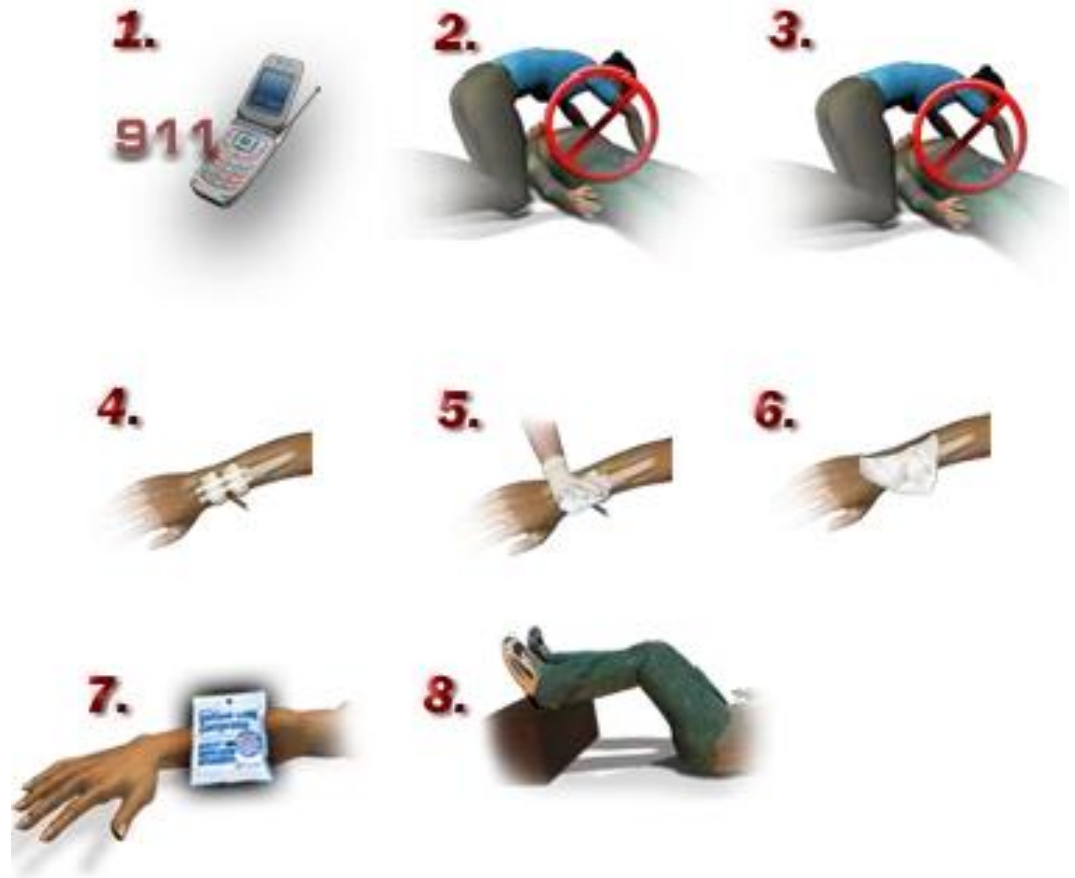


**Reference:** Lesson 4 – First Aid for Fractures, Sprains, and Strains

## Attending to a Fracture

To attend to a victim with a fracture, follow these important steps.

1. Call 9-1-1.
2. DO NOT attempt to move the victim if you suspect head, back, or neck injury; if there's a visible deformity of bone; or if the victim cannot be splinted or transported without causing more pain.
3. Suspect back or neck injury if the victim is unconscious or has head injury, neck pain, or tingling in arms or legs. If neck or back injury suspected, DO NOT move the victim unless necessary to save victim's life such as a threat of fire.
4. Immobilize and support affected bone in position found. DO NOT try to push protruding bone back into body or let victim move or use affected area.
5. Control any bleeding through direct pressure or by using pressure points, but DO NOT elevate the affected area.
6. If bone is protruding, cover with clean cloth once bleeding is controlled.
7. Immobilize injured area, and, if no open wound present, apply ice pack wrapped in clean cloth.
8. Treat for shock. DO NOT give victim anything to eat or drink.



**Reference:** Lesson 4 – First Aid for Fractures, Sprains, and Strains

## Splinting Fractures, Sprains, and Strains

When a victim has a fracture, dislocation, or sprain in an arm or leg, the arm or leg may be splinted if the victim is at risk for moving the injured area unless help is expected within a few minutes. Splinting helps prevent further injury, reduces pain, and minimizes bleeding and swelling. Splints can be made from many different materials at hand such as a board, newspaper, plastic or metal, newspaper or magazine, or thick cardboard.

1. Check for sensation, warmth, and color of toes or fingers below suspected break.
2. Place padded splint under area of suspected break. Use board (rigid splint), rolled newspaper or magazines, broomstick, or rolled blanket (soft splint) for splint. Wrap splint in cloth or towels for padding. Bind splint to limb using neckties, cloth, belts, or rope. DO NOT bind directly over break.
3. Recheck often for sensation, warmth, and coloring. If fingers or toes turn blue or swell, loosen binding.
4. For arm or shoulder injury: Place splinted arm in sling, with hand above elbow level. Bind arm to victim's body by wrapping towel or cloth over sling and around upper arm and chest. Tie towel or cloth under victim's opposite arm. Wrap splint in cloth or towels for padding.

1.



2.



3.



4.



**Reference:** Lesson 4 – First Aid for Fractures, Sprai



## Attending to Sprains

A sprain refers to stretched or torn tendons, ligaments, and blood vessels around a joint and can be caused by an accident, fall, or blow. Mild sprains may swell but usually heal quickly. A severe sprain can also involve a fracture or dislocation of the bones at the joint. The joints most easily injured are at the ankle, knee, wrist, and fingers.

1. Have victim rest.
2. Apply cold compress or ice pack wrapped in cloth to affected area.
3. Use a soft splint (bandage, pillow, or blanket) to immobilize and support the joint.
4. Elevate a sprained hand or ankle above the level of the heart.
5. If pain or swelling continues for more than two (2) days, consult doctor.



**Reference:** Lesson 4 – First Aid for Fractures, Sprains, and Strains



## Attending to Dislocations

It is not always possible to tell a dislocation from a closed fracture, but the first aid is very similar. A dislocation is a displacement of one or more bones at a joint and most frequently happens at the shoulder, elbow, thumb, finger or jaw. This displacement is usually caused by a violent force tearing the ligaments that hold the bones in place.

1. Do not try to force back a dislocated joint yourself. This should be performed by a doctor.
2. Apply a splint to the joint to keep it from moving.
3. Try to keep the joint elevated to slow blood flow to the area.
4. Apply ice or cold pack to the area.
5. Seek medical attention.



**Reference:** Lesson 4 – First Aid for Fractures, Sprains, and Strains

## Attending to Strains

A muscle strain refers to stretched or torn muscle. It can be caused by excessive physical effort or improper posture during activity. Strains usually involve the muscles in the neck, back, thigh, or the back of the lower leg. Some strains can reoccur especially in the neck and back.

1. Rest the muscle.
2. Put ice or cold pack on the area – 30 minutes on, then 30 minutes off.
3. With an extremity, wrap a compression bandage around the muscle.
4. Elevate the limb.
5. Seek medical attention if pain is severe or persists.



**Reference:** Lesson 4 – First Aid for Fractures, Sprains, and Strains

## Attending to Contusions

A contusion is a bruised muscle that may result from a blow. The procedures for attending to a contusion are the same as for a strain.

1. Rest the muscle.
2. Put ice or cold pack on the area – 30 minutes on, then 30 minutes off.
3. With an extremity, wrap a compression bandage around the muscle.
4. Elevate the limb.
5. Seek medical attention if pain is severe or persists.



**Reference:** Lesson 4 – First Aid for Fractures, Sprains, and Strains

## *Attending to Cramps*

A muscle cramp is a tightening of a muscle usually because of prolonged use. Cramps are common in the legs, stomach, and back. To prevent muscle cramps, drink plenty of water before any exercise routine.

1. If possible, stretch out the muscle.
2. Massage the muscle.
3. Drink plenty of fluids.



**Reference:** Lesson 4 – First Aid for Fractures, Sprains, and Strains

# First Aid for Burns

## *Classification of Burns*

Burns of the skin or deeper tissues may be caused by heat, chemicals, or electricity. Mild heat burns and sunburn may need only simple first aid, but severe burns can be a medical emergency.

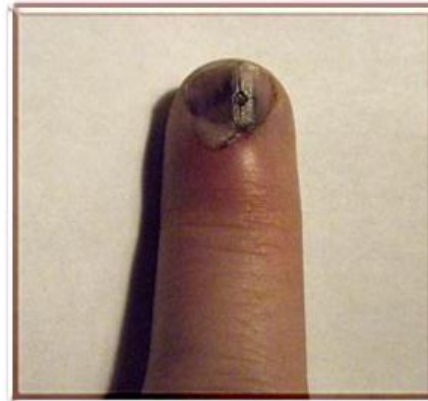
**Heat**



**Chemical**



**Electrical**



**Radiation (Sun)**

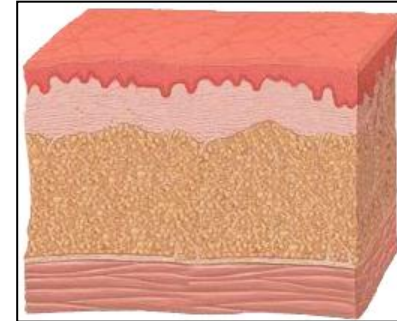


**Reference:** Lesson 5 – First Aid for Burns

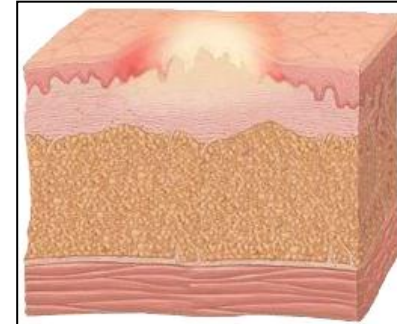
## Degrees of Burns

Heat burns may be caused by flames or contact with steam or any hot object. The severity of a burn depends on the amount of damage to the skin and other tissues under the skin. The location of the burn is also important. Burns on the face, genitals, or hands or feet are more serious and require medical attention.

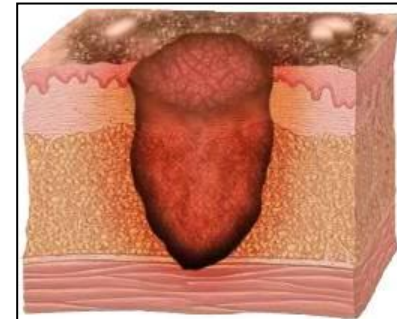
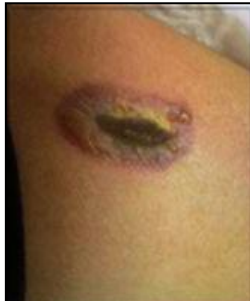
**First-degree burns (superficial):** Damage only to the skin's outer layer, like typical sunburn. These are minor burns and usually heal by themselves.



**Second-degree burns (partial thickness):** Damage to the skin's deeper layers. When small they may not be too serious, but larger second-degree burns require medical attention.



**Third-degree burns (full thickness):** Damage to the skin all the way through and may burn the muscle or other tissues. These are medical emergencies that require treatment by a medical professional.



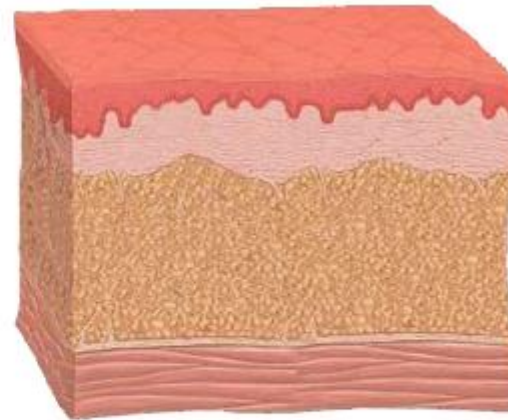
**Reference:** Lesson 5 – First Aid for Burns



## ***First Degree Burns***

First degree burns, the least serious type, is one in which the top layer of the skin has been burned slightly. These burns produce pain and redness of the skin. First-degree burns are usually caused by:

- Overexposure to the sun
- Brief contact with a hot object, such as an iron or skillet
- Minor scalding by hot water or steam
- Brief contact with harsh chemicals



**Reference:** Lesson 5 – First Aid for Burns

## Attending to First Degree Burns

Follow these steps to treat a victim with first degree burns.

1. Stop the burning by removing the heat source.
2. Remove any clothing or jewelry from area to prevent constricting as area swells. Do not remove clothing that sticks to the burned area.
3. Flush the burn with cool running water or apply cold-water compresses (a wet towel or handkerchief) until the pain lessens. Do not use ice or ice water, which can cause more damage to the burned area.
4. Do not put ointments, grease, petroleum jelly, butter, or other home remedy on the burn. These substances can hold the heat in, making the burn worse.
5. Cover area with a dry, loose sterile dressing.

1.



2.



3.



4.



5.



**Reference:** Lesson 5 – First Aid for Burns

## Attending to First Degree Chemical Burns

Many strong chemicals found in workplaces and the home can burn the skin on contact. Sometimes the burn develops slowly and in some cases the victim may not be aware of the burn for up to 24 hours. Follow these steps when treating a first degree chemical burn.

1. If chemical spills on clothing or jewelry, remove it.
2. Flush liquid chemicals from the skin thoroughly with running water for 15 to 30 minutes.
3. Brush dry chemicals off the skin if large amounts of water are not available. Small amounts of water will activate some chemicals such as lime. Be careful not to get any of the chemicals on your skin or in your eyes.
4. Cover the burn with a dry, loose sterile dressing.

1.



2.



3.



4.

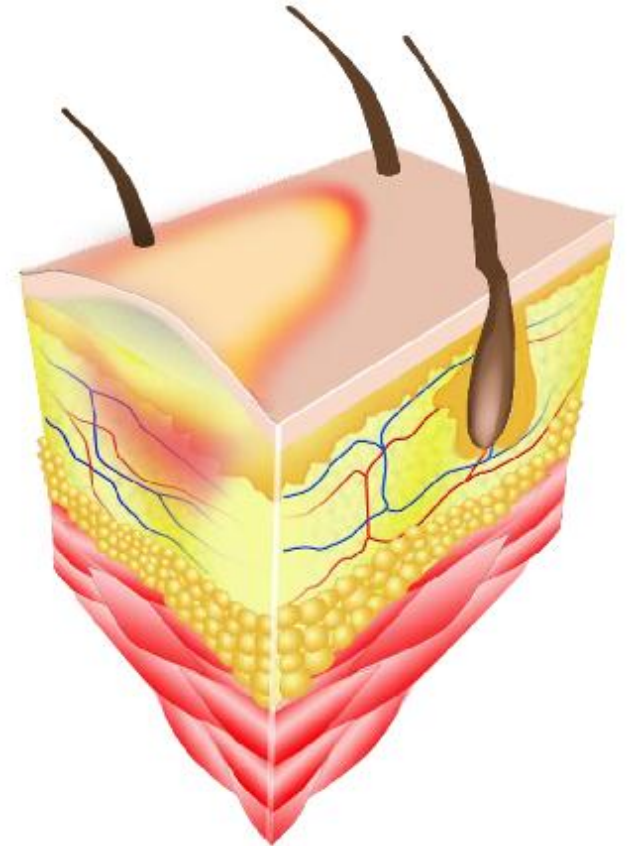


**Reference:** Lesson 5 – First Aid for Burns

## ***Second Degree Burns***

Second-degree burns are more serious than first-degree burns because a deeper layer of skin is burned. They can more easily become infected. Also, if the burn affects more than ten percent of your skin, you may go into shock because large quantities of fluid are lost from the burned area. Second-degree burns are usually caused by:

- Deep sunburn
- Exposure to flames
- Contact with hot liquids
- Burning gasoline or kerosene
- Contact with chemicals



**Reference:** Lesson 5 – First Aid for Burns

## Attending to Second Degree Burns

All second-degree burns greater than 2 to 3 inches in diameter should be treated by a medical professional. Smaller burns can usually be treated at home. Follows these steps for treating second degree burns.

1. Call 9-1-1.
2. Stop the burning by removing the heat source.
3. Remove any clothing or jewelry from area to prevent constricting as area swells. Do not remove clothing that sticks to the burned area.
4. Flush the burn with cool running water or apply cold-water compresses (a wet towel or handkerchief) until the pain lessens. Do not use ice or ice water, which can cause more damage to the burned area.
5. Do not put ointments, grease, petroleum jelly, butter, or other home remedy on the burn. These substances can hold the heat in, making the burn worse.
6. Put a dressing over the burn to protect the area, but keep it loose and do not tape it to the skin. If fluid soaks through, cover with another layer of dressings.
7. Monitor ABC.

1.

911



2.



3.



4.



5.



6.



7.

ABCs



**Reference:** Lesson 5 – First Aid for Burns

## Attending to Second Degree Chemical Burns

Both acids and alkalis, and liquids and solids can cause serious burns. Since the chemical reaction can continue as long as the substance is on the skin, you must flush it off with water as soon as possible.

1. Call 9-1-1.
2. If chemical spills on clothing or jewelry, remove it.
3. Flush liquid chemicals from the skin thoroughly with running water for 15 to 30 minutes.
4. Brush dry chemicals off the skin if large amounts of water are not available. Small amounts of water will activate some chemicals like lime. Be careful not to get any of the chemicals into your eyes.
5. Cover the burn with a dry, loose sterile dressing.
6. Monitor ABC.



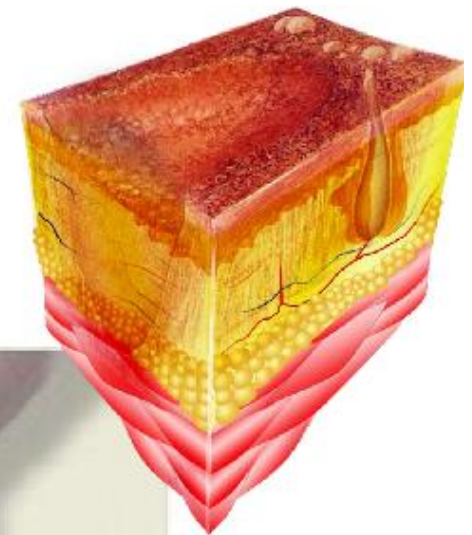
**Reference:** Lesson 5 – First Aid for Burns



## ***Third Degree Burns***

Third-degree burns, the most serious, involve all layers of skin. Third-degree burns are so deep that only the edges will heal. Scars will eventually cover the rest of the burned area if skin grafting is not done. Third-degree burns are usually caused by:

- Clothing on fire
- Immersion in hot water
- Contact with flames, hot objects, or electricity
- Corrosive chemicals



**Reference:** Lesson 5 – First Aid for Burns

## Attending to Third Degree Burns

For third degree burns, make sure you seek help immediately. Follow these steps until help arrives.

1. Call 9-1-1.
2. If a person's clothes are burning, do not let them run. Running can fan the flames so they rise to the person's face. Smother the flames with a blanket, rugs, or jacket while rolling him or her on the ground.
3. Remove any clothing or jewelry from area to prevent constricting as area swells.
4. Do not remove clothing that sticks to the burned area.
5. Do not apply ice water, lotions, ointments, sprays, or home remedies.
6. Immerse the burned area in cold water or apply cold compresses BRIEFLY to bring body temperature back to normal. Leaving the burned area in cold water too long can lead to cooling down the body too much.
7. In extensive burns, check for signs of shock.
8. If the person is in shock, be sure you have called for medical help. Do not move the person unless you have to. The victim should be lying down. Unless the victim has breathing difficulties or pain, raise his or her feet. Cover the victim with a blanket to conserve body heat. Keep them as calm as possible.
9. Loosely wrap the person in a clean sheet if the burned area is extensive. Otherwise, apply dry, loose bandages.
10. Raise a burned arm or leg higher than the person's heart. However, keep the head and shoulders raised slightly if the person is burned on the neck or face or is having trouble breathing.
11. If the person is conscious and not vomiting and medical help is more than two hours away, give him or her small sips of water or clear juice.
12. If the victim is in shock, however, and asks for water, moisten their lips but do not allow them to drink. Do not give the person alcohol.
13. Monitor ABCs.



**Reference:** Lesson 5 – First Aid for Burns

## Attending to Third Degree Chemical Burns

Remember, when caring for chemical burns, since the chemicals will continue to burn as long as they are on the skin; remove the chemical as quickly as possible from the skin.

1. Call 9-1-1.
2. If chemical spills on clothing or jewelry, remove it.
3. Flush liquid chemicals from the skin thoroughly with running water for 15 to 30 minutes.
4. Brush dry chemicals off the skin if large amounts of water are not available. Small amounts of water will activate some chemicals like lime. Be careful not to get any of the chemicals into your eyes.
5. Cover the burn with a dry, loose sterile dressing.
6. Monitor ABC.



**Reference:** Lesson 5 – First Aid for Burns

## Attending to Third Degree Electrical Burns

Electrical burns may include external burns caused by the heat of electricity or electrical injuries caused by electricity flowing through the body. Electrical injuries may cause only minor external burns where the electricity both entered and left the body. But electricity flowing through the body can stop the victim's heart and cause other serious injuries.

1. Call 9-1-1.
2. Do not go near the person until you are sure they are not still in contact with the power source.
3. Turn off the power at its source and care for any life-threatening conditions.
4. Monitor ABCs since electrocution can cause cardiac and respiratory emergencies. You may have to perform CPR.
5. Cover the area of the burn with a dry, loose bandage. Do not apply any ointments or other substances to the burned area.
6. Treat for shock.
7. All electrical burns must be examined by a doctor. An electrical burn may appear to cause minor damage, but it can extend deep to the tissues beneath the skin.

1.

911



2.



3.



4.

ABCs



5.



6.



7.



**Reference:** Lesson 5 – First Aid for Burns



# First Aid for Poisons

## Signs of Poisoning

Many conditions mimic the signs and symptoms of poisoning, including seizures, alcohol intoxication, and stroke and insulin reaction. So look for the signs and symptoms if you suspect poisoning, but check with the poison control center before giving anything to the affected person. In the United States, the phone number to the poison control center is 1-800-222-1222.

Signs of poisoning include:

- Redness
- Breath
- Stain
- Pills
- Confusion



Burns or redness around the mouth and lips, which can result from drinking certain poisons



Breath that smells like chemicals, such as gasoline or paint thinner



Burns, stains and odors on the person, on his or her clothing, or on the furniture, floor, rugs or other objects in the surrounding area



Empty medication bottles or scattered pills



Vomiting, difficulty breathing, sleepiness, confusion or other unexpected signs

**Reference:** Lesson 6 – First Aid for Poisons

## ***Calling the Poison Control Center – 1-800-222-1222***

If the person seems stable and has no symptoms, but you suspect poisoning, call the poison control center. Provide information about the person's symptoms and, if possible, information about what he or she ingested, how much and when.

Call 9-1-1 or your local emergency services number immediately if the person is:

1. Drowsy or unconscious
2. Having difficulty breathing or has stopped breathing
3. Uncontrollably restless or agitated
4. Having seizures



**Reference:** Lesson 6 – First Aid for Poisons



## First Aid Tips About Poisoning

1. If the person has been exposed to poisonous fumes, such as carbon monoxide, get him or her into fresh air immediately. If exposed to carbon monoxide, if possible, shut off the source of the carbon monoxide (car, lawnmower, furnace, etc).
2. If the person swallowed the poison, remove anything remaining in the mouth.
3. If the suspected poison is a household cleaner or other chemical, read the label and follow instruction for accidental poisoning. If the product is toxic, the label will likely advise you to call the poison control center at 1-800-222-1222. Also, call this 800 number if you can't identify the poison, if it's medication or there are no instructions.
4. Follow treatment directions given by the poison control center.
5. If the poison spilled on the person's clothing, skin or eyes, remove the clothing. Flush the skin or eyes with cool or lukewarm water, such as by using a shower for 20 minutes or until help arrives.
6. Take the poison container (or any pill bottles) with you to the hospital.
7. Don't administer ipecac syrup or do anything to induce vomiting. In 2003, the American Society of Pediatrics advised discarding ipecac in the home, saying there's no evidence of effectiveness and that it can do more harm than good.



**Reference:** Lesson 6 – First Aid for Poisons

## ***Four Ways Poison Can Enter a Body***

There are four ways poison can enter the body. These ways include:

- Swallowing
- Inhalation
- Absorption
- Injection



**Reference:** Lesson 6 – First Aid for Poisons

## *Treatment for Swallowed Poison*

Chemicals that are swallowed may harm the digestive tract, or cause more widespread damage if they enter the bloodstream and are transported to other parts of the body. Hazardous chemicals include common household substances. For example, bleach, dishwasher detergent, and paint stripper are poisonous or corrosive if swallowed. Drugs, whether they are prescribed or bought over the counter, are also potentially harmful if they are taken in overdose. The effects of poisoning depend on the substance that has been swallowed.



**Reference:** Lesson 6 – First Aid for Poisons

## ***Treatment for Swallowed Poison – Conscious Casualty***

1. Ask what was swallowed.
2. Be reassuring.
3. Call 9-1-1.
4. Give as much information as possible about the swallowed poison. This information will assist doctors to give appropriate treatment once the casualty reaches the hospital.

1.



2.



3.



4.



1.



2.



3.



## ***Treatment for Swallowed Poison – Unconscious Casualty***

1. Open the airway and check breathing.
2. Be prepared to give chest compressions and rescue breaths if necessary. Use a face shield or pocket mask for rescue breathing to protect against any chemicals on the casualty's mouth.
3. Place the casualty into the recovery position if the casualty is unconscious but breathing normally.

**Reference:** Lesson 6 – First Aid for Poisons

## ***Notes About the Treatments for Swallowed Poison***

There are two possible treatments for victims who have swallowed poison. DO NOT attempt to administer any of these substances. Leave this to medical professionals.

### **Ipecac Syrup**

This medicine is used to make a poisoned victim vomit. IT IS NOT RECOMMENDED FOR EVERY POISONING. CALL THE POISON CONTROL CENTER BEFORE USING! Syrup of Ipecac is so rarely used that it is not advised for parents to keep it at home.

### **Activated Charcoal**

Activated Charcoal is given to absorb certain types of poisons after ingestion has occurred. The decision to administer should be made by medical professionals who know the type of poison and how long the poison was ingested. This medicine is used in hospitals to bind up some poisons and prevent absorption. It is not recommended for home use.



**Reference:** Lesson 6 – First Aid for Poisons



## *Treatment for Inhaled Poison*

Inhaled poisons could be fumes from items such as pesticides, chlorine, smoke, ammonia, glue, paint, gasoline and turpentine or gases such as carbon monoxide from a car exhaust, and which is also produced by the incomplete burning of other fuels such as heating and cooking gases, as well as wood, gasoline, and charcoal.

Be very careful when using indoor barbecue facilities or an open fire-place. Burning almost anything, and wood in particular, in an unventilated home is dangerous. Make sure the house is well ventilated. It is so easy to inhale poison gases or fumes without realizing it.

It is not only addicts who sniff glue and paint. You do too. Every time Mom pulls into the garage and the doors close behind her, the engine may still be running, and the kids pile out of the car. That garage is full of carbon monoxide. Mom and the kids have become victims of an inhaled poison!

1. Take care not to breathe any toxic fumes yourself. Cover your mouth and nose with a wet handkerchief. Remove the casualty to fresh air if possible, or ventilate the area thoroughly.
2. If the casualty is unconscious, place in the lateral position, check airway, breathing, and pulse and begin Expired Air Resuscitation (EAR) or cardiopulmonary resuscitation (CPR) if necessary.
3. Loosen any tight clothing.
4. Seek medical attention immediately.

1.



2.



3.



4.



**Reference:** Lesson 6 – First Aid for Poisons



## Treatment for Absorbed Poison

Some pesticides and some of their toxic chemicals can be absorbed through the skin. It may take some time for symptoms and signs to become evident. When poisoning is suspected and there is no history of a toxin being taken by mouth or inhaled, check whether the casualty has been in contact with any poison from, for example, crop-spraying or industry.

1. Ask the casualty to remove contaminated clothing and footwear. If you need to help, wear rubber gloves.
2. Wash contaminated skin thoroughly with soap and water, and later wash the contaminated clothes separately from other articles.
3. Seek medical aid if any symptoms or signs of poisoning occur. If you know the name of the chemical, tell the doctor or hospital. Keep suspect containers in plastic bags.
4. If there are no symptoms or signs, phone the Poison Control Center for advice on whether further action is needed.



1.



2.



3.



4.



Reference: Lesson 6 – First Aid for Poisons

## *Treatment for Injected Poison*

Injected poisons are usually the result of bites or stings from those wonderful creepy-crawlies, such as insects, spiders, scorpions, bees, ticks, snakes and some marine life. Lots of people love them, and lots of people are scared of them, but what do we do when we get too close?

Injected poisons can also be administered by hollow hypodermic needles, as for drug overdose.

With the exception of poisonous bites and stings, injected poisons are usually the result of substance abuse and there is very little that you can do with regard to treatment at home, other than call for immediate emergency assistance and perform CPR if needed.

1. Call 9-1-1.
2. Perform CPR if needed.



**Reference:** Lesson 6 – First Aid for Poisons



## *Treatment for Poisoned Body Areas*

### **Inhaled Poisons**

- Get in the fresh air.
- If a person has fainted, has chest pain or difficulty breathing, call 911.
- Call the Poison Center at 1-800-222-1222 for further instructions.

### **Poisons in the Mouth**

- Offer sips of water.
- Do not force a person to vomit.
- Brush out dry particles from the mouth if possible.
- Call the Poison Center at 1-800-222-1222 for further instructions.

### **Poisons in the Eye**

- Rinse for 15 minutes with a gentle stream of water over the eye(s).
- Do not use eye drops or ointment.
- Call the Poison Center at 1-800-222-1222 for further instructions.

### **Poisons on the Skin**

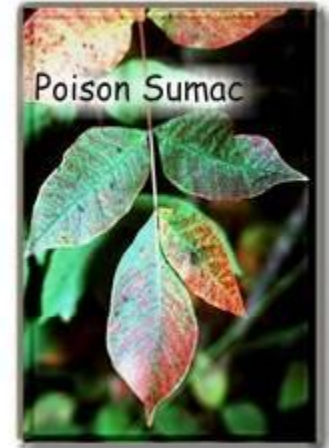
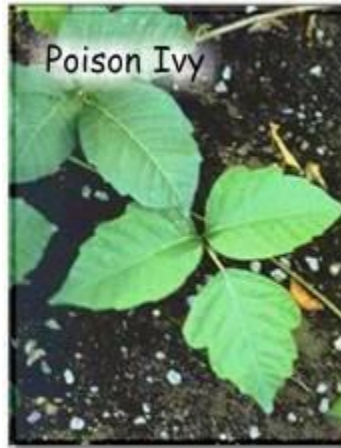
- Rinse well with water.
- Use a mild soap if needed.
- Do not attempt to neutralize an acid substance with an alkali. It will cause burns.
- Call the Poison Center at 1-800-222-1222 for further instructions.



**Reference:** Lesson 6 – First Aid for Poisons

## Toxic Plants and Urushiol

Poison ivy is a common cause of a skin irritation that may result in a red, itchy rash consisting of small bumps, blisters or swelling. Most people have some level of sensitivity to poison ivy and similar toxic plants, such as poison oak and poison sumac. The irritating substance is the same for each plant, an oily resin called urushiol (u-ROO she-ol). Rashes caused by poison ivy and its cousins generally aren't serious, but they certainly can be bothersome. Treatment for poison ivy mostly consists of self-care methods to relieve the itching until the reaction goes away.



**Poison Ivy:** Poison ivy is a common weed-like plant that may grow as a bush, plant or thick, tree climbing vine. The leaves typically grow three leaflets to a stem. The leaves vary greatly in their shape, color and texture. Some leaves are shiny, smooth and elliptical. Others are elongated and toothed with distinct leaflets. In the fall, the leaves may turn yellow, orange or red. Poison ivy can produce small, greenish flowers and green or off-white berries.

The irritating substance is the same for each plant, an oily resin called urushiol. When your skin touches the leaves of the plant, it may absorb some of the urushiol made by the plant. It takes only a tiny amount of urushiol to cause a reaction. Urushiol is very sticky and doesn't dry, so it easily attaches to your skin, clothing, tools, equipment or your pet's fur.

The reaction usually develops 12 to 48 hours after exposure and can last up to three weeks. In severe cases, new areas of rash may break out several days or more after initial exposure. This may seem like the rash is spreading. But it's more likely due to the rate at which your skin absorbed the urushiol.

Your skin must come in direct contact with the oil from the plant in order to be affected. Spreading blister fluid from scratching doesn't spread the rash, but germs under your fingernails may cause a secondary infection.

**Poison Oak:** Poison oak can grow as a low plant or bush, and its leaves resemble oak leaves. Like poison ivy, poison oak typically grows three leaflets to a stem.

**Poison Sumac:** Poison sumac may be a bush or a small tree. It has two rows of leaflets on each stem and a leaflet at the tip. The smooth edges of its leaves distinguish it from its harmless sumac relatives.



## How You Can Become Affected by Poison Ivy

Directly touch the leaves, stem, roots or berries of the plant, shrub or vine.



Touch urushiol left on an item, such as clothing, firewood or even a pet's fur (animals usually aren't affected by urushiol). Urushiol can remain allergenic for years, especially if kept in a dry environment. So if you put away a contaminated jacket without washing it and take it out a year later, the oil on the jacket may still cause a reaction.

A poison ivy rash itself isn't contagious. Blister fluid doesn't contain urushiol and won't spread the rash. In addition, you can't get poison ivy from another person unless you've had contact with urushiol on that person.

Burn the plants and inhale the smoke. Even the smoke from burned poison ivy, poison oak and poison sumac contains the oil and can irritate or injure your eyes or nasal passages.

Unknowingly rub the urushiol onto other areas of your skin. For example, if you walk through some poison ivy then later touch your shoes, you may get some urushiol on your hands, which you may then transfer to your face by touching or rubbing.

**Reference:** Lesson 6 – First Aid for Poisons

## Treatment for Toxic Plant Poisoning – Part 1 of 2

You can often avoid or limit the irritating effects of touching or brushing against poisonous plants by following these few steps.



STEP 1: Remove exposed clothing and wash.



STEP 2: Wash the area thoroughly with soap and water as soon as possible after contact.



STEP 3: Treat itching with colloid oatmeal baths; a paste of baking soda and water, calamine lotion, or topical hydrocortisone cream; and an oral antihistamine (Benadryl, for example).



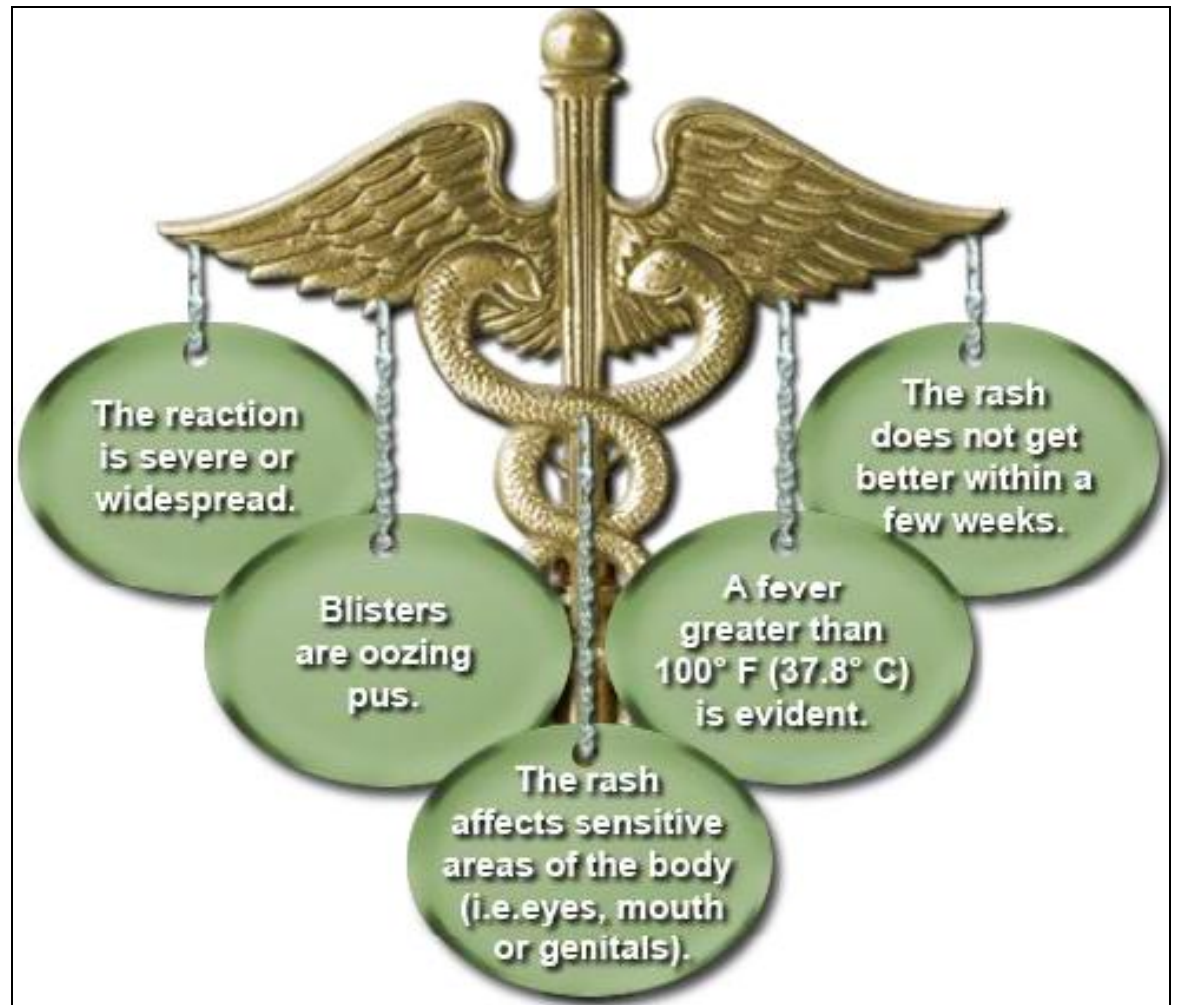
STEP 4: For severe reactions or swelling on the face, the victim needs medical attention.

**Reference:** Lesson 6 – First Aid for Poisons



## ***Treatment for Toxic Plant Poisoning – Part 2 of 2***

Seek medical attention if any of these symptoms occur.

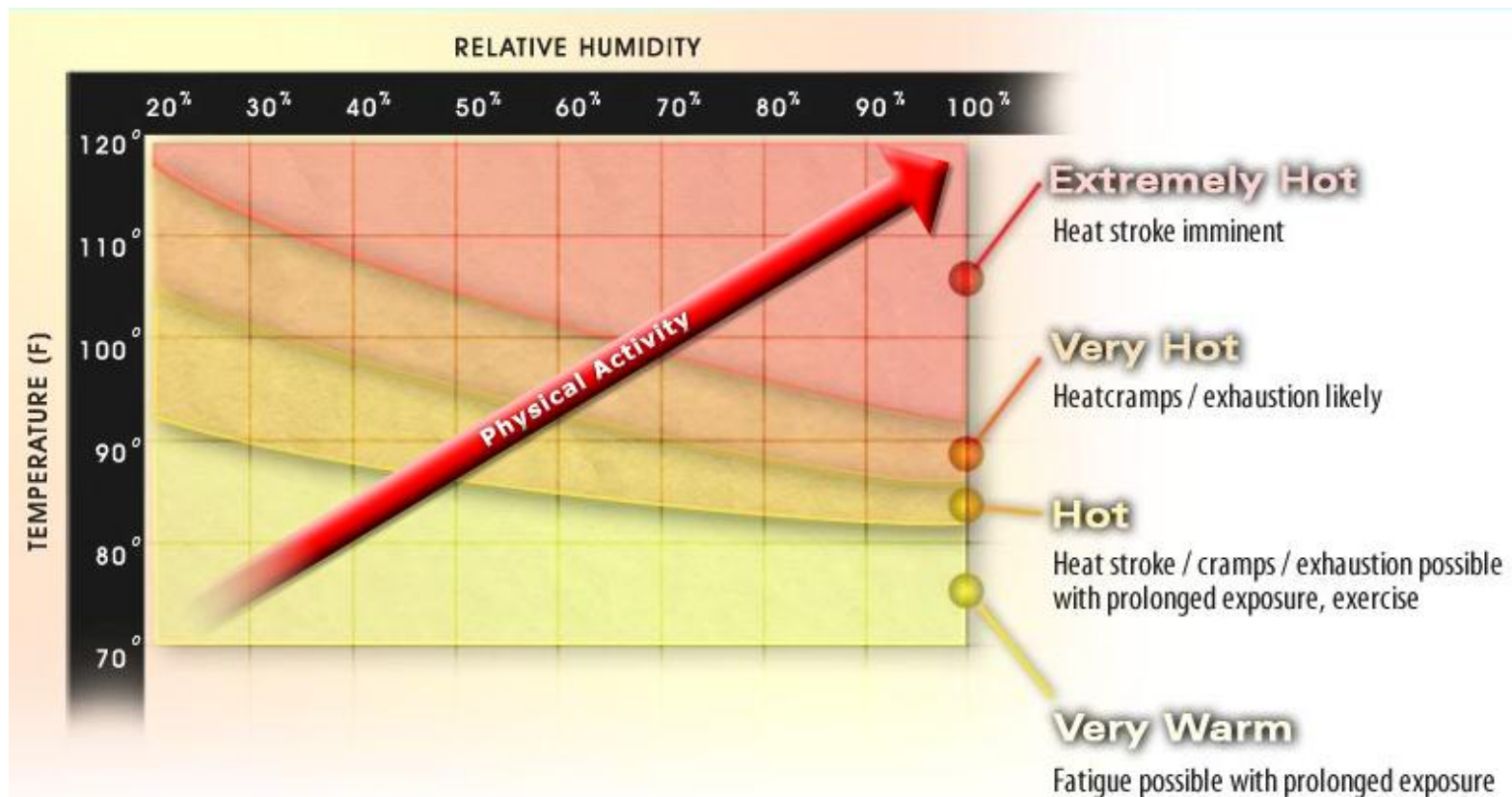


**Reference:** Lesson 6 – First Aid for Poisons

# First Aid for Heat Injuries

## *The Relationship of Relative Humidity and Temperature*

The chart shown here indicates how the various factors of humidity and physical activity can determine the effect heat exposure can have on an individual.



**Reference:** Lesson 7 – First Aid for Heat Injuries

## Heat Injury

If you have to be out in hot environments, follow these precautions to prevent heat emergencies. Drink plenty of water when involved in activities in hot weather. Stay away from a lot of salt if you're going to be involved in some type of activity in the heat. Consuming salt may pull the needed water from your muscles into your digestive tract. In addition to increasing your water intake during activities in hot weather, make it a habit to drink several glasses of water every day. It will help keep you healthy as well helping to protect you from heat injuries.

- In hot environments, wear loose, lightweight clothing.
- Rest frequently in shady or cool areas.
- Drink adequate fluids.
- Avoid exertion if overweight or elderly.

**Drink plenty of water when involved in activities in hot weather. You DO NOT need to consume salt in hot weather; it may pull the needed water from your muscles into your digestive tract.**



**Reference:** Lesson 7 – First Aid for Heat Injuries

## Treating Heat Injuries

### Heat Stroke

**Symptoms:** High body temperature (105+); hot, red, dry skin; rapid, weak pulse; rapid shallow breathing; probably no sweat unless victim was sweating from recent strenuous activity; possible unconsciousness.

**First aid:** Call 9-1-1, or get victim to hospital immediately. Move victim to cooler environment. Remove clothing. Try a cool bath, sponging, or wet sheet to reduce body temperature. Watch for breathing problems. Use extreme caution. Use fans and air conditioner.

### Heat Exhaustion

**Symptoms:** Heavy sweating but skin may be cool, pale, or flushed; weak pulse; normal body temperature is possible, but temperature will likely rise; possible fainting, dizziness, nausea, vomiting, exhaustion, and headaches.

**First aid:** Get victim to lie down in a cool place. Loosen or remove clothing. Apply cool, wet clothes. Fan or move victim to air conditioned place. Give sips of water if victim is conscious; half glass of cool water every 15 minutes. Be sure water is consumed slowly. Discontinue water if victim is nauseous. Seek immediate medical attention if vomiting occurs.

### Heat Cramps

**Symptoms:** Painful spasms, usually in leg and abdominal muscles; heavy sweating.

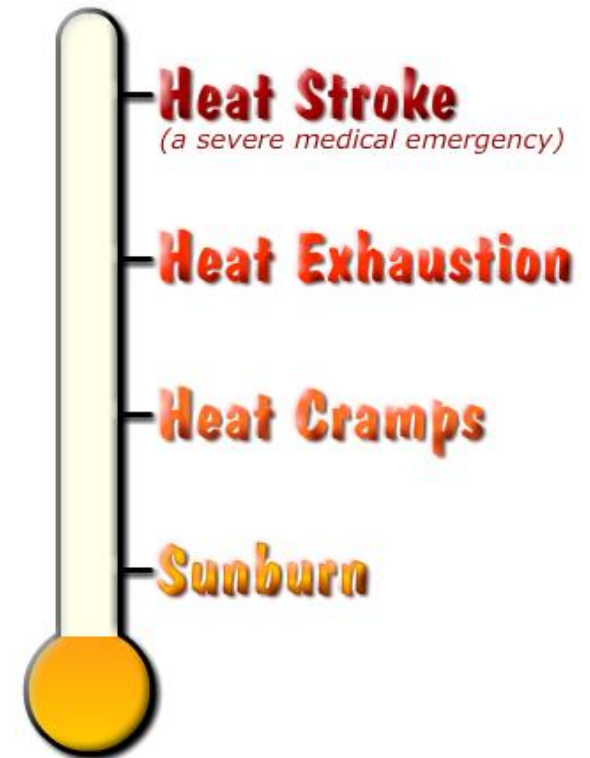
**First aid:** Get victim to cooler location. Lightly stretch and gently massage affected muscles to relieve spasms. Give sips of up to a half glass of water every 15 minutes. (Do not give liquids with caffeine or alcohol.) Discontinue liquids if victim is nauseated.

### Sunburn

**Symptoms:** Skin redness and pain; possible swelling; blisters; fever; headaches.

**First aid:** Take shower using soap to remove oils that may block pores, which can prevent the body from cooling naturally. Apply dry, sterile dressing to any blisters and get medical attention if sunburn is severe.

**Reference:** Lesson 7 – First Aid for Heat Injuries





## Treating Heat Cramps

Heat cramps usually occur when a person has been active in hot weather and is dehydrated. They are muscle pains or spasms that usually occur in the abdomen, arms, or legs. After treating heat cramps, if the cramping continues, seek further medical advice.



STEP 1: Remove the victim from the hot environment, a shady area will suffice.



STEP 2: Stretch the calf and thigh muscles gently through the cramp. This usually results in immediate relief.



STEP 4: Have the victim rest. Should the cramping continue, seek further medical advice.



STEP 3: Hydrate the victim, use a small concentration of salt for best results. (ex. Giving the person a saltine cracker to eat while drinking.)

**Reference:** Lesson 7 – First Aid for Heat Injuries



## Treating Heat Exhaustion

Heat exhaustion is a milder form of heat-related illness that can develop after several days of exposure to high temperatures and inadequate or unbalanced replacement of fluids. Those most prone to heat exhaustion are elderly people, people with high blood pressure, and people working or exercising in a hot environment.

The treatment priority for heat exhaustion is to cool the victim. Heat exhaustion is not life-threatening, unlike heat stroke, so emergency medical service is not needed unless the victim's condition worsens to the point of entering heat stroke. If the victim begins to lose consciousness, then the victim is beginning to suffer from heat stroke, which is a serious and life-threatening condition.

### Signs:

1. Loosen clothing.
  2. Apply cool wet cloths.
  3. Move the victim to either a cool or an air conditioned area and fan the victim. The treatment priority for heat exhaustion is to cool the victim.
- Heavy sweating
  - Paleness
  - Muscle cramps
  - Tiredness
  - Weakness
  - Dizziness
  - Headache
  - Nausea or vomiting
  - Fainting



**Reference:** Lesson 7 – First Aid for Heat Injuries

## Signs of Heat Stroke

Heatstroke occurs when the core body temperature rises too far for the body's natural cooling mechanisms to function. It is a serious, life-threatening problem that can cause death in minutes. The treatment priority with heat stroke is to call emergency medical services and cool the victim down.



**Reference:** Lesson 7 – First Aid for Heat Injuries

## Treating Heat Stroke

Heatstroke occurs when the core body temperature rises too far for the body's natural cooling mechanisms to function. It is a serious, life-threatening problem that can cause death in minutes. The treatment priority with heat stroke is to call emergency medical services and cool the victim down.

1. Call 9-1-1.
2. Cool the victim's body immediately by dousing the body with cold water. Apply wet, cold towels to the whole body. Pack ice into the victim's heat-loss areas (underarms, groin, neck). Do not let ice contact the victim's bare skin as this may cause frostbite! Wetting and evaporating measures work best. (Think artificial sweating.)
3. Move the victim to the coolest possible place and remove as much clothing as possible (ensure privacy).
4. Maintain an open airway.
5. Expose the victim to a fan or air conditioner since drafts will promote cooling. Immersing the victim in a cold water bath is also effective.
6. If conscious, give the victim cool water to drink. Do not give any hot drinks or stimulants. Never give an unconscious victim something to drink as it may obstruct the airway or cause vomiting.



**Reference:** Lesson 7 – First Aid for Heat Injuries

# First Aid for Cold Weather Injuries

## *Cold Weather Injuries*

Cold environments can cause medical problems if the body is not well protected from extreme temperatures. Often, cold related injuries begin gradually and if the individual remains in that environment, emergencies develop. If left untreated, a cold-related injury can lead to a serious injury or death.

**NOTE:** Some hazards may be hidden under the snow, such as a hole, thin ice, or pool of water.

### Hypothermia



### Frostbite



**Reference:** Lesson 8 – First Aid for Cold Weather Injuries



## Cold Weather Injury Factors

There are a few factors that can contribute to cold-related injuries. These factors include weather, stress, clothing, physical makeup, and psychological factors. Monitor yourself and others for the symptoms shown here.

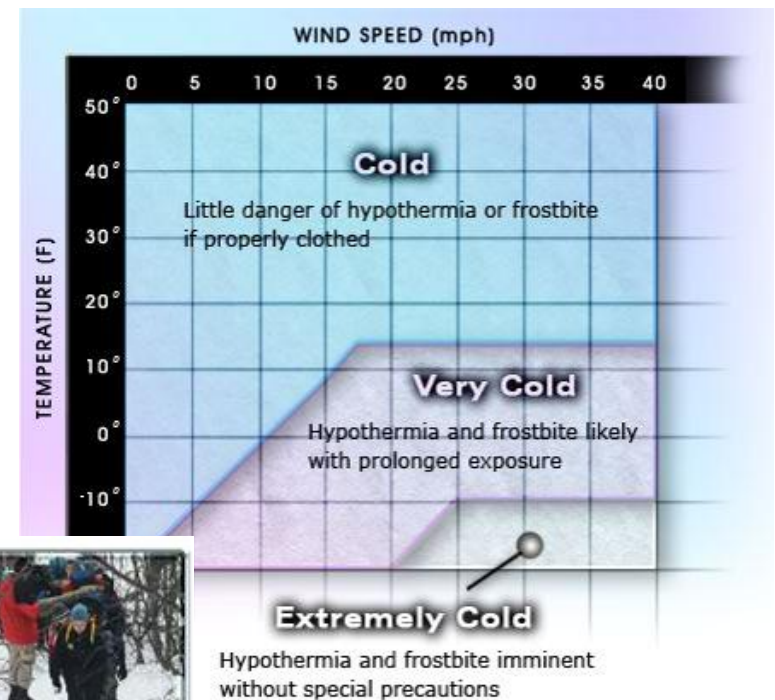
**Weather:** Certain weather conditions such as low temperature, high humidity, precipitation, and high winds may affect the loss of body heat.

**Clothing:** Wear several layers of loose-fitting clothing if you are going to be outside in cold weather. This will reduce the danger of excessive perspiration followed by a chill.

**Psychological factors:** Psychological factors such as mental fatigue and fear can lessen the body's ability to warm itself, causing a higher risk for cold-weather injuries. Depressed and unresponsive victims are at risk as well due to inactivity and the inability to protect themselves.

**Stress:** Stress can cause an individual to experience fear, fatigue, dehydration, and lack of nutrition.

**Physical factors:** Physical fatigue can cause inactivity, personal neglect, carelessness, and lack of heat production. Individuals with past cold-related injuries are at a higher risk of being injured again.



**Reference:** Lesson 8 – First Aid for Cold Weather Injuries



## Preparing for Cold Weather

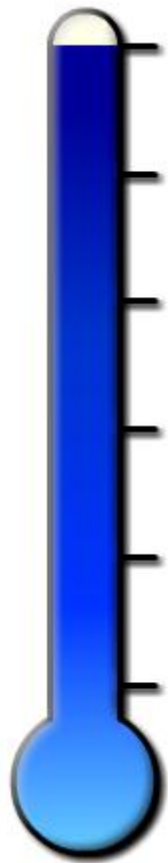
If you plan on being outdoors for a long time in the cold, make sure you and others who are with you, follow these tips for items to have with you as well as dressing for the cold.



**Reference:** Lesson 8 – First Aid for Cold Weather Injuries

## Snow Blindness

Remember, you may not recognize that these are happening to you, so it is important that you and your friends monitor each other for these symptoms.



## Snow Blindness

### Cause

Exposure of unprotected eyes to the ultraviolet (UV) rays in bright sunlight reflected from snow or ice.

### Symptoms

Scratchy/itchy feeling in the eye when the eyelid is closed, similar to the feeling of dirt or sand particles present.

Tearing and redness in the eye.

### First Aid

Apply topical anesthetics eye drops.

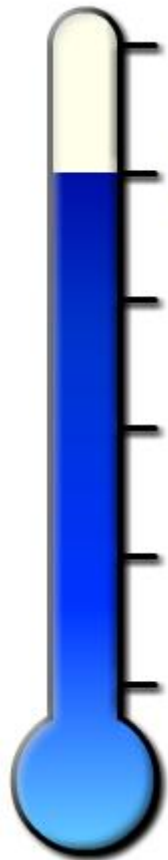
Apply cold wet compresses.

Avoid further injury by isolation in dark room, removing contact lenses, not rubbing the eyes, and wearing sunglasses until the symptoms disappear completely.

**Reference:** Lesson 8 – First Aid for Cold Weather Injuries

## Hypothermia

Remember, you may not recognize that these are happening to you, so it is important that you and your friends monitor each other for these symptoms.



## Hypothermia

### Cause

Prolonged cold exposure and body heat loss.  
May occur well above freezing, especially when a person is immersed in water.

### Symptoms

Lack of shivering.  
  
Drowsiness, mental slowness, lack of coordination.  
Can progress to unconsciousness, irregular heartbeat, and death.

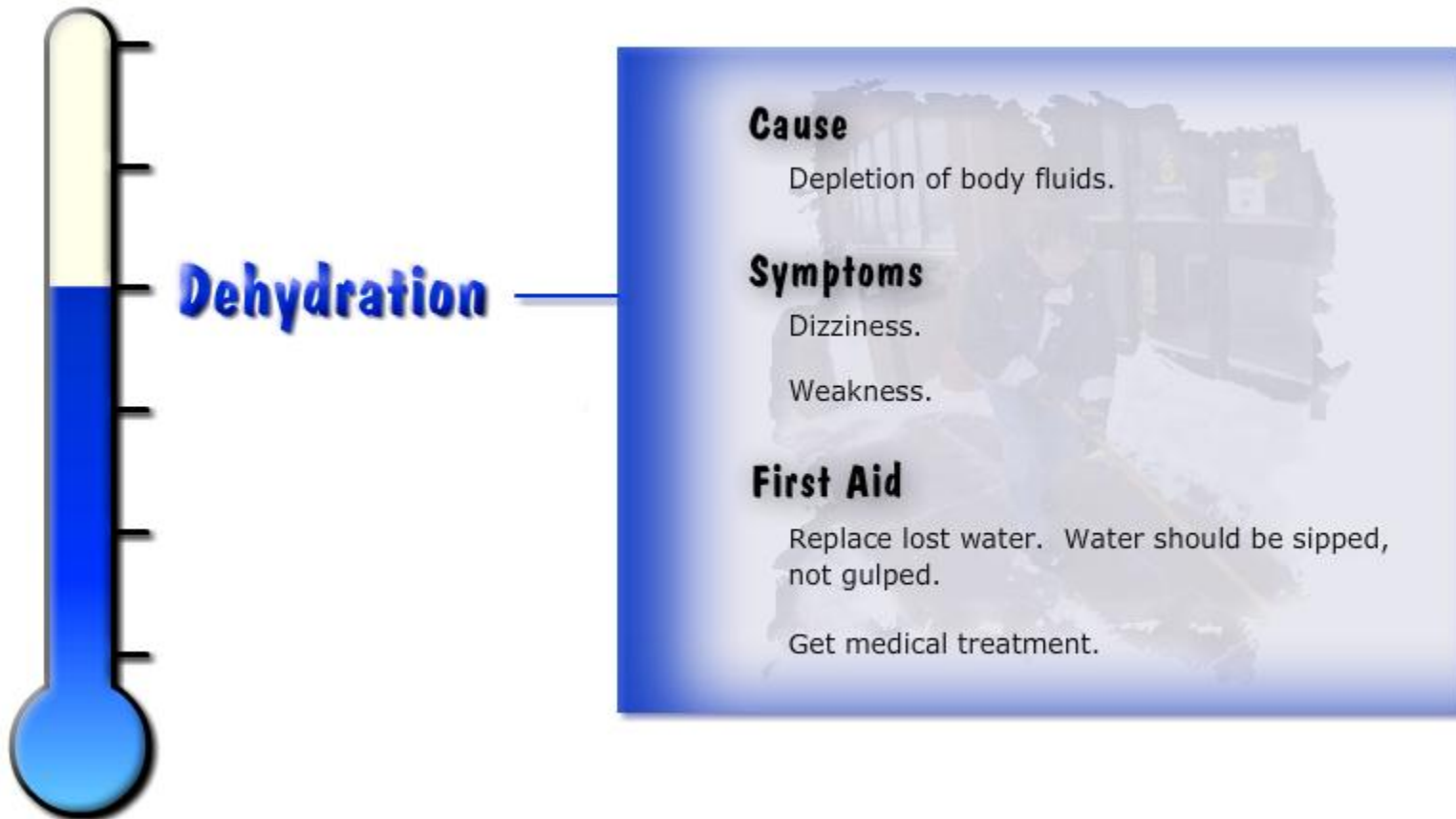
### First Aid

Strip off clothing and wrap victim in blankets or sleeping bag.  
  
Get victim to a heated location and medical treatment as soon as possible.

**Reference:** Lesson 8 – First Aid for Cold Weather Injuries

## Dehydration

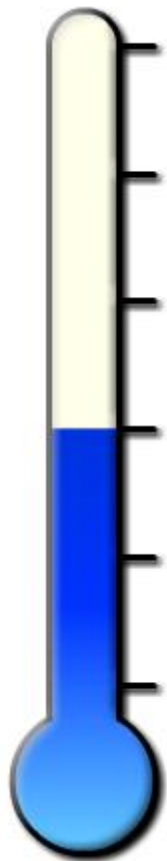
Remember, you may not recognize that these are happening to you, so it is important that you and your friends monitor each other for these symptoms.



**Reference:** Lesson 8 – First Aid for Cold Weather Injuries

## ***Immersion Foot (Trench Foot)***

Remember, you may not recognize that these are happening to you, so it is important that you and your friends monitor each other for these symptoms.



**Immersion Foot**  
(trench foot)

### **Cause**

Prolonged exposure of feet to wet conditions at temperatures between 32 and 50 F. Inactivity and damp socks and boots (or tightly laced boots that impair circulation) speed onset and severity.

### **Symptoms**

Cold, numb feet may progress to hot with shooting pains.

Swelling, redness, and bleeding.

### **First Aid**

Warm feet by exposing them to warm air.

Evacuate victim to a medical facility.

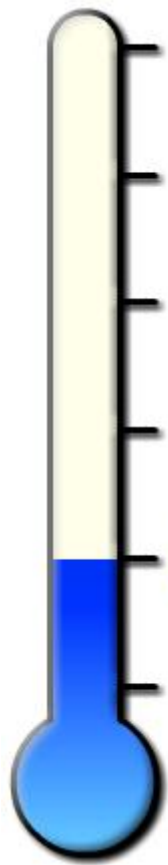
DO NOT massage, rub, moisten, or expose affected area to extreme heat.

**Reference:** Lesson 8 – First Aid for Cold Weather Injuries



## Chilblain

Remember, you may not recognize that these are happening to you, so it is important that you and your friends monitor each other for these symptoms.



**Chilblain**

### Cause

Repeated exposure of bare skin for prolonged periods to temperatures from 20 to 50 F (for those not acclimated to cold weather).

### Symptoms

Swollen, red skin (or darkening of skin in dark-skinned people).

Tender, hot skin, usually accompanied by itching.

### First Aid

Warm affected area with direct body heat.

DO NOT massage or rub.

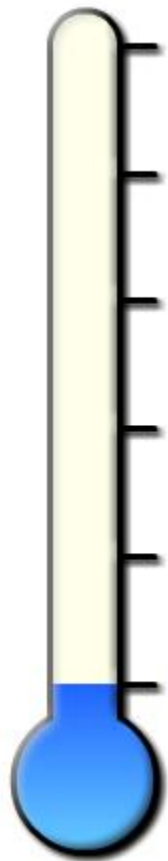
DO NOT wet the area or rub with snow or ice.

DO NOT expose affected area to open fire, stove, or any other intense heat source.

**Reference:** Lesson 8 – First Aid for Cold Weather Injuries

## Frostbite

Remember, you may not recognize that these are happening to you, so it is important that you and your friends monitor each other for these symptoms.



### Cause

Freezing of tissue, normally due to exposure below 32 F.

### Symptoms

Numbness in affected area.

Tingling, blistered, swollen, or tender areas.

Pale, yellowish, waxy-looking skin.

### First Aid

Warm affected area with direct body heat.

Consult with medical personnel ASAP.

DO NOT thaw frozen area if treatment will be delayed.

DO NOT massage or rub affected area.

DO NOT wet area or rub with snow or ice.

**Reference:** Lesson 8 – First Aid for Cold Weather Injuries

## Frostbite Treatment

Frostbite is when tissues freeze. If the frozen tissue is more than skin deep, this is considered deep frostbite. Remember to transport the victim to medical assistance for further assessment after performing the first aid steps stated here.

1. Notify EMS as soon as possible or be prepared to transport victim to a medical facility, even after treatment of frostbite.
2. Make sure there is no risk of re-freezing. Skin that e-freeze after thawing will have more damage.
3. Remove victim from cold environment; ensure there is no possibility of frostbite.
4. Slowly warm frostbite victim.
5. If possible, submerge the effected area in water. Fill a shallow container with enough water to cover the frostbitten body part. Make sure the water is at room temperature. The water does not have to be cool, but it cannot be too warm. The warmer the water, the worse the pain.
6. Immerse the injured area. Ensure that the skin does not come in contact with anything! Repeat these steps by refreshing the water as it cools until the skin is back to a normal color and texture. This may take several hours depending on the severity of the injury.



**Reference:** Lesson 8 – First Aid for Cold Weather Injuries

## Hypothermia Treatment

Hypothermia is when the body's core temperature drops so low the body can no longer warm itself back up. Severe hypothermia is classified as when the body drops below 95 °F.

Keep in mind; victims of hypothermia may become worse as they warm, this is due to cold blood moving towards the core of the body. If a patient goes unconscious, check their airway, breathing and circulation and call 9-1-1. Remember, a person with hypothermia may not know that they are becoming a victim. Make sure you and your friends monitor each other carefully when participating in activities in cold temperatures, including swimming in cold water.

1. Remove the victim from the cold environment.
2. For cases of extreme hypothermia, where the patient is showing signs of confusion, slurred speech, fumbling hands, or goes unconscious, notify EMS.
3. Remove wet clothing from the victim and replace with dry clothing. (A dry hat is recommended.)
4. Wrap the victim in blankets or sleeping bag.
5. Use heat packs to warm the patient or other means such as using body heat by laying next to the victim. Do not allow the packs to touch naked skin.
6. Victims who are alert may drink warm liquids, however, do not give any drinks containing alcohol, caffeine, or give a drink that is too hot.



**Reference:** Lesson 8 – First Aid for Cold Weather Injuries

# First Aid for Bites, Stings, and Poisonous Hazards

## *Mild to Severe Reactions to Bites, Stings, and Other Poisonous Hazards*

Signs and symptoms of an insect bite result from the injection of venom or other substances into your skin. The venom triggers an allergic reaction. The severity of your reaction depends on your sensitivity to the insect venom or substance.

Most reactions to insect bites are mild, causing little more than an annoying itching or stinging sensation and mild swelling that disappear within a day or so. A delayed reaction may cause fever, hives, painful joints and swollen glands. You might experience both the immediate and the delayed reactions from the same insect bite or sting. Only a small percentage of people develop severe reactions to insect venom.

Signs and symptoms of severe reaction include:

- Facial swelling
- Difficulty breathing
- Abdominal pain
- Shock



**Reference:** Lesson 9 – First Aid for Bites, Stings, and Poisonous Hazards



## ***First Aid for Mild Reactions to Bites, Stings, and Other Poisonous Hazards***

1. Move to a safe area to avoid more stings.
2. Scrape or brush off the stinger with a straight-edged object, such as a credit card or the back of a knife. Wash the affected area with soap and water. Do not try to pull out the stinger. Doing so may release more venom.
3. Apply a cold pack or cloth filled with ice to reduce pain and swelling.
4. Apply hydrocortisone cream (0.5 percent or 1 percent), calamine lotions or a baking soda paste—with a ration of three (3) teaspoons baking soda to 1 teaspoon water—to the bite or sting several times a day until symptoms subside.
5. Take an antihistamine containing diphenhydramine (Benadryl, Tylenol Severe Allergy) or chlorpheniramine maleate (Chlor-Trimeton, Actifed).



**Reference:** Lesson 9 – First Aid for Bites, Stings, and Poisonous Hazards

## First Aid for Severe Reactions to Bites, Stings, and Other Poisonous Hazards

Severe reactions may progress rapidly. Dial 9-1-1 or call for emergency medical assistance if these signs or symptoms occur.

1. Check for special medications that the person might be carrying, such as an auto-injector of epinephrine (for example, EpiPen). Use as directed – usually by pressing the auto-injector against the person's thigh and holding it in place for several seconds. Massage the injection site for 10 seconds to enhance absorption.
2. Have the person take an antihistamine if he or she is able to do so without choking, after administering epinephrine.
3. Have the person lie still on his or her back with feet higher than head.
4. Loosen tight clothing and cover the person with a blanket. Do not give anything to drink.
5. Turn the person on his or her side to prevent choking, if there's vomiting or bleeding from the mouth.
6. Begin CPR if there are no signs of circulation (breathing, coughing, or movement).



Symptoms of severe reaction include:

- Difficulty breathing
- Swelling of lips or throat
- Faintness
- Dizziness
- Confusion
- Rapid heartbeat
- Hives
- Nausea, cramps, and vomiting



**Reference:** Lesson 9 – First Aid for Bites, Stings, and Poisonous Hazards

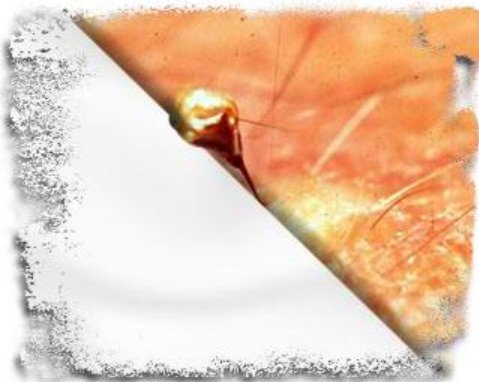
## First Aid for Insect Bites and Stings

Only potentially dangerous bites and stings are described here. Many other insects can give you a bite that may cause swelling, itching, or pain. Itching can generally be relieved by calamine lotion or other applications suggested by your pharmacist. If symptoms persist, see your doctor.

Bites from bees, wasps, scorpions, centipedes, jumper ants and butt ants can be intensely painful, but seldom cause symptoms of illness. However, some people suffer allergic reactions, occasionally severe, to certain stings.

Signs of allergic reaction include:

- Swelling, itch and pain at the sting site
- Itchy rash and welts elsewhere on the body
- Swelling of eyelids and face
- Breathing difficulty



STEP 1: For bee stings, remove the barb by scraping it sideways with a fingernail. Do not try to pull the barb out as this will squeeze the poison sac on the side of it, injecting more poison into the victim.



STEP 2: Apply a cold compress to relieve pain.



STEP 3: If there is any sign of allergic reaction, immediately take any allergy prescribed medication. If the reaction is severe, seek medical aid urgently, check breathing and pulse frequently, and be prepared to apply emergency treatment for Anaphylaxis. Apply pressure immobilization if you have time, but resuscitation



STEP 4: If symptoms persist or worsen, seek medical attention.

**Reference:** Lesson 9 – First Aid for Bites, Stings, and Poisonous Hazards

## Spiders and Scorpions

Although most insect bites and stings result in minor reactions, some have poisonous injections that can cause an allergic reaction where immediate medical treatment is needed. The black widow and brown recluse spiders, tarantulas, and scorpions are more harmful insects you may encounter. Take a look at each of these insects and their potential danger.

**Black Widow:** Venom is neurotoxic and may cause stomach and muscle cramps, breathing difficulties, nausea, sweating, vomiting, and convulsions.



**Brown Recluse:** Venom can produce severe tissue damage around the bite (possibly leading to gangrene).



**Scorpion:** Stings can cause nausea, fever, stomach cramps, and possible convulsions and shock.



**Tarantula:** Venom is neurotoxic and may produce symptoms such as stomach and muscle cramps, breathing difficulties, nausea, sweating, vomiting, and convulsions. In some cases, venom can affect the heart and may digest tissue producing a severe local wound.

**Reference:** Lesson 9 – First Aid for Bites, Stings, and Poisonous Hazards



## Ticks

Some ticks transmit bacteria that cause illnesses such as Lyme disease or Rocky Mountain Spotted Fever. Your risk of contracting one of these diseases depends on what part of the United States you live in, how much time you spend in wooded areas and how well you protect yourself.



STEP 1: Remove the tick promptly and carefully. Use tweezers to grasp the tick near its head or mouth and pull gently to remove the whole tick without crushing it.



STEP 2: If possible, seal the tick in a jar. Your doctor may want to see the tick if you develop signs or symptoms of illness after a tick bite.

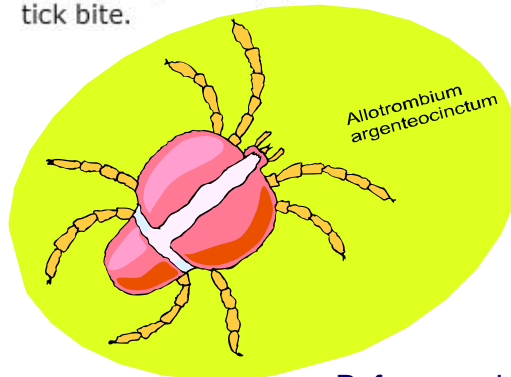


STEP 3: Use soap and water to wash your hands and the area around the tick bite after handling the tick.



STEP 4: Call your doctor if you aren't able to completely remove the tick.

If possible, bring the tick with you to your doctor's appointment.



**Reference:** Lesson 9 – First Aid for Bites, Stings, and Poisonous Hazards

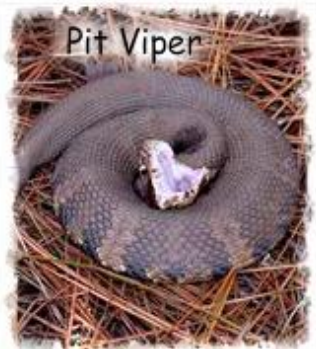


## Snakes

Snakes are both poisonous and nonpoisonous. The severity of a snake bite depends on whether the snake is poisonous or not, the type of snake, the location of the bite, and the amount of venom injected. There are four types of poisonous snakes that are native to the United States. The rattlesnake, copperhead and the cottonmouth, or water moccasin, snakes are pit vipers, while the coral snake is part of the cobra family.

### Venoms are characterized by:

- Neurotoxin: affect the nervous system and can cause death by paralysis
- Hemotoxin: digest tissue including blood cells
- Cardiotoxin: directly affect the heart



**The cobra** (native of Africa and Asia) forms a hood with its neck when on the defensive.

**The krait** (native of India) is brightly banded.

**The mamba** (native of Africa) is either almost black or green.

**The coral** (native of the United States) has rings of red, yellow, and black that encircle its body. The red ring is located next to the yellow ring.

**Pit Vipers:** Pit viper have slit-like pupils; flat, triangular-shaped heads; and small, deep, heat-sensing pits between their nostrils and eyes. Their venom is hemotoxic. Once bitten by a pit viper, the venom produces a severe burning pain along with discoloration and swelling around the fang marks. Symptoms of a bite include discoloration of skin, blisters and numbness in affected area, weakness, rapid pulse, shortness of breath, nausea, vomiting, and shock.

**Cobra Family:** Their venom is neurotoxin and their fangs leave a characteristic bite pattern. Symptoms of a bite include blurred vision, drooping eyelids, slurred speech, drowsiness, and increased salivation and sweating. If not immediately treated, nausea, vomiting, shock, respiratory difficulty, paralysis, convulsions, and coma may develop.

**Reference:** Lesson 9 – First Aid for Bites, Stings, and Poisonous Hazards

## Snake Bites

Most snake bites occur near the home and kill very few people in the United States. Most deaths from snake bites are due to an allergic reaction. Do not waste time trying to identify the snake. Unconsciousness and breathing difficulty can develop quickly, especially, in children.

Signs:

- Puncture, marks on the skin may be visible, but the following may take from 15 minutes to 2 hours to develop
- Redness and swelling of the bitten area
- Nausea and vomiting
- Diarrhea
- Headache
- Double vision
- Faintness
- Tightness in the chest and difficulty breathing
- Unconsciousness

### Warning

**Some practices previously advised in cases of snake bite are no longer recommended.**

- **DO NOT** cut or cauterize the snake bite or attempt to suck out the poison.
- **DO NOT** apply ice.
- **DO NOT** apply a tourniquet or restrictive bandage.
- **DO NOT** wash venom off the skin -- it can help experts to identify the snake.
- **DO NOT** use electric shock.

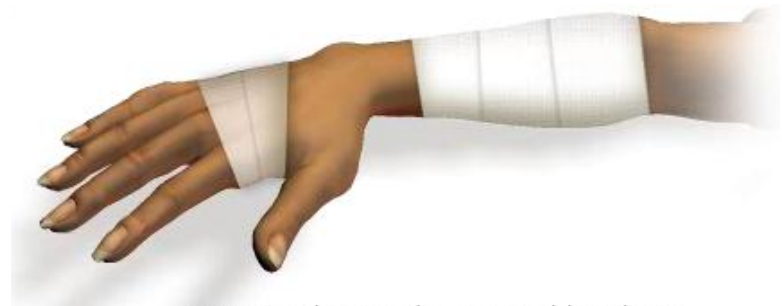
**Reference:** Lesson 9 – First Aid for Bites, Stings, and Poisonous Hazards

## First Aid for Bites

Pressure immobilization helps to slow down the absorption of venom into the bloodstream. It is useful in the treatment of snake bites and most other bites and stings except poisoning by red-back spider and some venomous fish, including stonefish.



STEP 1: As soon as possible apply a broad roller bandage around the bitten area: crepe is ideal, but you can improvise with pantyhose or any strips of cloth. Bandage over clothing unless it is thick or stiff, in which case you should cut the seams so that it can be pushed out of the way. The roller bandage should be tight, but not so tight as to cut off circulation.



STEP 2: Then apply a second bandage, working upwards from the toes or fingers to the elbow or knee.

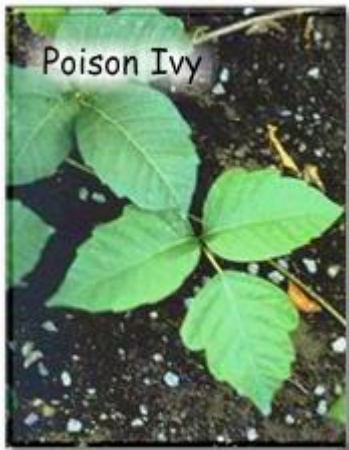


STEP 3: Immobilize a leg with a splint. A splint and sling can be used to immobilize, and support an arm. Keep the injured area lower than the heart.

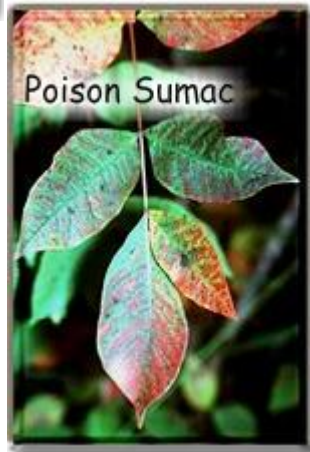
**Reference:** Lesson 9 – First Aid for Bites, Stings, and Poisonous Hazards

## Poisonous Plants – Part 1 of 5

Poison ivy is a common cause of a skin irritation that may result in a red, itchy rash consisting of small bumps, blisters or swelling. Most people have some level of sensitivity to poison ivy and similar toxic plants, such as poison oak and poison sumac. The irritating substance is the same for each plant, an oily resin called urushiol (u-ROO she-ol). Rashes caused by poison ivy and its cousins generally aren't serious, but they certainly can be bothersome. Treatment for poison ivy mostly consists of self-care methods to relieve the itching until the reaction goes away.



**Poison Ivy:** Poison ivy is a common weed-like plant that may grow as a bush, plant or thick, tree climbing vine. The leaves typically grow three leaflets to a stem. The leaves vary greatly in their shape, color and texture. Some leaves are shiny, smooth and elliptical. Others are elongated and toothed with distinct leaflets. In the fall, the leaves may turn yellow, orange or red. Poison ivy can produce small, greenish flowers and green or off-white berries.



**Poison Sumac:** Poison sumac may be a bush or a small tree. It has two rows of leaflets on each stem and a leaflet at the tip. The smooth edges of its leaves distinguish it from its harmless sumac relatives.



**Reference:** Lesson 9 – First Aid for Bites, Stings, and Poisonous Hazards



## Poisonous Plants – Part 2 of 5



The irritating substance is the same for each plant, an oily resin called urushiol. When your skin touches the leaves of the plant, it may absorb some of the urushiol made by the plant. It takes only a tiny amount of urushiol to cause a reaction. Urushiol is very sticky and doesn't dry, so it easily attaches to your skin, clothing, tools, equipment or your pet's fur.

The reaction usually develops 12 to 48 hours after exposure and can last up to three weeks. In severe cases, new areas of rash may break out several days or more after initial exposure. This may seem like the rash is spreading. But it's more likely due to the rate at which your skin absorbed the urushiol.

Your skin must come in direct contact with the oil from the plant in order to be affected. Spreading blister fluid from scratching doesn't spread the rash, but germs under your fingernails may cause a secondary infection.

**Reference:** Lesson 9 – First Aid for Bites, Stings, and Poisonous Hazards



## Poisonous Plants – Part 3 of 5



### You can get poison ivy reaction if you:

- Directly touch the leaves, stem, roots, or berries of the plant, shrub or vine.
- Touch urushiol left on an item, such as clothing, firewood, or even a pet's fur (animals usually are not affected by urushiol). Urushiol can remain allergenic for years, especially if kept in a dry environment. So if you put away a contaminated jacket without washing it and take it out a year later, the oil on the jacket may still cause a reaction.
- Unknowingly rub the urushiol onto other areas of your skin. For example, if you walk through some poison ivy then later touch your shoes, you may then transfer to your face by touching or rubbing.
- Burn the plants and inhale the smoke. Even the smoke from burned poison ivy, poison oak, and poison sumac contains the oil and can irritate or injure your eyes or nasal passages.

**Reference:** Lesson 9 – First Aid for Bites, Stings, and Poisonous Hazards

## Poisonous Plants – Part 4 of 5

You can often avoid or limit the irritating effects of touching or brushing against poisonous plants by following these few steps.



STEP 1: Remove exposed clothing and wash.



STEP 2: Wash the area thoroughly with soap and water as soon as possible after contact.



STEP 3: Treat itching with colloid oatmeal baths; a paste of baking soda and water, calamine lotion, or topical hydrocortisone cream; and an oral antihistamine (Benadryl, for example).

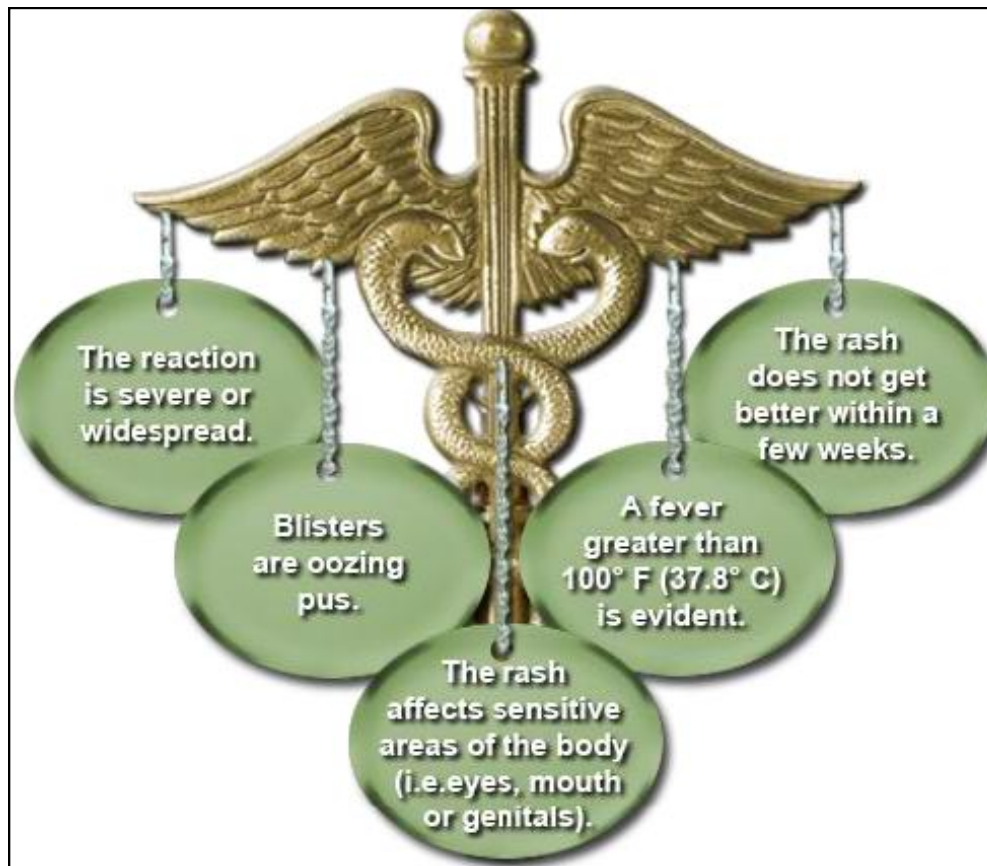


STEP 4: For severe reactions or swelling on the face, the victim needs medical attention.

**Reference:** Lesson 9 – First Aid for Bites, Stings, and Poisonous Hazards

## Poisonous Plants – Part 5 of 5

Seek medical attention if any of these symptoms occur.



**Reference:** Lesson 9 – First Aid for Bites, Stings, and Poisonous Hazards

## Anaphylaxis

A severe allergic reaction (anaphylaxis) can produce shock and life-threatening respiratory distress and circulatory collapse.

In sensitive people, anaphylaxis can occur within minutes, but may also occur up to several hours after exposure to a specific allergy-causing substance. A wide range of substances – including insect venom, pollen, latex, and certain foods and drugs – can cause anaphylaxis. Some people have anaphylactic reactions from unknown causes.

If you're extremely sensitive, you might break out in hives and your eyes or lips might swell severely. The inside of your throat might swell as well, even to the point of causing difficulty breathing and shock. Your blood pressure drops, and your internal organs can be affected. Dizziness, mental confusion, abdominal cramping, nausea, vomiting or diarrhea also may accompany anaphylaxis.

A severe allergic reaction (anaphylaxis) can produce shock and life-threatening respiratory distress and circulatory collapse.

### Anaphylaxis

Loss of  
consciousness \_\_\_\_\_

Hives \_\_\_\_\_

Swelling of tongue,  
inability to swallow \_\_\_\_\_

Rapid swelling of  
throat tissues \_\_\_\_\_



**Reference:** Lesson 9 – First Aid for Bites, Stings, and Poisonous Hazards

## Treatment for Anaphylaxis

If you've had an anaphylactic reaction in the past, make sure you have an antihistamine pill in your first aid kit. Epinephrine is the most commonly used drug for severe allergic reactions. It comes only as an injection that must be prescribed by your doctor. You can self-administer epinephrine with an auto-injector, such as the EpiPen. Be sure to read the injection instructions as soon as you receive an auto-injector, and have your household members read them as well. You should also carry an antihistamine pill, such as diphenhydramine (Benadryl and others), because the effects of epinephrine are only temporary. Seek emergency medical attention immediately after taking these medications.

1. Call 9-1-1 or your local emergency number.

2. Check for special medications that the person might be carrying, such as an auto-injector of epinephrine (for example, EpiPen). Administer the drug as directed. Massage the injection site for 10 seconds to enhance absorption. After administering epinephrine, have the person take an antihistamine pill if he or she is able to do so without choking. Look for a medical emergency ID bracelet or necklace.

3. Have the person lie still on his or her back with feet higher than the head.

4. Loosen tight clothing and cover the person in a blanket. Do not give the person anything to drink.

5. If there's vomiting or bleeding from the mouth, turn the person on his or her side to prevent choking.

6. If there are no signs of circulation (breathing, coughing, or movement), begin CPR.



**Reference:** Lesson 9 – First Aid for Bites, Stings, and Poisonous Hazards









Navy Junior Reserve Officer Training Corps