Summer/Fall First Aid Training

In this unit we will cover areas that may be more common in Summer and Fall seasons

RESPIRATORY DISTRESS AND RESPIRATORY ARREST

Respiratory distress and respiratory arrest are types of breathing emergencies. *Respiratory distress* = breathing becomes difficult. It is the most common breathing emergency. *Respiratory arrest* = breathing has stopped. Normal breathing is regular, quiet and effortless. A person does not appear to be working hard or struggling when breathing normally. This means that the person is not making noise when breathing, breaths are not fast and breathing does not cause discomfort or pain.

Causes of Respiratory Distress and Respiratory Arrest

Respiratory distress and respiratory arrest can be caused by:

- Choking (a partially or completely obstructed airway).
- Chronic conditions such as asthma.
- Irregular heartbeat.
- Injury to the head or brain stem, chest, lungs or abdomen.
- Allergic reactions.
- Poisoning.
- Drowning.
- Illness.
- Electrocution.
- Heart attack.
- Drug overdose
- Emotional distress.

What to Look For

Although breathing problems have many causes, you do not need to know the exact cause of a breathing emergency to care for it. You do need to be able to recognize when a person is having trouble breathing or is not breathing at all. Signals of breathing emergencies include:

- Trouble breathing or no breathing.
- Unusually deep or shallow breathing.
- Wheezing, gurgling or making high-pitched noises.
- Flushed, pale, ashen or bluish skin.
- Dizziness or light-headedness.
- Apprehensive or fearful feelings.
- Slow or rapid breathing.
- Gasping for breath.
- Unusually moist or cool skin.
- Shortness of breath.
- Pain in the chest or tingling in the hands, feet or lips.

When to Call 9-1-1

If a person is not breathing or if breathing is too fast, too slow, noisy or painful, call 9-1-1 immediately.

What to Do Until Help Arrives

If an adult, child or infant is having *trouble breathing*:

- Help the person rest in a comfortable position. Usually, sitting is more comfortable than lying down because breathing is easier in that position.
- If the person is conscious, check for other conditions.
- Remember that a person having breathing problems may find it hard to talk. If the person cannot talk, ask him or her to nod or to shake his or her head to answer yes-or-no questions. Try to reassure the person to reduce anxiety. This may make breathing easier.
- If bystanders are present and the person with trouble breathing is having difficulty answering your questions, ask them what they know about the person's condition.
- If the person is hyperventilating and you are sure whether it is caused by emotion, such as excitement or fear, tell the person to relax and breathe slowly. A person who is hyperventilating from emotion may resume normal breathing if he or she is reassured and calmed down. If the person's breathing still does not slow down, the person could have a serious problem. If an adult is unconscious and *not* breathing, the cause is most likely a cardiac emergency. Immediately begin CPR starting with chest compressions. If an adult is not breathing because of a respiratory cause, such as drowning, or drug overdose, give 2 rescue breaths after checking for breathing and before quickly scanning for severe bleeding and beginning CPR. Remember, a non breathing person's greatest need is for oxygen. If breathing stops or is restricted long enough, a person will become unconscious, the heart will stop beating and body systems will quickly fail.

Asthma

Asthma is the inflammation of the air passages that results in a temporary narrowing of the airways that carry oxygen to the lungs. An asthma attack happens when a trigger, such as exercise, cold air, allergens or other irritants, causes the airway to swell and narrow. This makes breathing difficult. You often can tell when a person is having an asthma attack by the hoarse whistling sound that he or she makes while exhaling. This sound, known as *wheezing*, occurs because air becomes trapped in the lungs. Trouble breathing, shortness of breath, tightness in the chest and coughing after exercise are other signals of an asthma attack. Usually, people diagnosed with asthma prevent and control their attacks with medication. These medications reduce swelling and mucus production in the airways. They also relax the muscle bands that tighten around the airways, making breathing easier.

Chronic Obstructive Pulmonary Disease

Chronic obstructive pulmonary disease (COPD) is a long-term lung disease encompassing both chronic bronchitis and emphysema. COPD causes a person to have trouble breathing because of damage to the lungs. In a person with COPD, the airways become partly blocked and the air sacs in the lungs lose their ability to fill with air. This makes it hard to breathe in and out. There is no cure for COPD, and it worsens over time. The most common cause of COPD is cigarette smoking, but breathing in other types of lung irritants, pollution, dust or chemicals over a long period also can cause COPD.

Common signals of COPD include:

- Coughing up a large volume of mucus.
- Tendency to tire easily.
- Loss of appetite.
- A fast pulse.
- Bent posture with shoulders raised and lips pursed to make breathing easier.
- Confusion (caused by lack of oxygen to the brain).
- Round, barrel-shaped chest.

Emphysema

Emphysema is a type of COPD. *Emphysema* is a disease that involves damage to the air sacs in the lungs. It is a chronic (long-lasting or frequently recurring) disease that worsens over time. The most common signal of emphysema is shortness of breath. Exhaling is extremely difficult. In advanced cases, the affected person may feel restless, confused and weak, and even may go into respiratory or cardiac arrest.

Bronchitis

Bronchitis is an inflammation of the main air passages to the lungs. It can be acute (short-lasting) or chronic. Chronic bronchitis is a type of COPD. To be diagnosed with chronic bronchitis, a person must have a cough with mucus on most days of the month for at least 3 months. Acute bronchitis is *not* a type of COPD; it develops after a person has had a viral respiratory infection. It first affects the nose, sinuses and throat and then spreads to the lungs. Those most at risk for acute bronchitis include children, infants, the elderly, people with heart or lung disease and smokers.

Signals of both types of bronchitis include:

- Chest discomfort.
- Cough that produces mucus.
- Fatigue.
- Fever (usually low).
- Shortness of breath that worsens with activity.
- Wheezing.

Additional signals of chronic bronchitis include:

- Ankle, feet and leg swelling.
- Blue lips.
- Frequent respiratory infections, such as colds or the flu.

Allergic Reactions

An *allergic reaction* is the response of the immune system to a foreign substance that enters the body.

Common allergens include bee or insect venom, antibiotics, pollen, animal dander, sulfa and some foods such as nuts, peanuts, shellfish, strawberries and coconut oils. Allergic reactions can cause breathing problems. At first the reaction may appear to be just a rash and a feeling of tightness in the chest and throat, but this condition can become life threatening. The person's face, neck and tongue may swell, closing the airway. A severe allergic reaction can cause a condition called *anaphylaxis,* also known as *anaphylactic shock.*

During anaphylaxis, air passages swell and restrict a person's breathing. Anaphylaxis can be brought on when a person with an allergy comes into contact with allergens via insect stings, food, certain medications or other substances. Signals of anaphylaxis include a rash, tightness in the chest and throat, and swelling of the face, neck and tongue. The person also may feel dizzy or confused. Anaphylaxis is a life-threatening emergency. Some people know that they are allergic to certain substances or to insect stings. They may have learned to avoid these things and may carry medication to reverse the allergic reaction. People who have severe allergic reactions may wear a medical identification (ID) tag, bracelet or necklace.

CHOKING

Choking is a common breathing emergency. It occurs when the person's airway is partially or completely blocked. If a conscious person is choking, his or her airway has been blocked by a foreign object, such as a piece of food or a small toy; by swelling in the mouth or throat; or by fluids, such as vomit or blood. With a partially blocked airway, the person usually can breathe with some trouble. A person with a partially blocked airway may be able to get enough air in and out of the lungs to cough or to make wheezing sounds. The person also may get enough air to speak. A person whose airway is completely blocked cannot cough, speak, cry or breathe at all.

Causes of Choking in Adults

Causes of choking in an adult include:

- Trying to swallow large pieces of poorly chewed food.
- Drinking alcohol before or during meals. (Alcohol dulls the nerves that aid swallowing.)
- Wearing dentures. (Dentures make it difficult to sense whether food is fully chewed before it is swallowed.)
- Eating while talking excitedly or laughing, or eating too fast.
- Walking, playing or running with food or objects in the mouth.

What to Look For

- Coughing, either forcefully or weakly.
- Inability to cough, speak, cry or breathe.
- Making high-pitched noises while inhaling or noisy breathing.
- Losing consciousness if blockage is not removed.
- Clutching the throat with one or both hands.
- Panic.
- Bluish skin color.

When to Call 9-1-1

If the person continues to cough without coughing up the object, have someone call 9-1-1. A partially blocked airway can quickly become completely blocked. Sometimes the person may cough weakly or make high-pitched noises. This tells you that the person is not getting enough air to stay alive. Act at once! If a bystander is available, have him or her call 9-1-1 while you begin to give care.

What to Do Until Help Arrives

Caring for a Conscious Choking Adult or Child

If the choking person is coughing forcefully, let him or her try to cough up the object. A person who is getting enough air to cough or speak is getting enough air to breathe. Stay with the person and encourage him or her to continue coughing.

A conscious person who has a completely blocked airway needs immediate care. A combination of 5 back blows followed by 5 abdominal thrusts provides an effective way to clear the airway obstruction. To give back blows, position yourself slightly behind the person. Provide support by placing one arm diagonally across the chest and bend the person forward at the waist until the upper airway is at least parallel to the ground. Firmly strike the person between the shoulder blades with the heel of your other hand. To give abdominal thrusts to a conscious choking adult or child:

- Stand or kneel behind the person and wrap your arms around his or her waist.
- Locate the navel with one or two fingers of one hand. Make a fist with the other hand and place the thumb side against the middle of the person's abdomen, just above the navel and well below the lower tip of the breastbone.
- Grab your fist with your other hand and give quick, upward thrusts into the abdomen. Each back blow and abdominal thrust should be a separate and distinct attempt to dislodge the obstruction. Continue sets of 5 back blows and 5 abdominal thrusts until the object is dislodged; the person can cough forcefully, speak or breathe; or the person becomes unconscious.

A person who has choked and has been given back blows, abdominal thrusts and/or chest thrusts to clear the airway requires a medical evaluation. Internal injuries and damage to the airway may not be evident immediately.

Special Situations in Caring for the Conscious Choking Adult or Child

- **A large or pregnant person.** If a conscious choking person is too large for you to reach around, is obviously pregnant or is known to be pregnant, give chest thrusts instead. Chest Thrusts for a conscious adult are like abdominal thrusts, except for the placement of your hands. For chest thrusts, place your fist against the center of the person's breastbone. Then grab your fist with your other hand and give quick thrusts into the chest.
- **A person in a wheelchair.** For a choking person in a wheelchair, give abdominal thrusts by reaching around the chair and the person. .

If person becomes on unconscious follow procedure for unconscious choking care (CPR.)

Heat-Related Illness

Heat cramps, exhaustion and *heat stroke* are conditions caused by overexposure to heat, loss of fluids and electrolytes.

	Description	What to Look For	What to Do
Heat Cramps	Heat cramps are the least severe of the heat-related illnesses. They often are the first signals that the body is having trouble with the heat.	Heat cramps are painful muscle spasms. They usually occur in the legs and abdomen. Think of them as a warning of a possible heat-related illness.	To care for heat cramps have person move to a cool place to rest. Give an electrolyte and carb containing fluid such as a sports drink, fruit juice, milk or water. Lightly stretch the muscle and gently massage the area. When cramps stop, the person usually can start activity again if there are no other signals of illness. He or she should keep drinking plenty of fluids. Watch the person carefully for further signals of heat-related illness.
Heat Exhaustion	Heat exhaustion is more severe than heat cramps. It often affects athletes, firefighters, construction workers and factory workers. It also affects those who wear heavy clothing in a hot, humid environment.	Signals of heat exhaustion include cool, moist, pale, ashen or flushed skin; headache; nausea; dizziness; weakness; and exhaustion.	Recognized early it can be reversed. Move the person to a cooler place with circulating air. Loosen or remove clothing as possible and apply cool, wet cloths. Remoisten the cloths periodically. Spray the person with water and fan. If the person is conscious, give small amounts of a cool fluid i.e. sports drink, fruit juice, milk or water to restore fluids and electrolytes. Do not let the person drink too quickly, only 4 oz. every15 minutes. Watch for condition changes while they rest. The person should not resume normal activities that day. If the person refuses fluids or the condition does not improve,, has a change in consciousness or vomits, call 9-1-1. Stop giving fluids and place the person on his or her side to keep the airway open. Watch for signals of breathing problems. Keep the person lying down and continue to cool the body any way you can.
Heat Stroke	Heat stroke is the least common but most severe heat-related illness. Heat stroke develops when the body systems are overwhelmed by heat and stop functioning.	Signals of heat stroke include extremely high body temperature, red skin that can be either dry or moist; changes in consciousness; rapid, weak pulse; rapid, shallow breathing; confusion; vomiting; and seizures.	Call 9-1-1 immediately. Heat stroke is a life-threatening emergency. ■ Preferred method: Rapidly cool the body by immersing the person up to the neck in cold water, if possible. OR Douse or spray the person with cold water. ■ Sponge the person with ice water-doused towels over the entire body, frequently rotating the cold, wet towels. ■ Cover with bags of ice. ■ If you are not able to measure and monitor the person's temperature, apply rapid cooling methods for 20 minutes or until the person's condition improves. ■ Give care according for other conditions found.

Insect Stings

Insect stings are usually harmless. If the person is allergic, they can lead to anaphylaxis, a life-threatening condition.

What to Look For

Signals of an insect sting include:

- Presence of a stinger.
- Swelling.
- Pain.
- Signals of an allergic reaction.

What to Do

If someone is stung by an insect:

- Remove any visible stinger. Scrape it away from the skin with a clean fingernail or a plastic card, such as a credit card, or use tweezers. In the case of a bee sting, if you use tweezers, grasp the stinger, not the venom sac.
- Wash the site with soap and water.
- Cover the site and keep it clean.
- Apply a cold pack to the area to reduce pain and swelling.
- Call 9-1-1 if the person has any trouble breathing or for any other signals of anaphylaxis.

Tick-Borne Diseases

Humans can get very sick from the bite of an infected tick. Lyme disease is the most common disease in this area.

What to Look For

The first signal of infection may appear a few days or a few weeks after a tick bite. In 80 to 90 percent of all cases of Lyme disease, a rash starts as a small red area at the site of the bite. It may spread up to 7 inches across. In fair-skinned people, the center may be a lighter color with the outer edges red and raised. This sometimes gives the rash a bull's-eye appearance. In some individuals, the rash may appear to be solid red. In dark-skinned people, the area may look black and blue, like a bruise. The rash may or may not be warm to the touch and usually is not itchy or painful. If a rash does appear, it will do so in about 1 to 2 weeks and may last for about 3 to 5 weeks. Some people with Lyme disease never develop a rash. Other signals of Lyme disease include fever, headache, weakness, and joint and muscle pain. These signals are similar to signals of flu and can develop slowly. They might not occur at the same time as the rash.

When to Seek Medical Care

If rash or flu-like signals develop, the person should seek medical care immediately. A health care provider usually will prescribe antibiotics to treat Lyme disease. Antibiotics work quickly and effectively if taken as soon as possible. Most people who get treated early make a full recovery. If you suspect Lyme disease, do not delay seeking treatment. Treatment time is longer and less effective when the person has been infected for a long period of time.
To prevent tick-borne illnesses, wear long clothing when in areas where ticks may be such as woods, long grass, etc. Always check for ticks immediately after outdoor activities. The longer the tick stays attached to the skin, the greater the chances are of infection. Therefore, check for ticks at least once daily after having been outdoors. Quickly remove any ticks that you find before they become swollen with blood. Wash all clothing. If you find a tick embedded in a person's skin, *it must be removed*. With a gloved hand, grasp the tick with *a* fine-tipped and pointed tweezer that has a smooth inside surface. Get as close to the skin as possible. Pull slowly, steadily and firmly with no twisting.
- Do not try to burn off the tick.
- Do not apply petroleum jelly or nail polish to the tick.

Put the tick in rubbing alcohol to kill it. Clean the bite area with soap and water and an antiseptic. Apply an antibiotic ointment if it is available. Encourage the person to seek medical advice because of the risk of contracting a tick-borne disease or if you cannot remove the tick.

Mosquito-Borne Illness: West Nile Virus

West Nile virus (WNV) is passed on to humans and other animals by mosquitoes that bite them after feeding on infected birds. WNV cannot be passed from one person to another. People who spend a lot of time outdoors are at a higher risk for catching the disease. Only about 1 in every 150 people who are infected with WNV will become seriously ill.
The easiest and best way to avoid WNV is to prevent mosquito bites. Specifically, you can:
- Use insect repellents containing DEET when you are outdoors. Follow the directions on the package.
- Consider staying indoors at dusk and dawn, when mosquitoes are most active. If you have to be outdoors during these times, use insect repellent and wear long sleeves and pants. Light-colored clothing can help you to see mosquitoes that land on you.
- Make sure you have good screens on your windows and doors to keep mosquitoes out.
- Get rid of mosquito breeding sites by emptying sources of standing water outside of the home, such as from flowerpots, buckets and barrels.

What to Look For

Most people infected with WNV have no signals. Approximately 20 percent develop mild signals, such as fever and aches, which pass on their own. The risk of severe disease is higher for people 50 years and older. People typically develop signals of WNV between 3 and 14 days after an infected mosquito bites them. Signals of WNV include the following:

- High fever
- Headache
- Neck stiffness
- Confusion
- Coma
- Tremors
- Convulsions
- Muscle weakness
- Vision loss
- Numbness
- Paralysis

These signals may last several weeks. In some cases, WNV can cause fatal encephalitis, which is a swelling of the brain that leads to death.

When to Seek Care

If you develop signals of severe WNV illness, such as unusually severe headaches or confusion, seek medical attention immediately. Pregnant and nursing mothers are encouraged to talk to their doctors if they develop signals that could indicate WNV. There is no specific treatment for WNV infection or a vaccine to prevent it. In more severe cases, people usually need to go to the hospital, where they will receive intravenous fluids, assistance with breathing and nursing care.

POISONOUS PLANTS

Every year, millions of people suffer after coming into contact with poisonous plants such as poison ivy, poison sumac and poison oak

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

- Remove exposed clothing and wash exposed area well with soap and water as soon as possible after contact.
- Wash clothing exposed to plant oils since the oils can linger on fabric. Wash your hands thoroughly after handling exposed clothing or pets.
- Put a paste of baking soda and water on the area several times a day if a rash or weeping sore begins to develop. Calamine lotion and antihistamines, such as Benadryl®, may help to dry up the sores.
- See a health care provider if the condition gets worse or involves areas of the face or throat that could affect breathing. He or she may decide to give anti-inflammatory drugs, such as corticosteroids or other medications, to relieve discomfort.

WOUNDS

Soft tissues are the layers of skin and the fat and muscle beneath the skin's outer layer. An injury to the soft tissue commonly is called a *wound*. There are 2 classifications of wounds: closed (a bruise or internal bleeding) and open where the skins surface is broken. Severe bleeding can occur at the skin's surface or beneath, where it is harder to detect. Germs can enter the body through the wound and cause infection. Fortunately, most of the bleeding you will encounter will not be serious. In most cases it usually stops by itself within a few minutes with minimal intervention. Sometimes, however, the damaged blood vessel is too large or the pressure in the blood vessel is too great for the blood to clot, then bleeding can be life threatening. This can happen with both closed and open wounds.

Closed Wounds

The simplest closed wound is a bruise which develops when the body is bumped or hit. The force of the blow to the body damages the soft tissue layers beneath the skin and causes internal bleeding. Blood and other fluids seep into the surrounding tissues, causing the area to swell and change color. A more serious closed wound can be caused by a violent force hitting the body. This type of force can injure larger blood vessels and deeper layers of muscle tissue, which may result in heavy bleeding beneath the skin and damage to internal organs.

What to Look For

Signals of internal bleeding include:

- Tender, swollen, bruised or hard areas of the body, such as the abdomen.
- Rapid, weak pulse.
- Skin that feels cool or moist or looks pale or bluish.
- Vomiting blood or coughing up blood.
- Excessive thirst.
- An injured extremity that is blue or extremely pale.
- Altered mental state, such as the person becoming confused, faint, drowsy or unconscious.

Call 9-1-1 if any of these symptoms occur

Open Wounds

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. The four main types of open soft tissue wounds are abrasions, lacerations, avulsions and punctures.

Abrasions

Abrasions are the most common type of open wound. They usually are caused by something rubbing roughly against the skin. Abrasions do not bleed much. Any bleeding that occurs comes from *capillaries* (tiny blood vessels). Dirt and germs frequently have been rubbed into this type of wound, which is why it is important to clean and irrigate an abrasion thoroughly with soap and water to prevent infection. Abrasions usually are painful because scraping of the outer skin layers exposes sensitive nerve endings.

Lacerations

A *laceration* is a cut in the skin, which commonly is caused by a sharp object, such as a knife, scissors or broken glass. A laceration also can occur when a blunt force splits the skin. Deep lacerations may cut layers of fat and muscle, damaging both nerves and blood vessels. Bleeding may be heavy or there may be none at all. Lacerations are not always painful because damaged nerves cannot send pain signals to the brain. Infection can easily occur with lacerations if proper care is not given.

Avulsions

An *avulsion* is a serious soft tissue injury. It happens when a portion of the skin, and sometimes other soft tissue, is partially or completely torn away. This type of injury often damages deeper tissues, causing significant bleeding. Sometimes a violent force may completely tear away a body part, including bone, such as a finger. This is known as an *amputation*. With amputations, sometimes bleeding is easier to control because the tissues close around the vessels at the injury site. If there is a violent tearing, twisting or crushing of the extremity, the bleeding may be hard to control.

Punctures

Punctures usually occur when a pointed object, such as a nail, pierces the skin. Puncture wounds do not bleed 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 infections—sometimes serious ones. If the object remains in the wound, it is called an *embedded object.*

Preventing Infection

When the skin is broken, the best defense against infection is to clean the area. For minor wounds, after controlling any bleeding, wash the area with soap and water and, if possible, irrigate with large amounts of fresh running water to remove debris and germs. You should not wash more serious wounds that require medical attention because they involve more extensive tissue damage or bleeding and it is more important to control the bleeding. Sometimes even the best care for a soft tissue injury is not enough to prevent infection. You usually will be able to recognize the early signals of infection. The area around the wound becomes swollen and red. The area may feel warm or throb with pain. Some wounds discharge pus. Serious infections may cause a person to develop a fever and feel ill. Red streaks may develop that progress from the wound toward the heart. If this happens, the infected person should seek immediate professional medical attention. If you see any signals of infection, keep the area clean, soak it in clean, warm water and apply an antibiotic ointment if the person has no known allergies or sensitivities to the medication. Change coverings over the wound daily.

Determining if the Person Needs Stitches

One rule of thumb is that a health care provider will need to stitch a wound if the edges of skin do not fall together, the laceration involves the face or when any wound is over ½ inch long. Stitches speed the healing process, lessen the chances of infection and minimize scarring and should be placed within the first few hours after the injury. The following major injuries often require stitches:

- Bleeding from an artery or uncontrolled bleeding.
- Wounds that show muscle or bone, involve joints, gape widely, or involve hands or feet.
- Wounds from large or deeply embedded objects.
- Wounds from human or animal bites.
- Wounds that, if left unstitched, could leave conspicuous scars, such as those on the face.

Using Dressings and Bandages

All open wounds need some type of covering to help control bleeding and prevent infection. These are referred to as dressings and bandages, and there are many types. *Dressings* are pads placed directly on the wound to absorb blood and other fluids and to prevent infection. Dressings should be sterile and most are porous, allowing air to circulate to the wound to promote healing. Standard dressings include varying sizes of cotton gauze, commonly ranging from 2 to 4 inches square.. An *occlusive dressing* is a bandage or dressing that closes a wound or damaged area of the body and prevents it from being exposed to the air or water which can help to prevent infection and help to keep medications in place. They also help to keep in heat, body fluids and moisture. You can improvise an occlusive dressing by using plastic wrap secured with medical tape. This type of dressing can be used for certain chest and abdominal injuries. A *bandage* is any material that is used to wrap or cover any part of the body. Bandages are used to hold dressings in place, to apply pressure to control bleeding, to protect a wound from dirt and infection, and to provide support to an injured limb or body part. Any bandage applied snugly to create pressure on a wound or an injury is called a *pressure bandage*. You can purchase many different types of bandages, including:

- *Adhesive compresses*, which are available in assorted sizes and consist of a small pad of nonstick gauze on a strip of adhesive tape that is applied directly to minor wounds.

■ *Bandage compresses*, which are thick gauze dressings attached to a bandage that is tied in place. Bandage compresses are specially designed to help control severe bleeding and usually come in sterile packages.
■ *Roller bandages*, which are usually made of gauze or gauze-like material come in various widths.. A narrow bandage would be used to wrap a hand or wrist. A medium-width bandage would be used for an arm or ankle. A wide bandage would be used to wrap a leg. A roller bandage generally is wrapped around the body part. It can be tied or taped in place. A roller bandage also may be used to hold a dressing in place, secure a splint or control external bleeding. Follow these general guidelines when applying a roller bandage:
■ Check for feeling, warmth and color of the area below the injury site, especially fingers and toes, before and after applying the bandage.
■ Elevate the injured body part only if you do not suspect that a bone has been broken and if doing so does not cause more pain.
■ Secure the end of the bandage in place with a turn of the bandage. Wrap the bandage around the body part until the dressing is completely covered and the bandage extends several inches beyond the dressing. Tie or tape the bandage in place.
■ Do not cover fingers or toes. By keeping these parts uncovered, you will be able to see if the bandage is too tight. If fingers or toes become cold or begin to turn pale, blue or ashen, the bandage is too tight and should be loosened slightly.
■ Apply additional dressings and another bandage if blood soaks through the first bandage. Do not remove the blood-soaked bandages and dressings. Disturbing them may disrupt the formation of a clot and restart the bleeding. *Elastic roller bandages*, sometimes called elastic wraps, are designed to keep continuous pressure on a body part and also come in various widths. As with roller bandages, the first step in using an elastic bandage is to select the correct size of the bandage. When properly applied, an elastic bandage may control swelling or support an injured limb, however, an improperly applied elastic bandage can restrict blood flow, which is not only painful but also can cause tissue damage if not corrected.
To apply elastic roller bandage:
■ Check the circulation of the limb beyond where you will be placing the bandage by checking for feeling, warmth and color.
■ Place the end of the bandage against the skin and use overlapping turns.
■ Gently stretch the bandage as you continue wrapping. The wrap should cover a long body section, like an arm or a calf, beginning at the point farthest from the heart. For a joint like a knee or an ankle, use figure-eight turns to support the joint.
■ Check the snugness of the bandaging—a finger should easily, but not loosely, pass under the bandage.
■ Always check the area above and below the injury site for feeling, warmth and color, especially fingers and toes, after you have applied an elastic roller bandage. By checking both before and after bandaging, you will be able to tell if any tingling or numbness is from the bandaging or the injury.

Specific Care Guidelines for Minor Open Wounds

In minor open wounds, such as abrasions, there is only a small amount of damage and minimal bleeding.
To care for a minor open wound, follow these general guidelines:
■ Use a barrier between your hand and the wound. If readily available, put on disposable gloves and place a sterile dressing on the wound.
■ Apply direct pressure for a few minutes to control any bleeding.
■ Wash the wound thoroughly with soap and water. If possible, irrigate an abrasion for about 5 minutes with clean, warm, running tap water.
■ Apply an antibiotic ointment to a minor wound if the person has no known allergies or sensitivities to the medication.
■ Cover the wound with a sterile dressing and a bandage or with an adhesive bandage to keep the wound moist and prevent drying.

Specific Care Guidelines for Major Open Wounds

A major open wound has serious tissue damage and severe bleeding. To care for a major open wound, you must act at once. Follow these steps:
■ Put on disposable gloves. If you suspect that blood might splatter, you may need to wear eye and face protection.
■ Control bleeding by covering the wound with a dressing and firmly pressing against the wound with a gloved hand until the bleeding stops and applying a pressure bandage over the dressing to maintain pressure on the wound and to hold the dressing in place. If blood soaks through the bandage, do not remove the blood-soaked bandages. Instead, add more dressings and bandages and apply additional direct pressure.
■ Continue to monitor the person's condition. Observe the person closely for signals that may indicate that the person's condition is worsening, such as faster or slower breathing, changes in skin color and restlessness.
■ Care for shock. Keep the person from getting chilled or overheated.
■ Have the person rest comfortably and provide reassurance.

BURNS

Burns, like other types of soft tissue injury, can damage the top layer of skin or the skin and the layers of fat, muscle and bone beneath. Burns are classified by their depth. The three classifications of burns are as follows: superficial (1st degree), partial thickness (2nd degree) and full thickness (3rd degree).. Burns also are classified by their source: heat (thermal), chemical, electrical and radiation. A *critical burn* requires immediate medical attention. These burns are potentially life threatening, disfiguring and disabling. Unfortunately, it often is difficult to tell if a burn is critical. Even superficial burns can be critical if they affect a large area or certain body parts. You cannot judge a burn's severity by the person's level of pain because nerve endings may be destroyed.

What to Look For

- *Superficial burns*:
  - Involve only the top layer of skin.
  - Cause skin to become red and dry, usually painful and the area may swell.
  - Usually heal within a week without permanent scarring.
- *Partial-thickness burns*:
  - Involve the top layers of skin.
  - Cause skin to become red; usually painful; have blisters that may open and weep clear fluid, making the skin appear wet; may appear mottled; and often swells.
  - Usually heal in 3 to 4 weeks and may scar.
- *Full-thickness burns*:
  - May destroy all layers of skin and some or all of the underlying structures—fat, muscles, bones and nerves.
  - The skin may be brown or black (charred), with the tissue underneath sometimes appearing white, and can either be extremely painful or relatively painless (if the burn destroys nerve endings).
  - Healing may require medical assistance; scarring is likely.

When to Call 9-1-1

- Trouble breathing.
- Burns covering more than one body part or a large surface area.
- Suspected burns to the airway. (nose, mouth burns)
- Burns to the head, neck, hands, feet or genitals..
- A full-thickness burn and is younger than 5 or older than 60
- A burn caused by chemicals, explosions or electricity.

What to Do Until Help Arrives

Heat (Thermal) Burns

Follow these basic steps when caring for a *heat* burn:

- Check the scene for safety then remove the person from the source of the burn.
- Check for life-threatening conditions.
- Cool burn with large amounts of cold running water, at least until pain is relieved.
- Cover the burn loosely with a sterile dressing.
- Take steps to minimize shock. Keep the person from getting chilled or overheated. Comfort and reassure the person.
- *Do not* apply ice or ice water to any burn. These cause the body to lose heat rapidly and further damages body tissues.
- *Do not* touch a burn with anything except a clean covering.
- *Do not* remove pieces of clothing that stick to the burned area or try to clean a severe burn.
- *Do not* break blisters.
- *Do not* use any kind of ointment on a severe burn as this only holds in the heat causing further damage. When a person suffers a burn, he or she is less able to regulate body temperature. As a result, a person who has been burned tends to become chilled. To help maintain body temperature and prevent hypothermia, keep the person warm and away from drafts. Remember that cooling a burn over a large area of the body can bring on hypothermia. Be aware of this risk and look for signals. If possible, monitor the person's core body temperature when cooling a burn that covers a large area.

Radiation Burns

Care for a *radiation (sun) burn* as you would for any thermal burn Always cool the burn and protect the area from further damage by keeping the person away from the source of the burn. There are 2 more types of burns, chemical and electrical, but these are very rare. If either of these occurs, call 9-1-1 immediately.

Nose Injuries

Nose injuries usually are caused by a blow from a blunt object, often resulting in a nosebleed. High blood pressure or changes in altitude also can cause nosebleeds. In most cases, you can control bleeding by having the person sit with the head slightly forward while pinching the nostrils together for about 10 minutes. If pinching the nostrils does not control the bleeding, other methods include applying an ice pack to the bridge of the nose or putting pressure on the upper lip just beneath the nose. Remember, ice should not be applied directly to the skin since it can damage the skin tissue. Place a cloth between the ice and the skin. Seek medical attention if the bleeding persists or recurs or if the person says that it is caused by high blood pressure.

Mouth Injuries

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 block the airway. If the person is bleeding from the mouth and you do not suspect a serious head, neck or spinal injury, place the person in a seated position leaning slightly forward. This will allow any blood to drain from the mouth. If this position is not possible, place the person on his or her side.

Lip Injuries

For injuries that penetrate the lip, place a rolled dressing between the lip and the gum. You can place another dressing on the outer surface of the lip. If the tongue is bleeding, apply a dressing and direct pressure. Applying cold to the lips or tongue can help to reduce swelling and ease pain.