



Throughout life, you will be faced with injuries of every kind; whether it is a simple paper cut or a severe chemical burn, every accident must be dealt with in the right way. On this site we will deal with a few major categories of accidents: soft tissue wounds, like the typical bruises, cuts and scrapes of everyday life, along with the not-so-typical, more life threatening accidents like puncture wounds, spurting cuts and amputations; burns, from mild sunburn to third-degree; poisoning; choking; and, of course, "natural" encounters - bee stings, poison ivy, and the dangers of anaphylactic shock.



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### Types of Wounds

Name	Description
avulsion	In an avulsion, a portion of skin is torn. This can be partial, with a portion of skin remaining as a "flap." In a total avulsion, a body part is completely torn off.
bruise	Bleeding that occurs under the skin causes discoloration, swelling. The area begins as red but may turn into a "black and blue mark."
cut	A cut is a split in the skin caused by a sharp object, such as a knife, or even a dull

	object. A cut can have either a jagged or smooth edge.
puncture	A puncture wound is caused when the skin is pierced by a sharp object. Included in this category are gunshot wounds, impaled objects, and an object that passes totally through a part of the body.
scrape	A scrape is very common, and occurs when skin is rubbed or scraped away.

### Caring for a Minor Open Wound

After a long day of being cooped up in a stuffy classroom listening to your teachers ramble on about the rise of the Communist party and the conjugations of the verb "estar," you decide that you're in the mood for a quick game of roller hockey with some equally stir-crazy friends. As you swoop in to fire a slap shot at the goal, the unthinkable happens: you hit a rock. And not just a pebble; this is a big, trip-you-up rock that you didn't see because your eyes were locked on that ball. So, before you know it, you've slid about five feet on your poor, unprotected knees. Your first thought is, "Did I make the shot?" Your second thought comes quickly with the hot sting as you look down and see the red streaks of blood appear where your skin once was. "OW!!!" What do you do?

Stop the bleeding by applying pressure with a clean, absorbent cloth, or if cloth is unavailable, your fingers.

If the blood soaks through, apply a second bandage on top. Do not take off the first bandage because it will disturb the clotting that has already taken place.

If bleeding still doesn't stop, raise the wound above heart level.

Once bleeding stops, clean the wound gently with soap and water, or just water. It is very important to get all debris or dirt out.

Apply an antibiotic ointment such as bacitracin or a triple antibiotic ointment. Remember, some people are allergic to these ointments, so contact your doctor if you have any doubts.

Wrap the wound firmly in a cloth or a bandage. Do not cut off circulation!

### Caring for a Major Open Wound

That Sunday remains the most vivid day in Cynthia's memory. She was cutting the bagels that John brought home, as she did every Sunday, when the knife slipped....The wash of bright, red blood was sudden and frightening. Thankfully, she and John knew exactly what to do.

Covering the wound with a clean dressing, press against it firmly with your hand.

Elevate the wound above the level of the heart.

The clean dressing should then be covered over with a roll bandage (like an Ace) to hold the dressings in place.

If bleeding still does not stop, add additional dressings over the roll bandage.

Squeeze a pressure point, the artery against the bone. This is in the bottom upper arm, or where the leg bends at the hip.

Once the bandages and pressure point are being maintained, have someone call EMS if they have not already.

### Special Problems

When part of the body has been torn off...

Try to find the part

Wrap it in a clean dressing and place in a plastic bag.

Put the bag on ice, but don't freeze.

Take the part to the hospital.

When an object is impaled in a wound...

Do not remove it. You could reveal an open artery which would then be awfully hard to deal with, a.k.a. nearly impossible.

Bandage many dressings around the object to immobilize it and support it in its position in the wound.

Splinters...

A small splinter in the skin should be removed with tweezers.

For a splinter in the eye, seek emergency help immediately, do not touch it.

Nosebleeds...

Have the victim sit with his or her head tilted a little bit forward while pinching his or her nostrils together.

One could also place an ice pack on the bridge of the nose.

Injury to the mouth...

If the injury does not involve the head, neck, or spine, have the victim sit with the head slightly tilted forward. If the victim is unable to reach this position, place the victim on his or her side. This ensures that blood drains from the mouth.

If the injury has broken the lip, place a clean rolled dressing between the lip and gum. Applying cold can also help.

If a tooth is knocked out...

Place a small roll of sterile gauze in the gap left by the tooth that was knocked out.

Pick up the tooth not by the root, but by the crown, the part you see when you smile in the mirror. If you can, place the tooth back how it belongs in the socket.

If you can't put the tooth back in, put the tooth in a container with cool, fresh milk. If this cannot be done, use water.

The most important things to remember are the signs of major damage:

If the bleeding is bright red, or spurts from the wound, CALL EMS.

If the wound is very deep or large, CALL EMS.

If the victim is in severe pain or you suspect serious damage, CALL EMS.

If you can't wash all the debris out of the wound, call your doctor immediately.

If you think you may need stitches (if the wound is in a place where you would want to minimize scarring) call your doctor immediately.

If you see any signs of a serious infection - redness, soreness, swelling, red streaks, weeping of pus, or redness that extends more than a finger width beyond a cut - call your doctor immediately.

# BURNS

| General Care / Thermal Burns | Chemical Burns | Electrical Burns | Solar Radiation Burns |

Ah, a hot summer morning, perfect for the beach. After a nice brisk swim in the refreshing tide, you curl up on your beach chair with your headphones and a book. As you sit contentedly, your eyes slowly fall shut in a mid-day nap. When you awake, the sun is a little lower in the sky, the people next to you have left, and your exposed skin is starting to look a suspicious shade of bright red. Will you know what to do?

You are babysitting the neighbor's kids, and as you are preparing dinner you turn around for a moment to rinse off the spoon. Suddenly you hear a clatter of pans and a high pitched yelp, not the "my-brother-pulled-my-hair" yelp, but a cry that sends your adrenaline into overdrive. You spin around and see the little girl clutching her hand, her tears streaming from her eyes, the tell-tale pot of hot dog water spilled on the ground. Will you know what to do?

A burn can be caused by heat (flames, hot grease, or boiling water), the sun (solar radiation), chemicals or electricity. When a burn breaks the skin, infection and loss of fluid can occur; burns can also result in difficulty breathing. If a burn victim has trouble breathing, has burns on more than one part of the body, or was burned by chemicals, an explosion, or electricity, call EMS immediately. Burns caused by flames or hot grease usually require medical attention as well, especially if the victim is a child or an elderly person.

## Types of Burns

### Superficial Burn (First Degree)

A first degree burn involves only the top layer of skin. The skin is red and dry and usually painful. The burned area may also swell. Most sunburn are superficial burns. This type of burn usually heals in 5-6 days without any permanent scarring.

### Partial-Thickness Burn (Second Degree)

A second degree burn involves the top layers of skin. The skin is red with blisters that may open and weep clear fluid, giving the skin a wet appearance. The area may also appear mottled. The burn is usually painful and often swells. This type of burn usually heals in 3-4 weeks, and scarring may occur.

### Full-Thickness Burn (Third Degree)

A third degree burn destroys all layers of skin and any or all of the underlying structures (fat, muscles, bones and nerves). The burn appears brown or black (charred) with the tissues underneath sometimes appearing white. This type of burn can be extremely painful or relatively painless if the burn destroys the nerve endings. This burn is critical and requires immediate medical attention.

## Care for Burns

### General Care / Thermal Burns

1. Stop the burning. Put out flames or remove the victim from the source of the burn.
2. Cool the burn. Use large amounts of cool water to cool the burn. Never use ice except on small superficial burns, because it causes body heat loss. If the area cannot be immersed, like the face, you can soak a clean cloth and apply it to the burn, being sure to continue adding water to keep the cloth cool.
3. Cover the burn. Use dry, sterile dressings or a clean cloth to help prevent infection and reduce pain. Bandage loosely. Do not put any ointment on a burn unless it is very minor. Do not use any other home remedies, and do not break any blisters. For minor burns or burns with broken blisters that are not severe enough to require medical attention, wash the burned area with soap and water, keep it clean and apply an antibiotic ointment. Remember, some people can be allergic to topical ointments, so if you have any doubts, call your doctor for advice. For a victim of severe burns, lay him or her down unless he or she is having trouble breathing. Try to raise the burned areas above the level of the victim's heart if possible, and protect the victim from drafts.

### Chemical Burn

Call EMS in any case of a chemical burn. Remove the chemical from the skin or eyes immediately by flushing the area with large amounts of cool running water until EMS arrives. Remove any clothes with chemicals on them, and be careful not to spread the chemical to other body parts or to yourself. Chemical burns can be caused by chemicals used in manufacturing or in a lab, or by household items such as bleach, garden sprays or paint removers.

### Electrical Burns

Call EMS in any case of an electrical burn. Do not go near the victim unless you are sure the power source has been turned off. The burn itself will not be the major problem. If the victim is unconscious, check breathing and pulse. Check for other injuries, and do not move the victim because he or she may have spinal injuries. Cover an electrical burn with a dry, sterile dressing. Do not cool the burn. Prevent the victim from getting chilled. There may be two wounds, one where the current entered the body and one where it left, and they may be deep. Electrical burns can be caused by power lines, lightning, defective electrical equipment, and unprotected electrical outlets.

### Solar Radiation Burn

Burns caused by solar radiation may be painful and may also blister. Cool the burn. You may want to put a product designed specifically for sunburn on the area; these products usually contain aloe vera and help cool the area and reduce the pain. Protect the burn by staying out of the sun. If you must go in the sun, wear a sunscreen with an SPF of at least 15 and reapply it frequently. Be sure to cover up any existing sunburn if you are going to be outside again.

# Broken Bones

Okay, so maybe you weren't thinking. I mean, you are 17...for all intents and purposes (except maybe voting), an adult. You should have known better than to try to climb to your bedroom window by shinnying up the drainpipe. But you didn't, and now you're lying on the ground with intense pain radiating from your left leg, a.k.a. your landing site. "I'll bet anything it's broken," you think with a small inner grin, remembering that lucky kid whose crutches and gym pass were the envy of all. A sharp pain quickly dissolves those bittersweet memories, as you remember that there is no such thing as a gym pass in summer and right now you have, no doubt, a couple of painful hours to go before you will be the envy of anyone. Wincing in a unique combination of embarrassment and outright pain, you bite the bullet: "Mommy!" Better hope Mommy's read up...

What are the types of injuries? | What is the proper treatment? | When should I call EMS?

What did I do?

Your body consists of over 200 bones of all different shapes and sizes. All of these bones in addition to muscles and the tendons and ligaments that put them together form the skeleton, which serves to protect many of the organs your body uses to function normally. Bones are dense and very strong, and they tend not to break easily, except in elderly people who have developed osteoporosis, a gradual weakening of the bones. Bone injuries are often quite painful, and they may bleed, as all bones have an ample amount of blood and nerves. The two types of bone injuries are fractures, which may be open or closed, and dislocations, which involve muscles and joints as well. The body has over 600 muscles, which are soft tissue. Injuries to the brain, the spinal cord or nerves can affect a person's muscle control, and when a muscle is injured, a nearby muscle may take over for the injured one. A joint is formed where the ends of two or more bones come together in one place. The bones are held together by ligaments, which tear when a joint is forced beyond its normal range of movement. A sprain is the tearing of ligaments at a joint. A strain is a stretching and/or tearing of muscles or tendons.

An **open fracture** occurs when an arm or a leg twists in such a way that the broken bone ends tear through the skin, causing an open wound. In a closed fracture the skin is not broken; this type of fracture is much more common than an open fracture. An open fracture brings with it a chance of infection and also severe bleeding. Fractures can be life-threatening if they sever an artery, affect breathing, or occur in very large bones such as the femur in the thigh. A motor vehicle accident or any fall from a height may cause a fracture.

A **dislocation** is typically more noticeable than a fracture. A dislocation occurs when a bone moves away from its normal position at a joint. A violent force tears the ligaments that hold the bone in place at a

joint, and the joint will no longer function. Usually, the displaced bone causes an obviously abnormal bump, ridge or hollow.

**Sprains** may swell but typically heal quickly. Pain may be minimal and the victim may be active soon, in which case the joint won't heal properly and will remain weak. It is likely to be reinjured more severely, possibly involving a fracture or dislocation of the bones at the joint. The most easily injured joints are at the ankle, knee, wrist and fingers.

**Strains** are frequently caused by lifting a very heavy object or working a muscle too hard. They usually involve muscles in the neck, back, thigh or back of the lower leg. Strains tend to reoccur, especially those located in the neck or back.

An x ray is the best way to assess the extent of damage to a bone, muscle or joint. However, you may be able to judge how serious the injury is by its appearance. The area may be red, bruised, swollen, twisted, or have bumps, ridges or hollows. The area may be painful to touch as well as to move, or the victim may be unable to move it. If you compare an injured body part with an uninjured one, you may be able to locate any abnormalities; this works well with an arm, a leg, a shoulder, a knee...you get the idea. Sometimes the victim may have heard a snap, crackle or a pop when the injury occurred, or he or she may feel bones grating. Also, the victim's hands and fingers or feet and toes may tingle or feel numb. numb?)

What do I do?

It does not matter whether the injury was to a bone, muscle or joint-you don't need to know specifically what the injury is in order to care for it! The formula for proper care is rest, ice and elevation. Make the victim as comfortable as possible, and apply ice to reduce pain and swelling. Minimize movement of the injured part by supporting it with something like a pillow.

Do not try to move a patient with a severely broken bone unless it is absolutely necessary. Calling EMS is the best course of action in this case. However, if you must move the patient you must immobilize the injured body part. One way is to splint it, but do this only if it can be done without hurting the victim, and always attempt to splint the part in the position you found it. Splint the injured area and the joints above and below the injured area. You may use another body part, like an injured leg to an uninjured one, or an injured arm to a chest; this is called an anatomic splint. Make a soft splint from folded blankets or towels, or use a triangular bandage to make a sling, another type of soft splint, which is used to support an injured arm, wrist or hand. Use folded magazines and newspapers, cardboard or metal strips to support the injured body part with a rigid splint. Use several folded triangular bandages to secure the injured body part to the splinting material, tying them securely but not too tightly. Apply ice and raise the injured part, and prevent the victim from getting chilled or overheated. Remember to be reassuring!

If:

the victim has sustained injuries to the head, neck or back

the victim is having trouble breathing

the victim is unable to move or use the injured body part without experiencing pain

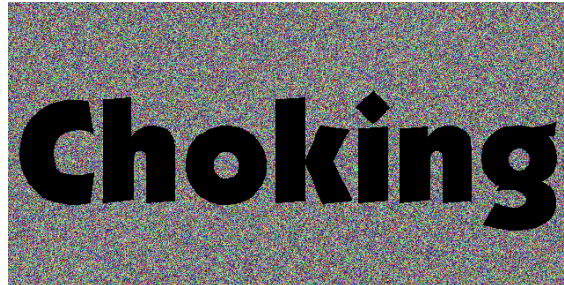
the injury appears to be a severely broken bone.

If you think the victim may have a head or spine injuries, DO NOT move him or her; leave the victim lying flat. EMS will be able to move and treat the patient without causing further injury to the victim.

Beware of signs that indicate head and spine injuries. These include:

changes in consciousness; vision and breathing problems; nausea and vomiting; inability to move a body part; steady headache; tingling or loss of sensation in hands, fingers, feet or toes; blood in the ears or nose; seizures, severe pain, pressure or bleeding in the head, neck or back; bruising of the head; and loss of balance

If you see these signs in a victim, call EMS immediately, and DO NOT attempt to move the victim or you may injure him or her further. Minimize movement of the head and spine, maintain an open airway (use a chin lift but NO head tilt unless you want to paralyze the victim!!!), check consciousness and breathing, control any bleeding, and prevent the victim from getting chilled or overheated.



#### Abdominal Thrusts

Adult | Child | Infant | Pregnant Woman or Obese Person

Adult Choke Adult Choke Child Choke Child Choke Infant Choke Infant Choke Obese

#### Choking Adult

##### Conscious Adult

If a person is clutching his or her throat with both hands, he or she is making the universal sign for choking. If the person can cough or talk, encourage him or her to continue coughing. Once the victim can no longer talk or cough, you must clear the obstructed airway. To clear the obstructed airway that causes choking, you must perform the Heimlich maneuver, also known as abdominal thrusts. Stand behind the conscious choking adult, wrapping your arms around his or her waist. With one hand, make a fist. Place the thumb side of the fist against the victim's abdomen just above the bellybutton. Be sure your hand is far below the tip of the breastbone. Put your other hand over the fist and give quick upward thrusts into the victim's abdomen. Continue giving thrusts until the object blocking the airway is dislodged and the victim begins to breathe, or until the victim becomes unconscious.

##### Unconscious Adult

If, during the primary survey, your breaths will not go in an unconscious adult, and you retilted the head and tried again but the breaths still would not go in, you must assume the victim's airway is obstructed.

If the victim is a conscious choking adult who became unconscious, you must lower him or her to the floor on his or her back. Perform a head tilt and chin lift to try to open the airway, and attempt to remove the obstruction by sweeping it out of the victim's mouth with your finger. This is called a finger sweep. Always use a hooking action, being careful not to lodge the object in further.



Perform a head tilt and a chin lift and give 2 slow breaths. If the breaths still do not go in, go to abdominal thrusts.

Straddle one or both of the victim's thighs. Place the heel of one hand on the victim's abdomen, just above the bellybutton yet far below the tip of the breastbone. Place your other hand on top of the first, interlacing your fingers, and give 5 quick upward thrusts. Then do a finger sweep and give 2 slow breaths. If air still will not go in, continue giving 5 abdominal thrusts, a finger sweep and 2 slow breaths. Continue giving thrusts until the object is dislodged, air goes into the victim, or trained medical personnel takes over. If the victim is not breathing but has a pulse, you must perform Rescue Breathing. If the victim is not breathing and does not have a pulse, go to CPR.

### **Choking Child**

#### Conscious Child

If the child can cough or talk, encourage him or her to continue coughing. If the child cannot cough or talk, ask if he or she is choking. Perform abdominal thrusts. Stand behind the victim, wrap your arms around his or her waist, and make a fist with one hand. Place the thumb side of the fist against the child's abdomen, above the bellybutton yet far below the tip of the breastbone. Put your other hand over the fist and give quick upward thrusts into the victim's abdomen. Continue giving thrusts until the airway is cleared and the child begins to breathe, or until the child becomes unconscious.

#### Unconscious Child

If the child was a conscious choking victim who became unconscious, lower the child down onto his or her back. Or, you may have determined during the primary survey that air would not go in, even after you retilted and tried again. You must give the child 5 abdominal thrusts, do a finger sweep if you see the object, and open the airway with a head tilt and a chin lift and give 2 slow breaths. If the breaths still will not go in, continue giving abdominal thrusts, a finger sweep and 2 slow breaths until the object is expelled, the child starts to breathe or cough, or EMS takes over. If the child is not breathing but has a pulse, you must perform Rescue Breathing. If the child is not breathing and does not have a pulse, go to CPR.

### **Choking Infant**

#### Conscious Infant

During the primary survey, you may determine that the infant is conscious and cannot breathe, cough or cry. You must give 5 back blows and 5 chest thrusts.

Place the infant face up on your forearm. Put your other arm on top of the infant. Use your thumb and fingers to hold the infant's jaw, sandwiching the infant between your forearms. Turn the infant over, facedown on your forearm. Place your arm down on your thigh, being sure that the infant's head is lower than his or her chest. Using the heel of your hand, give 5 back blows between the infant's shoulder blades. Be sure to hold the infant's jaw with your thumb and fingers to stabilize his or her head.

You must turn the infant back over to give chest thrusts. Place your free hand and forearm across the infant, sandwiching it between your forearms and supporting his or her head. Turn the infant over onto his or her back and place your arm down on your thigh, making sure the infant's head is lower than his or her chest. Imagine a line across the infant's chest between the nipples. Place your ring finger on the infant's breastbone just below the imaginary line. Place the pads of the next two fingers just under the line. Raise your ring finger, and if you can feel the notch at the tip

of the infant's breastbone, move your fingers up a little bit. Compress the infant's breastbone 1/2-1 inch with the pads of your fingers and then let the breastbone return to its normal position. Give 5 compressions. Continue giving back blows and chest thrusts until the infant can breathe or cough, or until the infant becomes unconscious.

#### Unconscious Infant

If the infant was a conscious choking victim who became unconscious, place the infant down on its back. Or, you may have determined during the primary survey, even after retilting the head and trying again, that air would not go in. Perform 5 back blows and then 5 chest thrusts. Do a foreign body check: open the infant's mouth, holding the tongue and lower jaw and lifting them upward, and look for an object; if you do see an object, do a finger sweep to remove it with your little finger. Then give 2 slow breaths. If air still will not go in, continue doing back blows, chest thrusts, foreign body check and 2 slow breaths until the infant starts to breathe or cough or air goes in. If the infant is not breathing but has a pulse, you must perform Rescue Breathing. If the infant is not breathing and does not have a pulse, go to CPR.

### **Choking Pregnant Woman or Obese Person**

#### Conscious Adult

If a choking conscious adult is noticeably pregnant or too obese for you to wrap your arms around in order to perform abdominal thrusts, you must give chest thrusts instead. Stand behind the victim, placing your arms under the victim's armpits and around his or her chest. Make a fist with one hand and put the thumb side of the fist against the center of the victim's breastbone. Make sure your thumb is on the breastbone, not the ribs, and that you are not near the tip of the breastbone. Put your other hand over the fist and give quick inward thrusts. Continue giving thrusts until the object is dislodged, or until the victim becomes unconscious.

#### Unconscious Adult

If the victim was a conscious choking pregnant woman or obese person who became unconscious, lower the victim gently onto his or her back on the floor. Or, you may have determined during the primary survey, even after retilting the head and trying again, that air would not go into your pregnant or obese victim. You must give chest thrusts. Kneel beside the victim, placing one hand on the center of the victim's breastbone and then placing your other hand on top of it. Give 5 quick thrusts, compressing the chest 1 1/2-2 inches. Do a finger swipe, open the airway with a head tilt and a chin lift, and give 2 slow breaths. If air still will not go in, continue giving chest thrusts, finger sweeps and 2 slow breaths until the object is expelled and air goes in. If the victim is not breathing and has a pulse, go to Rescue Breathing. If the victim is not breathing and does not have a pulse, go to CPR.



|What is a poison? | What do I do when a poison is ingested? | Inhaled? | Absorbed? |What about animal stings and bites? |

A poison is a substance that causes injury or illness when it gets into a person's body. The four ways a person can be poisoned are: ingestion (swallowing it), inhalation (breathing it), absorption (absorbing it through the skin), and injection (by having it injected into the body). Ingested poisons include foods, alcohol, medication, household and garden items, and certain plants. Inhaled poisons may be gases, like carbon monoxide from car exhaust, carbon dioxide from sewers, and chlorine from a pool, or fumes from household products like glue, paint, cleaners, or drugs. Absorbed poisons enter the body through the skin; they may come from plants, fertilizers or pesticides. Injected poisons enter the body through bites or stings of insects, spiders, ticks, marine life, snakes, and other animals, or medications injected with a hypodermic needle.

#### Ingestion

If you suspect that someone has been poisoned, call your Poison Control Center or EMS immediately. Signs of poisoning are: nausea, vomiting, diarrhea, chest or abdominal pain, difficulty breathing, changes in consciousness, seizures, or burns around the lips or tongue or on the skin. If you believe someone may have swallowed a poison, try to determine what type of poison was ingested, how much was taken, and when it was taken. If you find a container, bring it to the telephone with you when you make your emergency call. Do not give the victim anything to eat or drink unless medical professionals tell you to. If you are unsure of what the poison was and the victim vomits, save some of it so that the hospital may analyze it and determine what the poison was.

#### Inhalation

If you suspect that someone has been poisoned, call your Poison Control Center or EMS immediately. Signs of poisoning by inhalation may include pale or bluish skin. Remove the victim from the source of the toxic fumes so he or she can get some fresh air as soon as possible.

#### Absorption

If you suspect that someone has been poisoned, call your Poison Control Center or EMS immediately. If poison, such as dry or wet chemicals, gets on the skin, flush the area with large amounts of water, and continue flushing the area with water until EMS arrives. If you have simply had a run-in with poison ivy, poison oak or poison sumac, there is no need to call EMS. Wash the affected area with soap and water. If you develop a rash, put a paste of baking soda and water on the area several times a day, or use an anti-itch lotion or an antihistamine to relieve the itchiness. Be aware that some people can have allergic

reactions to even over-the-counter drugs to stop itching...use caution and if you have any doubts about whether you are allergic, talk to you doctor!. See a doctor if the condition gets worse, affecting large areas of the body or face.

## WELCOME TO THE JUNGLE

### Insect Stings | Spiders | Everything Else Including Snakes

#### Injection-Stings and Bites

If someone is stung by an insect, such as a bee, remove the stinger by scraping it away from the skin with your fingernail or a plastic card, or use tweezers. Wash the area with soap and water, cover it to keep it clean, and apply ice to reduce pain and swelling. If the victim begins to have trouble breathing, he or she may be experiencing an allergic reaction and his or her body is going into anaphylactic shock. You must CALL EMS immediately or the victim's airway may constrict, preventing breathing and killing the victim.

#### Scorpions and Spiders

Only a few species of scorpions are known to cause death. Scorpions live in dry regions of the southwestern U.S. and Mexico, under rocks, logs and the bark of certain trees. They are most active at night. If you are stung by a scorpion, you would be wise to call EMS unless you are positive that the one that bit you is not poisonous.

Only two spiders in the U.S. have bites that can make you seriously ill or kill you. The black widow spider is black with a reddish hourglass shape on the underside of its body. The brown recluse spider is light brown with a darker brown, violin-shaped marking on the top of its body. Both prefer dark, out-of-the-way places, and bites usually occur on the arms or hands of people rummaging in dark garages or attics or in wood piles (In other words, don't go looking for them and they won't bite you!).

Symptoms of spider bites and scorpion stings are: nausea, vomiting, difficulty breathing or swallowing, sweating and salivating profusely, severe pain in the bite/sting area, a mark indicating a bite/sting, and swelling of the area. If you suspect you have been bitten by a black widow or a brown recluse or stung by a scorpion, wash the wound, and apply ice to the area, and call EMS immediately. Antivenins, medications that block the effect of the poison, are available.

#### Marine Life, Snakes and Other Animals

The stings of some different types of marine life, such as sting rays, sea anemones and jellyfish may make you sick. If you are stung, soak the affected area in salt water and apply a paste of baking soda or meat tenderizer, or even ice, as soon as possible to reduce swelling. If you are unsure what stung you, have a history of allergic reactions to marine life stings, are stung on the face or neck, or are having difficulty breathing, call EMS immediately.

Only four kinds of snakes found in the U.S. are poisonous: rattlesnake (distinctive rattling sound before it strikes), water moccasin, copperhead, and coral snake (distinctive red, yellow and black markings). If you are bitten by a snake, call EMS immediately. Wash the wound and immobilize the area, keeping it lower than the heart if possible. DO NOT apply ice, DO NOT cut the wound, and DO NOT apply a tourniquet. Get yourself medical attention quickly.

If you are bitten by a wild or domestic animal, you may get an infection and you will have injury to the soft tissue. The most serious possible consequence is rabies, which is transmitted through the saliva of diseased animals, including dogs, cats, raccoons, skunks, cattle, and bats. Infected animals may behave strangely; for example, a nocturnal animal like a raccoon may be active during the day, or the animal may drool, appear partially paralyzed, or act irritable, mean, or quiet. Rabies is fatal if it is not treated

promptly. If you suspect that you have been bitten by a rabid animal, call EMS immediately. Get away from the animal. DO NOT try to catch or hold it. Wash the wound with soap and water if it is minor, control bleeding and apply an antibiotic ointment and a dressing. If the wound is bleeding heavily, do not try to wash it; just try to control the bleeding, and call EMS. Try to remember what the animal looked like, as well as where you last saw it. Call EMS and inform them, and they will get the proper authorities involved.



Who needs to worry about this? | Heat | Cold

Who is at risk?

People who work or exercise outdoors or indoors where the temperature is poorly regulated, elderly people, young children, people with health problems, a respiratory or cardiovascular disease or poor circulation, people who take medications to eliminate water from the body, and people who have a history of heat or cold-related illness in the past are at risk for heat or cold-related illnesses.

### **Heat-Related Illnesses**

Heat Cramps

Heat cramps, heat exhaustion and heat stroke are the three conditions caused by overexposure to heat. Heat cramps are painful muscle spasms. They result from a combination of fluid and salt loss caused by heavy sweating. Heat cramps usually occur after strenuous exercise or work outdoors in warm temperatures. They tend to occur in the legs and the abdomen. They are an indication of a more severe problem to come if proper care is not given shortly.

Care for Heat Cramps

Have the victim rest comfortably in a cool place, and provide him or her with cool water or a sports drink. Stretch the muscle gently and massage the area. Once the cramps stop, the victim may resume physical activity, but he or she should be sure to drink plenty of fluids during and after activity.

Heat Exhaustion

Heat exhaustion, the most common heat-related illness, typically occurs after strenuous exercise or work in a hot environment. The victim loses fluid through sweating, and blood flow to the skin increases, thus reducing blood flow to the vital organs. The victim therefore goes into mild shock. Symptoms of heat exhaustion are: normal or below normal body temperature; pale, moist, cool skin; headache; nausea; dizziness; weakness; and exhaustion. If heat exhaustion is allowed to progress, the victim's condition will worsen until he or she has heat stroke.

### Heat Stroke

Heat stroke, the least common heat-related illness, occurs when heat exhaustion symptoms are ignored. The body systems become overwhelmed by heat. Sweating stops, and the body can no longer cool itself.

Body temperature rises rapidly, and the brain and other vital organs will begin to fail. Convulsions, coma and death may result. Signs of heat stroke are: high body temperature; hot, red, dry skin; progressive loss of consciousness; rapid, weak pulse; and rapid, shallow breathing.

### Care for Heat-Related Illnesses

Call EMS immediately if the victim's condition is so bad you suspect heat stroke. If heat-related illness is recognized in the early stages, it can usually be reversed. Move the victim to a cool area and give him or her cool water to drink. Remove any tight or heavy clothing and cool the body however you can; apply cool, wet cloths to the skin, fan the victim, or place ice packs on the victim's wrists and ankles, in each armpit and on the neck in order to cool the large blood vessels. DO NOT apply rubbing alcohol-it prevents heat loss. Do not let the victim drink too much too quickly, 4 ounces every 15 minutes is good. If the victim vomits, stop giving fluids and position the victim on his or her side, keep the airway clear and monitor breathing and pulse. Keep the victim lying down, and continue cooling the body until EMS arrives.

### Cold Emergencies

#### Frostbite

Frostbite is the freezing of body tissues. It usually occurs in exposed areas of the body, affecting superficial or deep tissues. Frostbite is quite serious. Water inside and between the body's cells freeze and swells, damaging or destroying the cells. Frostbite often results in the loss of fingers, hands, arms, toes, feet, and legs. Symptoms of frostbite are: lack of feeling in the area, a waxy appearance to the skin, skin that is cold to the touch, and skin that is discolored (flushed, white, yellow or blue).

#### Care for Frostbite

Handle the area very gently, and DO NOT rub the affected area. Warm the area by soaking it in water no warmer than 100-105 degrees Fahrenheit, using a thermometer to check the water temperature if possible. DO NOT let the affected body part touch the bottom or sides of the container holding the water. Leave the frostbitten area in the water until it is red and feels warm. Bandage the area with a dry, sterile dressing, placing cotton or gauze between frostbitten fingers or toes. Avoid breaking any blisters, and seek medical attention as soon as possible.

#### Hypothermia

When hypothermia occurs, the entire body cools because its warming mechanisms fail. If proper care is not promptly administered, the victim will die. Body temperature drops below 95 degrees Fahrenheit in hypothermia, the heartbeat becomes erratic and finally stops, and the victim dies. Symptoms of

hypothermia are: shivering; a slow, irregular pulse; numbness; a glassy stare; and apathy along with decreasing levels of consciousness. People can develop hypothermia even when the temperature is only moderately cold. Elderly people in poorly heated homes, homeless or ill people, or people with certain medical conditions are more susceptible to hypothermia. Anyone submerged in cold water or remaining in wet clothes for a prolonged period of time may develop hypothermia quite easily.

#### Care for Hypothermia

If you suspect a victim may have hypothermia, call EMS immediately. Care for any life-threatening problems. Remove any wet clothing, dry the victim, and warm the body gradually by wrapping the victim in blankets. Move the victim to a warm place. You can use hot water bottles or heating pads to help re-warm the body, but be sure to put a barrier, like a blanket, towel or clothing, between the heat source and the victim to keep from burning him or her. **DO NOT** warm the victim too quickly, and **DO NOT** immerse the victim in warm water. Handle the victim very gently. In cases of severe hypothermia, the victim may be unconscious. Monitor the victim's breathing and pulse until EMS arrives.