Basic First Aid

CONTROLLING EXTERNAL BLEEDING

Bleeding is the loss of blood. Bleeding may be:

- Inside the body (internally)
- Outside the body (externally)

Bleeding may occur:

- Inside the body when blood leaks from blood vessels or organs
- Outside the body when blood flows through a natural opening (such as the vagina, mouth, or rectum)
- Outside the body when blood moves through a break in the skin

Get emergency medical help for severe bleeding. This is very important if you think there is internal bleeding. Internal bleeding can very quickly become life threatening. Immediate medical care is needed. Serious injuries may cause heavy bleeding. Sometimes, relatively minor injuries can bleed a lot. An example is a scalp wound. You may bleed a lot if you take blood-thinning medication or have a bleeding disorder such as hemophilia. Bleeding in such people requires immediate medical attention. The most important step for external bleeding is to apply direct pressure. This will stop most external bleeding.

- Always wash your hands before (if possible) and after giving first aid to someone who is bleeding. This helps prevent infection.
- Try to use latex gloves when treating someone who is bleeding. Latex gloves should be in every first aid kit. People allergic to latex can use a nonlatex glove. You can catch viral hepatitis if you touch infected blood. HIV can be spread if infected blood gets into an open wound, even a small one.
- Although puncture wounds usually don't bleed very much, they carry a high risk of infection. Seek medical care to prevent tetanus or other infection.

Abdominal and chest 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 for any abdominal or chest wound.
- If organs are showing through the wound, do not try to push them back into place.
- Cover the injury with a moistened cloth or bandage.
- Apply only very gentle pressure to stop the bleeding.

Blood loss can cause blood to collect under the skin, turning it black and blue (bruised). Apply a cool compress to the area as soon as possible to reduce swelling. Wrap the ice in a towel and place the towel over the injury. Do not place ice directly on the skin.

Causes

Bleeding can be caused by injuries or may be spontaneous. Spontaneous bleeding is most commonly caused by problems with the joints, or gastrointestinal or urogenital tracts.

Symptoms

You may have symptoms such as:

Blood coming from an open wound

- Bruising

Bleeding can also cause shock, which may include any of the following symptoms:

- Confusion or decreasing alertness
- Clammy skin
- Dizziness or light-headedness after an injury
- Low blood pressure
- Paleness (pallor)
- Rapid pulse
- Increased heart rate
- Shortness of breath
- Weakness

Symptoms of internal bleeding may include:

- Abdominal pain and swelling
- Chest pain
- Skin color changes that occur several days after an injury (skin color may be black, blue, purple, yellowish green)

Blood coming from a natural opening in the body may also be a sign of internal bleeding. These symptoms include:

- Blood in the stool (appears black, maroon, or bright red)
- Blood in the urine (appears red, pink, or tea-colored)
- Blood in the vomit (looks bright red, or brown like coffee-grounds)
- Vaginal bleeding (heavier than usual or after menopause)

First Aid

First aid is appropriate for external bleeding. If bleeding is severe, or if you think there is internal bleeding, or the person is in shock, get emergency help.

- Calm and reassure the person. The sight of blood can be very frightening.

- f the wound affects just the top layers of skin (superficial), wash it with soap and warm water and pat dry. Bleeding from superficial wounds or scrapes is often described as "oozing," because it is slow.
- Lay the person down. This reduces the chances of fainting by increasing blood flow to the brain. When possible, raise up the part of the body that is bleeding.
- Remove any loose debris or dirt that you can see from a wound.
- Do NOT remove an object such as a knife, stick, or arrow that is stuck in the body. Doing so may cause more damage and bleeding. Place pads and bandages around the object and tape the object in place.
- Put pressure directly on an outer wound with a sterile bandage, clean cloth, or even a piece of clothing. If nothing else is available, use your hand. Direct pressure is best for external bleeding, except for an eye injury.
- Maintain pressure until the bleeding stops. When it has stopped, tightly wrap the wound dressing with adhesive tape or a piece of clean clothing. Place a cold pack over the dressing. Do not peek to see if the bleeding has stopped.
- If bleeding continues and seeps through the material being held on the wound, do not remove it. Simply place another cloth over the first one. Be sure to seek medical attention.
- If the bleeding is severe, get medical help and take steps to prevent shock. Keep the injured body part completely still. Lay the person flat, raise the feet about 12 inches (30 centimeters), and cover the person with a coat or blanket. DO NOT move the person if there has been a head, neck, back, or leg injury, as doing so may make the injury worse. Get medical help as soon as possible.

DO NOT

- apply a tourniquet to control bleeding, except as a last resort. Doing so may cause more harm than good. A tourniquet should be used only in a life-threatening situation and should be applied by an experienced person

If continuous pressure has not stopped the bleeding and bleeding is extremely severe, a tourniquet may be used until medical help arrives or bleeding is controllable.

- The tourniquet should be applied to the limb between the bleeding site and the heart and tightened so bleeding can be controlled by applying direct pressure over the wound.
- To make a tourniquet, use bandages 2 to 4 inches (5 to 10 centimeters) wide and wrap them around the limb several times. Tie a half or square knot, leaving loose ends long enough to tie another knot. A stick or a stiff rod should be placed between the two knots. Twist the stick until the bandage is tight enough to stop the bleeding and then secure it in place.
- Check the tourniquet every 10 to 15 minutes. If the bleeding becomes controllable, (manageable by applying direct pressure), release the tourniquet.

- DO NOT peek at a wound to see if the bleeding is stopping. The less a wound is disturbed, the more likely it is that you will be able to control the bleeding.
- DO NOT probe a wound or pull out any embedded object from a wound. This will usually cause more bleeding and harm.
- DO NOT remove a dressing if it becomes soaked with blood. Instead, add a new one on top.
- DO NOT try to clean a large wound. This can cause heavier bleeding.
- DO NOT try to clean a wound after you get the bleeding under control. Get medical help.

When to Contact a Medical Professional

Seek medical help if:

- Bleeding can't be controlled, it required the use of a tourniquet, or it was caused by a serious injury
- the wound might need stitches
- Gravel or dirt can't be removed easily with gentle cleaning
- You think there may be internal bleeding or shock
- Signs of infection develop, including increased pain, redness, swelling, yellow or brown fluid, swollen lymph nodes, fever, or red streaks spreading from the site toward the heart
- The injury was due to an animal or human bite
- The patient has not had a tetanus shot in the last 5 to 10 years

Prevention

Use good judgment and keep knives and sharp objects away from small children.
Stay up-to-date on vaccinations, especially immunization for tetanus.

BURNS

1. A burn is damage to your body's tissues caused by heat, chemicals, electricity, sunlight, or radiation. Scalds from hot liquids and steam, building fires and flammable liquids and gases are the most common causes of burns. Another kind is an inhalation injury, caused by breathing smoke.
2. There are three types of burns:

- First-degree burns damage only the outer layer of skin
- Second-degree burns damage the outer layer and the layer underneath
- Third-degree burns damage or destroy the deepest layer of skin and tissues underneath

Burns can cause swelling, blistering, scarring and, in serious cases, shock, and even death. They also can lead to infections because they damage your skin's protective barrier. Treatment for burns depends on the cause of the burn, how deep it is, and how much of the body it covers. Antibiotic creams can prevent or treat infections. For more serious burns, treatment may be needed to clean the wound, replace the skin, and make sure the patient has enough fluids and nutrition.

Handling Household Burns

Accidental burns can happen just about anywhere in your home, and they're not always caused by fire. You might get burned by spilling coffee in your lap, touching a hot iron, or misusing certain cleaning products.
Burns are skin or tissue damage, usually caused by heat. Burns can be caused by hot objects or liquid, fire, friction, the sun, electricity, or certain chemicals.
Each year, about a half-million people nationwide seek medical attention for burns. Household burns lead to nearly 7 of 10 admissions to burn centers. The good news is that the number of deaths from severe burns has dropped by more than half over the past 4 decades, in large part because of treatments developed through NIH-funded research.
The severity of a burn depends on the area it covers and how deep the damage goes. First-degree burns affect only the thin top layer of skin. Second-degree burns include the thick lower layer of skin. A third-degree burn is the most serious; it penetrates the entire thickness of the skin, permanently destroying it and the tissue that's underneath.

You can care for most minor burns at home. If the burn is red and painful with mild swelling or little blistering, then it's a first-degree or minor second-degree burn.
See a doctor if the burn is dark red and looks glossy with a lot of blistering. These are signs of a deep second-degree burn. Get immediate treatment if the burned skin is dry and leathery, perhaps with white, brown, or black patches. These are signs of third-degree burn.
Burns can become infected with bacteria or other germs if protective layers of skin are lost. Burns can also lead to painful inflammation, as your immune system shifts into gear. Proper burn care can help avoid additional damage. Emergency treatment for third-degree and some second-degree burns may include a blood transfusion and/or extra fluids to help maintain blood pressure. Grafting—placing healthy skin on top of the burn wound—might help promote new skin growth. Severe burns can lead to widespread inflammation, organ failure, and shock. This sometimes-deadly response can arise a week or two after the initial burn. But doctors can't tell beforehand which patients might develop this extreme reaction. Tompkins and other NIH-funded

scientists are looking for ways to predict and prevent shock and organ failure after burns or trauma. You can take steps to avoid household burns. Never leave cooking food unattended on the stove. Set your water heater's thermostat to 120 °F or lower to prevent scalding burns. And install smoke alarms on every floor of your home. **Keep yourself and your family safe from unexpected burn injuries.**

POISONING

A poison is any substance that is harmful to your body. You might swallow it, inhale it, inject it, or absorb it through your skin. Any substance can be poisonous if too much is taken. Poisons can include

- Prescription or over-the-counter medicines taken in doses that are too high
- Overdoses of illegal drugs
- Carbon monoxide from gas appliances
- Household products, such as laundry powder or furniture polish
- Pesticides
- Indoor or outdoor plants
- Metals such as lead and mercury

The effects of poisoning range from short-term illness to brain damage, coma, and death. To prevent poisoning it is important to use and store products exactly as their labels say. Keep dangerous products where children can't get to them. Treatment for poisoning depends on the type of poison. **If you suspect someone has been poisoned, call Poison Help at 800-222-1222 in the United States.**

Poison control centers are excellent resources for poisoning information and, in many situations, may advise that in-home observation is all that's needed.
Poisoning signs and symptoms can mimic other conditions, such as seizure, alcohol intoxication, stroke and insulin reaction. Signs and symptoms of poisoning may include:

- Burns or redness around the mouth and lips
- Breath that smells like chemicals, such as gasoline or paint thinner
- Vomiting
- Difficulty breathing
- Drowsiness
- Confusion or other altered mental status

If you suspect poisoning, be alert for clues such as empty pill bottles or packages, scattered pills, and burns, stains and odors on the person or nearby objects. With a

child, consider the possibility that he or she may have applied medicated patches or swallowed a button battery.

Call 911 or your local emergency number immediately if the person is:

- Drowsy or unconscious
- Having difficulty breathing or has stopped breathing
- Uncontrollably restless or agitated
- Having seizures
- Known to have taken medications, or any other substance, intentionally or accidentally overdosed (in these situations the poisoning typically involves larger amounts, often along with alcohol).

Call Poison Help at 800-222-1222 in the United States in the following situations:

- The person is stable and has no symptoms
- The person is going to be transported to the local emergency department

Be ready to describe the person's symptoms, age, weight, other medications he or she is taking, and any information you have about the poison. Try to determine the amount ingested and how long since the person was exposed to it. If possible, have on hand the pill bottle, medication package or other suspect container so you can refer to its label when speaking with the poison control center.

Take the following actions until help arrives:

- Swallowed poison. Remove anything remaining in the person's mouth. If the suspected poison is a household cleaner or other chemical, read the container's label and follow instructions for accidental poisoning.
- Poison on the skin. Remove any contaminated clothing using gloves. Rinse the skin for 15 to 20 minutes in a shower or with a hose.
- Poison in the eye. Gently flush the eye with cool or lukewarm water for 20 minutes or until help arrives.
- Inhaled poison. Get the person into fresh air as soon as possible.
- If the person vomits, turn his or her head to the side to prevent choking.
- Begin CPR if the person shows no signs of life, such as moving, breathing or coughing.

Call Poison Help at 800-222-1222 in the United States or your regional poison control for additional instructions.

- Have somebody gather pill bottles, packages or containers with labels, and any other information about the poison to send along with the ambulance team.
- Syrup of ipecac. Don't give syrup of ipecac or do anything to induce vomiting. Expert groups, including the American Association of Poison Control Centers and the American Academy of Pediatrics, no longer endorse using ipecac in children or adults who have taken pills or other potentially poisonous substances. No good evidence

proves its effectiveness, and it often can do more harm than good.
If you still have old bottles of syrup of ipecac in your home, throw them away.

- Button batteries. The small, flat batteries used in watches and other electronics — particularly the larger, nickel-sized ones — are especially dangerous to small children. A battery stuck in the esophagus can cause severe burns in as little as 2 hours.
  If you suspect that a child has swallowed one of these batteries, immediately take him or her for an emergency X-ray to determine its location. If the battery is in the esophagus, it will have to be removed. If it has passed into the stomach, it's usually safe to allow it to pass on through the intestinal tract.
- Medicated patches. If you think a child got hold of medicated patches (adhesive products for transdermal drug delivery), carefully inspect the child's skin and remove any that are attached. Also check the roof of the mouth, where they can get stuck if the child sucks on them.

HEAD NECK AND SPINAL INJURIES

1. **CALL 9-1-1** or the local emergency number
2. **MINIMIZE MOVEMENT** of the head neck and spine.
3. **STABILIZE THE HEAD** Manually stabilize the head in the position in which it was found.

- Provide support by placing your hands on both sides of the person's head.
- If head is sharply turned to one side, DO NOT move it.

Chances are you've bumped your head before. Often, the injury is minor because your skull is hard and it protects your brain. But other head injuries can be more severe, such as a skull fracture, concussion, or traumatic brain injury.

Head injuries can be open or closed. A closed injury does not break through the skull. With an open, or penetrating, injury, an object pierces the skull and enters the brain. Closed injuries are not always less severe than open injuries.

Some common causes of head injuries are falls, motor vehicle accidents, violence, and sports injuries.
It is important to know the warning signs of a moderate or severe head injury. Get help immediately if the injured person has

- A headache that gets worse or does not go away
- Repeated vomiting or nausea
- Convulsions or seizures
- An inability to wake up

- Dilated (enlarged) pupil in one or both eyes
- Slurred speech
- Weakness or numbness in the arms or legs
- Loss of coordination
- Increased confusion, restlessness, or agitation

Doctors use a neurologic exam and imaging tests to make a diagnosis. Treatment depends on the type of injury and how severe it is.

STROKE-THINK F-A-S-T

Stroke is the fifth leading cause of death in America today. It's also a major cause of severe, long-term disability. People over 55 years old have more chance of stroke, and the risk gets greater as you get older. Men, African Americans and people with diabetes or heart disease are the most at risk for stroke. About 6.6 million people who have had strokes are alive today.

To protect yourself and your loved ones from the serious effects of stroke, you should:

- Learn your risk factors.
- Reduce your risk factors.
- Learn the warning signs of stroke.
- Know what to do if you notice warning signs.

Knowing the signs of stroke is important. If you act fast and go to a hospital right away, you could reduce the effects of a stroke or save your life!

You and your family should learn the warning signs of stroke that are listed below. You may have some or all of them:

- Sudden numbness or weakness of the face, arm or leg, especially on one side of the body
- Sudden confusion, trouble speaking or understanding
- Sudden trouble seeing in one or both eyes
- Sudden trouble walking, dizziness, loss of balance or coordination
- Sudden, severe headache with no known cause

F.A.S.T. is an easy way to remember how to recognize a stroke and what to do.

Spot a stroke FAST.

- **Face drooping.**
- **Arm weakness.**
- **Speech Difficulty.**
- **Time to call 9-1-1.**