

First Aid for Rural Communities

Adapted for Western Kenya

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An Introduction to First Aid

First aid is a skill that every person should have. People do not need to be professionals to perform basic medical care, but do need to know what to do in certain situations. First aid prevents diseases, slows down or stops medical emergencies, and saves lives.

Discussion: Has anyone saved a life before? What happened? If not, can anyone talk about a time they helped someone who was injured?

This curriculum will go through different common injuries and will provide instruction on how to best help people in these situations with very little medical equipment. Time will also be spent practicing these techniques so everyone can feel comfortable helping people in real life situations.

Discussion: Who knows the top causes of injury in western Kenya?

Number the board 1-8 and fill in the numbers as the class names them off.

Top causes of injury in western Kenya:

1. Assault
2. Road Traffic Accidents
3. Soft Tissue Injuries (examples: pulled muscle, sprained ankle)
4. Cut Wounds
5. Dog bites
6. Falls
7. Burns
8. Poisoning

Basic measures to take before performing first aid:

Follow the acronym: **DR. ABC**

Danger

Response

Airway

Breathing

Circulation

DR. ABC should be checked before helping any injured person. You check DR. ABC in order to protect yourself and to make sure the injured person does not have a more life threatening condition that needs to be treated first. ALWAYS ASK FOR HELP. Having another person with you can help you feel more comfortable and an extra set of hands may help save a life.

DANGER: Is the scene safe?

- If the scene is not safe, go find additional help and try to bring the injured person away from the danger.
- If the scene is not safe and you decide to try to help the person in need, you could be harmed too, resulting in two people needing first aid or medical care.
- If the scene is safe, you are able to proceed to care for the person.

RESPONSE: Is the person conscious (aware of what is going on)?

- If the person is not responding, shake them and say their name.
- If the person is responding but does not seem like they can hold a conversation, ask them to tell you their name.
- We will learn below how to help an unconscious person

AIRWAY: Is anything blocking the injured person's throat, causing them to not be able to breathe?

- Secretions
- Objects
- The person's tongue

BREATHING: Is the person breathing? Is their breathing too shallow, too deep, or normal?

Use the technique **look, listen, and feel** to check a person's breathing:

1. **Look:** Look to see if the person's chest is rising and falling.
 2. **Listen:** Listen to their mouth/nose to hear for air coming out.
 3. **Feel:** Feel for air coming out of the person's nose or mouth.
- Just because a person's chest is rising and falling does not mean air is moving through their airway. Always listen and feel for air coming out of the person's nose or mouth.
 - Normal breathing is at a rate of 12-20 breaths per minute. A way to judge this is to match the rate and depth of your breathing that that of the injured person and "feel" how normal it is.
 - If the person is not breathing or is breathing very shallowly or slowly, CPR and medical help is needed. A later lesson will teach how to help a person who is not breathing.
 - If a person can talk to you, can cough, or cry, they can breathe.

CIRCULATION: Is the person's heart beating?

- You can check for a heartbeat by listening to the chest. You can do this by putting your ear to the chest.

- You can also feel for a pulse which is a lot easier. A pulse is found where a blood vessel is close to the skin. The pulse beats at the same rate that the heart does. The pulse in the neck (carotid pulse) is the easiest one to find.
- To find the carotid pulse, take your index and middle finger and gently place them on your neck under the base of the jaw. Do not press hard. You should feel your pulse beating.
- Healthy people's hearts beat from 60-100 beats per minute.
- You can check your heart rate by counting the number of times your pulse beats for 15 seconds, and multiply that number by 4 (This will give you beats per minute.).
- If the person does not have a pulse, they need CPR and medical attention. We will learn how to do this in a later lesson.



Activity: Make sure everyone can find their own pulse. Once everyone can, have the class partner up and find each other's pulse.

Always ask for help in an emergency situation. Many times, the injured or sick person needs more help than just one person can give.

There will be some emergency situations where more medical help is needed than you can provide. Some people are too injured or too sick to be helped with first aid. These people should be taken to a hospital if there is one nearby.

Preventing infections when giving first aid:

Gloves normally are not available in emergency situations, but if you have access to them, use them. Plastic bags can work as gloves too. If these items are not available, be extra thorough in washing your hands before and after performing first aid. Remember, if you have open wounds or cuts, infections can get into your body through them.

If you can, wash your hands before and after giving first aid. Use soap if it is available. If not, you can wash your hands with ash that has been cooled. Count for twenty seconds (Singing “Happy Birthday” in your head twice is about 20 seconds) while scrubbing all parts of your hands including the backs of your hands, between your fingers, and under your nails.

Activity: Toss the Ball Game

Rules: Toss a ball to a student and ask them a question. If they get the question correct, they are allowed to pass it to another student and that student gets a question. If they get the question wrong, they have to toss it back to the teacher and the teacher tosses it to a new student. The goal is to keep the ball from getting back to the teacher.

Questions for Toss the Ball Game:

Who is allowed to perform first aid?

Answer: Anybody

Why do we do first aid?

Answer: To prevent diseases, slow down or stop medical emergencies, and save lives.

What are two of the top causes of injury in western Kenya?

Answer: assault, road traffic accidents, soft tissue injuries, cut-wounds, dog bites, falls, burns, and poisoning.

What is the first thing we do before performing first aid?

Answer: Check for Danger (**DR**. ABC)

What does the “R” stand for in DR. ABC?

Answer: Response

What is one of the three ABCs of first aid.

Answer: Airway, Breathing, or Circulation.

What is another one of the three ABCs of first aid.

Answer: Airway, Breathing, or Circulation.

What is the last ABC of first aid

Answer: Airway, Breathing, or Circulation.

How can you check to see if someone is breathing?

Answer: Look, listen, and feel.

How can you check to make sure a person's blood is circulating through their body properly?

Answer: Listen for their heartbeat in their chest and feel their pulse in their neck.

Is it smart to ask for help in an emergency situation?

Answer: Yes

Can everybody be treated with just first aid?

Answer: No

Besides water, what two things can you use to wash your hands?

Answer: Soap or ash

What can you put on your hands when giving first aid if gloves are not available?

Answer: Plastic bags

If you do not have access to plastic bags or gloves, how can infections possibly enter your body through your hands?

Answer: Open wounds or cuts

How many seconds are you supposed to wash your hands for?

Answer: Twenty seconds

Unconsciousness and the Airway

(This lesson was created with the help of Lauren Haggerty.)

Some first aid situations can cause a person to become unconscious. People can become unconscious for several reasons. The list of reasons why people become unconscious includes, but is not limited to severe blood loss, inability to breathe, lack of heartbeat, allergic reaction, and severe head injuries. When a person is unconscious they are unable to respond to your voice or touch. Many times unconscious people will have a hard time keeping their airway clear. In order for you to help keep their airway clear, there are some basic first aid measures you can take.

An unconscious, not breathing person

People who are unconscious AND not breathing need medical attention right away. Start CPR and have someone call for medical help. CPR will be taught in a later lesson.

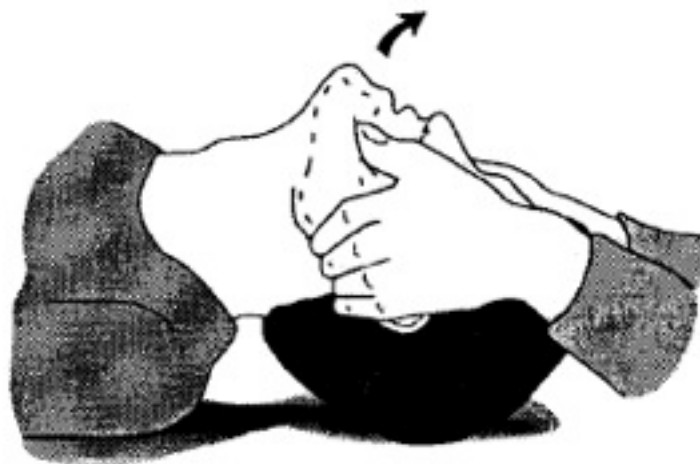
An unconscious, breathing person

There are two types of unconscious, breathing people. People who you suspect may have a head, neck, or back injury and people you do not suspect to have a head, neck, or back injury. You treat these two cases differently so you do not cause farther injury to either one.

How to help an unconscious, breathing person who you suspect has a head, neck, or back injury:

For people who you suspect to have a head, neck, or back injury, you need to open their airway, but keep their neck and spine as straight as possible. Opening the airway will ensure that the unconscious person's tongue does not block their throat and cause them to suffocate. This technique is called the Jaw Thrust Maneuver.

Jaw Thrust Maneuver: This technique of opening the airway should be used on people who are unconscious or may have injured their head, neck, or back. This allows you to keep the injured person's spine straight while opening the airway. To do this maneuver, place yourself above the patient's head and grab the base of their jaw with your hands. Gently pull the jaw upward.

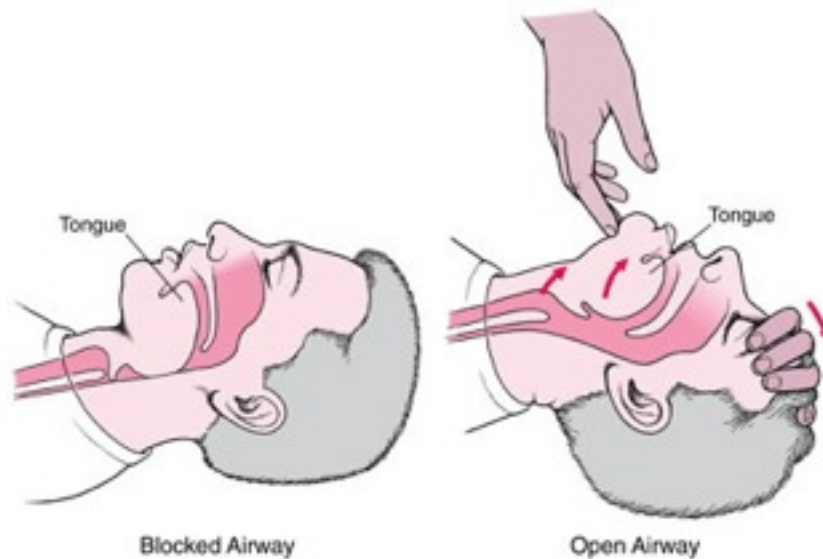


A volunteer is needed to demonstrate this technique to the class.

How to open the airway for a conscious person who you do not suspect has a head, neck, or back injury:

When checking DR. ABC, it is important to check the airway of an injured person if they seem to be having trouble breathing, talking, or coughing. Sometimes secretions, saliva, or the tongue will be blocking the throat and all you need to do is open the airway to fix that. The technique is called the Head-Tilt, Chin-Lift Maneuver.

Head Tilt, Chin Lift Maneuver: This is used if the person's head, neck, or back have **not** been injured. This maneuver opens the airway by moving the person's tongue out of the way of their airway, allowing them to breathe. Place one hand on their forehead and pull it backwards and use your other hand to tilt the chin upwards.



A volunteer is needed to demonstrate this technique to the class.

Activity: Have the class partner up and practice the jaw-thrust maneuver and the head-tilt, chin-lift maneuver. Make sure the class knows when to use each technique of opening the airway.





How to help an unconscious, breathing person who you do not suspect to have a head, neck, or back injury:

If the person is unconscious and HAS NOT BEEN INJURED AND IS BREATHING NORMALLY, they should be turned on their side. This is called the recovery position. The recovery position allows the person to be able to breathe because their tongue and saliva/secretions will not fall back into their throat. If an unconscious person is lying on their back, their saliva and tongue could block their throat. The recovery position prevents this.

Recovery Position



A volunteer is needed to demonstrate this technique to the class.

1	Take the arm nearest to you and place it at about 90 degrees to the person's body with the elbow slightly bent.	
2	Lift the hand farthest away from you and place the back of the hand against the person's cheek at your side, and hold it there.	
3	Place your other hand to the back of the knee of the farthest leg and raise it so that the leg is now bent.	
4	Apply pressure to the farthest side of the knee and roll the person towards you.	
5	Gently tilt the chin back to open the airway and reconfirm that the person is still breathing. Use the head-tilt, chin-lift maneuver.	
6	Keep monitoring the person's breathing until help arrives. Talk to the person and reassure them. Even if they do not respond, they may be able to hear you.	

Please note, if a person is in the recovery position, use the head tilt, chin lift maneuver to open their airway.

Recovery Position for Babies

Cradle the baby in your arms on their side, with their head tilted back.



Activity: Have the class partner up and practice putting each other into the recovery position. Next, have the class divide up into groups and give each group a baby doll. Have each person practice holding the baby doll in the recovery position for babies. Remind the class that the recovery position is intended for people who are unconscious, breathing, and do not have a head, neck, or back injury.

Burns

(This lesson was created with the help of Lauren Haggerty.)

Burn injuries are extremely painful and can threaten the person's life if they are not treated well. Burn injuries can come from fire, electricity, heat, and chemicals. Note that electrical burns can be more serious than they look. Electrical burns happen when an electrical current runs through the body. This means that the electrical current has an entry point and an exit point. There could be a lot of internal burning caused from this. Seek medical help for electrical burns.

There are 3 types of burns:

1. Superficial Burns: The burn has only harmed the top layer of the skin. No blisters have formed and the skin is not broken. These burns hurt. These burns are red. An example of this would be a sunburn that does not have blisters.
2. Partial-thickness Burns: The burn goes deeper into the skin, but the skin is still intact. There are moisture and oils associated with these burns. Blisters form on these types of burns. These burns can be red or white and are much more painful than superficial burns.
3. Full-thickness Burns: The burn goes through all of the layers of skin and may reach other parts inside the body (fat, muscles, bones, organs). These burns can be white, dark brown, or have the appearance of ash. Full-thickness burns are dry. Many times, these burns are so deep that the nerve endings (pain sensors) have been harmed, meaning that the person cannot feel this burn. Often times, the area around this type of burn hurts severely.

How to help a person with a burn:

Ask for a volunteer and use chalk to "draw" a burn on their arm to demonstrate techniques.

1. DR. ABC:

- **Danger:** Is the scene safe? Look for what caused the burn and make sure that it will not harm you. If the person is on fire, pour water on the fire. Have the person roll on the ground to dampen out the flames from their body. Ask another person to help you assist the person with the burn.
- **Response:** Ask the person if they can hear you. Figure out if they are conscious by asking them to tell you their name. If they are unconscious, and do not have a head, neck or back injury, lay them in the recovery position.
- **Airway:** Is anything causing the person to not be able to breathe (Secretions, objects, tongue)? Remember, head-tilt, chin-lift (no head, neck, or back injury) and jaw thrust maneuvers (head, neck or back injury).
- **Breathing:** (look, listen, and feel) Is the person's breathing too shallow, too deep, or normally? Is the person breathing at a rate of 12-20 breaths per minute? If the breathing is abnormal or the person is not breathing, start CPR.
- **Circulation:** Is the person's heart beating (listen to chest, feel for pulse in neck)? Is their skin a normal color? Check to see if they are sweating abnormally.

Once you are certain that the person is in a stable condition, you can proceed to treat the burn.

2. Make sure that the person is warm. People with big or deep burns can lose a lot of body heat and become very cold. Wrapping a blanket around the person will help them keep some of their body heat.
3. Use clean water (boiled and cooled) to pour on the burn. If you only have access to non purified water, that will work too. Make sure the water is not too cold or else the person will become too cold. The water will help minimize some of the pain and stop the burn from going deeper into the skin and body. Pour the water over the burn for 15-20 minutes. If you do not have access to water, use milk or canned drinks.
4. If you can, put gloves or plastic bags on your hands. Remember, if you do not have a way to protect yourself, you do not have to perform first aid on the person. Infections can easily spread through body fluids. If you are not using gloves or bags, be sure to wash your hands after treating the person.
5. Remove clothing and jewelry that is stuck to the skin. If these stay touching the burn, they can lead to infection.
6. Do not try to remove blisters that may have formed. Removing them can cause an infection.
7. Put a layer of honey or aloe vera on the burn. This will prevent infection and speed up the healing process. Do not use butter, creams, ice, or iced water to soothe the burn.
8. It is ideal to use a prepackaged wet dressing (gauze that is soaked in a saline solution) to cover the burn. A wet dressing is recommended because it will not stick to the burn which could lead to torn skin and pain. If that is unavailable, a piece of clean cloth will work. Place a square of cloth or a wet dressing on the burn. Avoid using fluffy cotton as it will stick to the cut.
9. Take another piece of dry cloth or medical bandage and wrap it around the dressing.
10. Dressings should be changed once every day. If the dressing is hard to remove, pour clean drinking water over it to loosen it.
11. Remember to wash your hands after giving first aid.
12. If the burn victim is over 16 years of age, a mild painkiller (aspirin) may be given to help pain.

Cases of burns that need medical attention:

1. If the person's burn is as big as or bigger than their palm, they should be taken to medical care.
 - Look at the palm of your hand. The palm of your hand accounts for about one percent of your body surface area. This means it would take about 100 of your palms to cover your entire body.
2. A burned person should be seen by a doctor if they are older than 65 years and younger than 5.
3. The burn has full thickness burn characteristics (dry, white, dark brown, or has the appearance of ash)
4. If the person cannot feel the burn (also a characteristic of a full thickness burn).
5. If the person has not had a tetanus shot in the past 10 years or is unsure if they have had a tetanus shot in the next ten years.
6. If the burn was caused by chemicals or electricity because these burns are often more extensive than they appear on the surface.
7. If the burn is on the hands, feet, face, joints, or sexual organs.
8. If objects are stuck in the burn (example: clothing, jewelry)

9. If a day later, the person's burn has a lot of pus (white creamy substance) in it, smells bad, or if they have a fever.

Treating severe burns that need medical attention

- Ask somebody to secure medical help immediately.
- Only use a small amount of cool water on the burn. Using too much could cause the person to lose too much body heat.
- Elevate the burned part above the heart. This will help slow swelling.
- Keep the burn covered.
- Check the ABCs (airway, breathing, circulation) until medical help arrives.

Activity JEOPARDY!

Divide the class into two teams.

Set up the chalk board like this:

Types of Burns	Burn Assessment	Dressings	Burn Complications
100	100	100	100
200	200	200	200
300	300	300	300

Each team takes a turn choosing a category (example: Dressings for 200). Read the corresponding question below. The team gets a chance to discuss the answer and gets one try. If they get it right, they get the points. If they get it wrong, the other team gets to try the question for the points. Whoever has the most points at the end, wins.

Types of Burns	Burn Assessment	Dressings	Burn Complications
<p>Q: What kind of burn has only harmed the top layer of the skin?</p> <p>A: Superficial Burn</p>	<p>Q: What do you use to measure the size of the burn?</p> <p>A: The person's palm</p>	<p>Q: What is something you can put on a burn to prevent infection and speed healing?</p> <p>A: Honey or aloe vera</p>	<p>Q: True or False: Burns can make people extremely cold.</p> <p>A: True</p>
<p>Q: What are 2 qualities of a Full Thickness Burn?</p> <p>A: dry, white, dark brown, has the appearance of ash, deep, no feeling.</p>	<p>Q: True or False: Clothing and jewelry should be left in the burn.</p> <p>A: False</p>	<p>Q: How often should dressings on burns be changed?</p> <p>A: Once a day</p>	<p>Q: Name one place on the body where burns can be extremely dangerous.</p> <p>A: hands, feet, face, joints, or sexual organs</p>
<p>Q: What kind of burn forms blisters?</p> <p>A: Partial Thickness Burn</p>	<p>Q: What does DR. ABC stand for?</p> <p>A: Danger, Response, Airway, Breathing, Circulation</p>	<p>Q: How do you remove a bandage that is stuck to a burn?</p> <p>A: Pour clean drinking water over it</p>	<p>Q: At which ages should people be seen by a doctor no matter how big or small their burn is? (Name one age)</p> <p>A: People younger than 5 and over 65.</p>

Cuts and Severe Bleeding

Cuts and severe bleeding can happen to anyone. Knowing how to clean wounds and stop or slow bleeding will prevent infections and severe blood loss.

Cuts

Most of the time cuts are minor and you can manage them without medical care.

Discussion: Who can tell me about a time you cleaned and bandaged a cut on yourself or on another person? What did you do?

Steps for managing cuts:

1. Most cuts are minor and are not life threatening. Still quickly check DR. ABC. Remember, HIV is transmitted through blood. Wash your hands and use gloves or plastic bags on your hands if you can.
2. Slow or stop a cut from bleeding by taking a cloth and applying pressure over the wounded area. You may also just apply direct pressure if cloth is not available (Use a plastic bag as a barrier. NEVER touch someone else's blood). The pressure helps the blood to clot. If the cut bleeds through the first cloth, add another cloth on top. See "Cuts with severe bleeding" below if the cut will not slow or stop bleeding.
3. Once the bleeding is slowed or stopped, pour clean water (or water that has been boiled and cooled) over the cut to make sure all of the dirt is out of it. See below for instruction on how to treat cuts with objects in them.
4. Cover the wound with an antibiotic cream if it is available. If not, honey will work as an antibiotic cream. Honey will prevent infections and speed up the healing process.
5. Place a bandage, a strip of gauze, or a clean strip of cloth over the wound. Avoid using fluffy cotton as it will stick to the cut.
6. If you used cloth in step 5, use medical tape or another piece of cloth to secure the cover on the wound. If you are tying a strip of cloth around the wound, remember not to tie it too tightly. This could cut off the person's circulation.
7. Wash your hands after giving first aid.
8. Change the bandage everyday and follow steps 3-7. If the bandage is stuck to the wound, pour clean water over it until it comes off.

Tetanus Shot

Tetanus is a deadly disease that can be transmitted through broken skin from dirt, dust, or animal feces. Tetanus is known as "lockjaw" because it causes the muscles around the jaw to tighten, causing the person to not be able swallow or open their mouth. Tetanus shots need to be given every 10 years. Always ask a person who has been cut when their last tetanus injection was. If it has been more than 10 years or they do not know, seek medical attention immediately so they can get a tetanus injection or antibiotics. Even if the cut person has a tetanus shot after they have been cut, it can still prevent tetanus.

Infected Cuts

Signs of an infected cut are cuts that smell bad, cuts that have flies attracted to them, the pain is worsening, the injured person has become sick after being cut, or the cut is red and swollen after several days. Cuts that are infected should be treated with hot water. Place the cut either in a bucket of hot water for 20 minutes, or a cloth with hot water should be placed on the cut for 20 minutes. Please note that the hot water should not be unbearably hot. Keep it at a comfortable temperature. This should be done 4 times a day until the infection is gone. The infected cut should also be elevated above the heart if possible. This will help keep swelling down. If the infection persists or you see redness increasing, the person may need an antibiotic.

Cuts with objects in them

Cuts and wounds with large objects in them, such as knives or bullets, need medical attention right away. Do not remove an object from a cut that cannot be washed away by pouring water over it. Removing an object from a cut could lead to greater injury, more bleeding, and could cause the injured person to die. You should try to slow down or stop the bleeding around the wound by applying pressure with a cloth. Bandage the wound with the object in it to keep the object stable and get the person medical help immediately. If a person loses too much blood, they can go into a life threatening state called shock. Shock happens when the body does not have enough blood. One way to prevent shock is to make sure the person stays warm. This can be done by taking off their clothing if it is wet, or by covering them with a blanket.

Cuts with severe bleeding

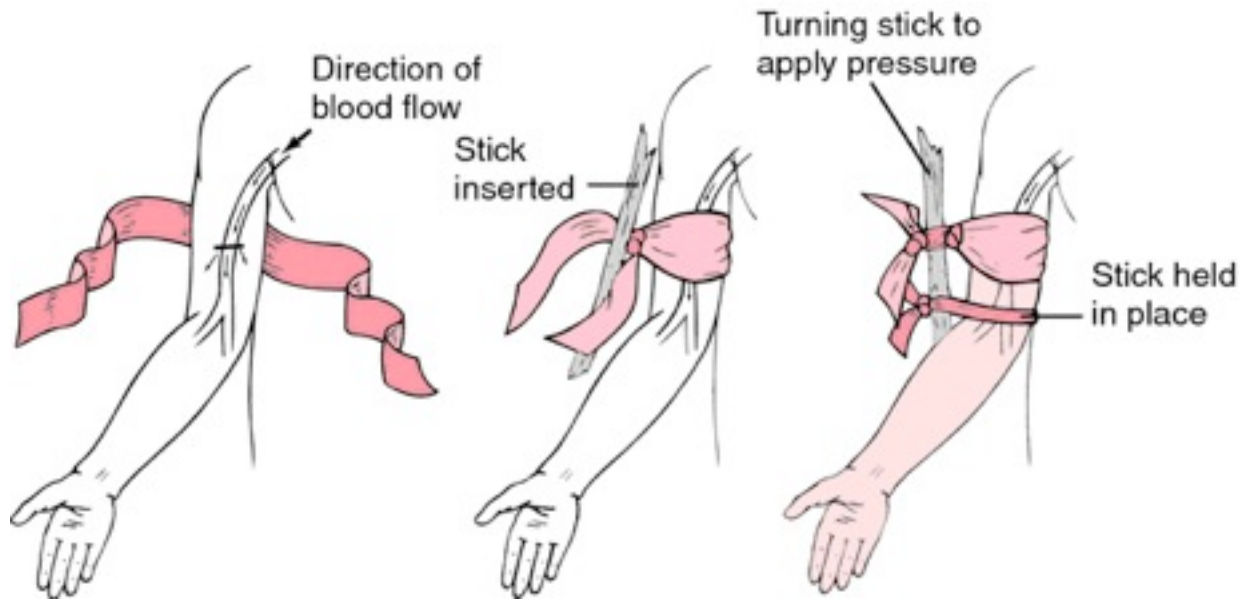
Sometimes, cuts are too deep for the body to be able to stop the bleeding on its own. Even if the cut looks big, apply pressure with a strip of cloth and try to stop or slow the bleeding on your own. You should hold hard pressure on the wound for at least **15 minutes**. Press hard. If the blood soaks through the cloth, add another strip of cloth on top. Prop the wound up above the heart. Putting the wound above the heart helps the blood to flow down away from the cut. If the bleeding cannot be stopped or slowed, the person needs medical attention quickly. While medical help is being arranged, you can apply a tourniquet to try to control the bleeding (If the wound is on the arms or the legs).

Tourniquet

A tourniquet is a fancy word for a piece of cloth that is tied tightly above the wound to stop blood flow to the area. This will stop the bleeding from the cut. **Tourniquets should only be used in extreme cases where the person is bleeding severely and the bleeding cannot be controlled by hard direct pressure and elevation.** Having a tourniquet applied for too long can cause a person's limb to die since it is not getting blood flow.

To apply a tourniquet, tie a long, thick strip of cloth above the wound. Do not use rope, wire, or string. Tie a stick in place over the knot. Twist the stick to tighten the tourniquet until the bleeding has stopped. Either hold the stick in place or use another strip of cloth to tie the stick in place. Take a mental note and write down the time that the tourniquet was put on. Every 30 minutes, loosen the tourniquet to see if the bleeding has stopped. Loosening the tourniquet will

also allow blood to flow back into the arm or leg, which will keep it alive. If the bleeding has not been controlled, tighten the tourniquet again for another 30 minutes and keep a note of the time. Remember, if a tourniquet is needed to control a person's bleeding, they need to see a doctor. Keep tightening and loosening the tourniquet every 30 minutes until the bleeding has stopped or the person has gotten medical help.



Warning: If the person starts to feel tingly, numb or becomes swollen in the arm or leg that has the tourniquet on it, loosen it immediately. Tissue damage normally begins if the tourniquet is left on the extremity without being loosened for 2 hours.

Remember to prevent shock by making sure they injured person stays warm by removing clothing if it is wet or by covering them with a blanket.

Activity: Divide the class into groups of 3 or 4 and supply each group with a baby doll, 5 strips of cloth, and a stick. Have everybody take turns contributing to the activity.

We are going to walk through taking care of a person with severe bleeding.

Scenario: Lucy was cutting vegetables when she sneezed, causing the knife to slip and cut her wrist. Crying, she runs to you to help her with her cut. When she gets to you, blood is flowing out of the cut and you need to make sure that you can stop the bleeding before she loses too much blood.

What is the first thing we want to do?

- DR. ABC

Danger: Make sure the scene is safe.

Response: Lucy is crying and coming to you so she is responsive.

Airway: Since we can hear crying, we know Lucy's airway is open.

Breathing: Since Lucy can cry, we know that she can breathe.

Circulation: Since Lucy is alert, we know her heart is beating.

- Wash your hands before giving first aid. Use gloves or plastic bags to cover your hands if they are available. Remember, if gloves or plastic bags are not available, you do not have to give first aid if you are not comfortable with it.

Now that we have checked DR. ABC, how are we going to try to control the bleeding?

- Take a strip of cloth and apply pressure over the wounded area.

Lucy has bled through the first cloth. Now what do you do?

- Add another cloth on top of the first one and keep applying pressure.

Lucy has bled through the second cloth. Now what do you do?

- Add another cloth on top of the second one and keep applying pressure.

Lucy is still bleeding, what should you do next?

- Hold her wrist up above her heart and keep applying pressure.
- Have somebody call for medical help or arrange to have Lucy taken to a nearby hospital.

You have held pressure on Lucy's wound and put it above her heart for over 15 minutes. She is still bleeding a lot and medical help has not arrived yet. What do you do next?

- Apply a tourniquet.
- Make sure she is warm by giving her a blanket or removing wet clothing if possible.

It has been 30 minutes since the tourniquet has been applied. What do you do now?

- Loosen the tourniquet and check to see if she is still bleeding.

Lucy is still bleeding a lot. What do you do now?

- Tighten the tourniquet for 30 more minutes.

It has been 30 minutes since the tourniquet has been applied. What do you do now?

- Loosen the tourniquet and check to see if she is still bleeding.

Congratulations! Lucy has stopped bleeding. What do you do now?

- Wrap a strip of cloth or bandage around the wound and get Lucy medical attention. Since the bleeding was so hard to control, you do not want to break up the blood clots by washing it with water. Also, Lucy has lost a lot of blood and needs to be seen by a doctor to make sure she will not go into a state of shock.
- Wash your hands.

Nosebleeds

Nosebleeds are very common and can happen in several situations. They can happen from road traffic accidents, falls, assault, nose picking, sneezing, or sometimes they happen for no reason at all. Nose bleeds are normally not very serious, but there are rare cases where nosebleeds can lead to severe blood loss.

Follow the steps below to control a nosebleed:

1. Check DR. ABC

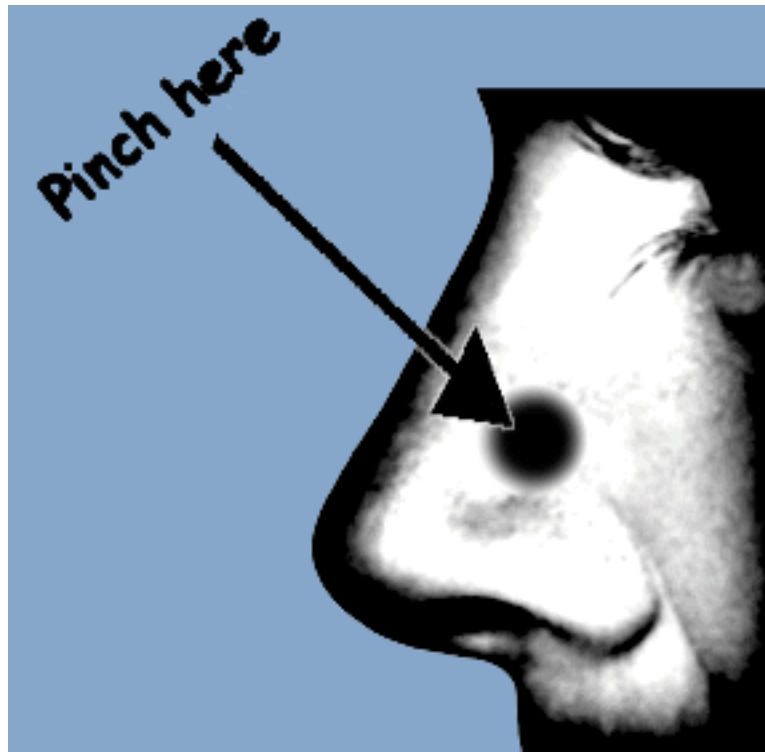
- **Danger:** Identify the cause of the nosebleed. If the nosebleed was caused by a road traffic accident or assault, make sure you are in a safe place to give first aid.
- **Response:** Make sure the person is conscious. If they are unconscious, be sure to check airway, breathing, and circulation extra carefully before controlling the nosebleed. If they are unconscious, lay them in the recovery position if they do not have a head, neck, or back injury.
- **Airway:** Make sure nothing is causing the person not to be able to breathe. If they can speak, their airway is clear.
- **Breathing:** Make sure the person can breathe. If they can speak, cough, or cry, they can breathe.
- **Circulation:** If the person is alert, their heart is beating. If they are unconscious, check for a pulse.

2. If the person is conscious, have them sit upright with their head tilted down. This will pull the blood downwards so they do not swallow it (Swallowing blood leads to an upset stomach.).



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3. Have the person squeeze the fleshy part of their nose right below the bone and breathe through their mouth for 15 minutes. If they are unable to do this, you will have to hold their nose closed for 15 minutes. Be sure to use gloves or plastic bags to cover your hands if they are available.



4. Make sure the person feels comfortable. Calm them down as much as you can. This will help the nosebleed stop more quickly.
5. If the nosebleed is stopped from pinching the nose for 15 minutes, the person is free to wash off. You should wash your hands too, whether or not you touched blood.
6. If the nosebleed cannot be controlled by pinching the nose, pack cotton, gauze, or clean strips of cloth inside each of the nostrils. With the gauze in place, pinch the tip of the nose for another 15 minutes while the person is holding their head down.
7. If the nosebleed cannot be controlled, get the person medical attention immediately. Put gauze or cloth around their nose to catch the blood. Be sure to keep the person warm while waiting for medical attention to prevent shock.

Activity: Have everyone in the class get a partner.

Have the partners practice controlling nosebleeds on each other. Go through the scenario once where one partner is the person with the nosebleed and the other is the person giving first aid. Then, have partners switch roles and do it again.

Scenario: Your partner has a history of getting nosebleeds easily. Your partner sneezed and now their nose is running with blood. Your partner comes to you to help her because they are in a panic and know you are an expert at controlling nosebleeds.

What do you do first?

- DR. ABC

Danger: Make sure the scene is safe.

Response: Since your partner came to you for help, they are conscious.

Airway: Since your partner talked to ask you for help, their airway is open.

Breathing: Since your partner can talk, they can breathe.

Circulation: Since your partner is alert and active, their heart is beating.

Now that we have checked DR. ABC, how are we going to try to control the bleeding?

- Have your partner tilt their head downwards.
- Instruct your partner to hold the tip of their nose together and breathe through their mouth.

How long should you have your partner hold their nose for?

- 15 minutes

What is one important thing you can do to help your partner during the 15 minutes

- Talk to them and keep them calm.

15 minutes have gone by, what do you do now?

- Have your partner stop pinching their nose and check to see if the bleeding has stopped.

Congratulations! The bleeding has stopped. What do you do now?

- Instruct your partner to wash off the blood from their face.
- Wash your hands with soap or ash.

Switch roles and go through the activity again.

Head, Neck, or Back Injuries

Serious injuries to the head, neck, or back can be extremely painful. These injuries can happen from several situations including road traffic accidents, sports accidents, falls, and assaults. Injuries to the head, neck, or back can cause paralysis, which is permanent impairment of movement for the person. They can also cause brain injuries and bleeding inside the body. Learning how to help a person who has been injured in these areas can help prevent them from further injuries.

Many times you will be able to tell what caused the injury, but there could be a time when you have no idea what happened to the injured person. Many times, injuries to the head, neck, or back are not visible from the outside (no bleeding, swelling, redness, etc.).

Signs that a person may have a serious head, neck, or back injury (Ask the class to guess and write the correct answers on the board)

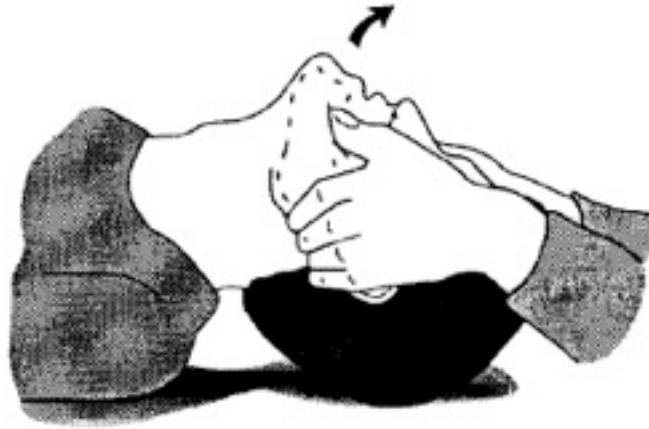
1. Sleepiness or unconsciousness
2. Amnesia (Cannot remember what happened)
3. Bad headache
4. Seems annoyed
5. External injuries to head, neck, or back
6. Numbness or tingly feeling
7. Cannot feel their legs (a sign of paralysis)
8. Pain in neck or back
9. Vomiting

Always ask another person (or two) to help you take care of someone who you suspect has been seriously injured in the head, neck, or back. Since these injuries are inside of the body, medical attention is needed immediately. Have someone get medical help. While you are waiting for help, there are some things you can do to prevent further injury.

Have a volunteer come to the front to use them as a demonstration of the steps.

1. DR. ABC

- **Danger:** What caused the injury to the person with the injury to the head, neck, or back? Are you putting yourself in danger by helping? If you are, drag the person away if you can and get help. If you are not in danger, still ask for help, but proceed with giving first aid.
- **Response:** Is the person conscious? If the person is not conscious, you will need somebody to hold their airway open.
- **Airway:** Check for secretions, vomit, or objects that could be blocking the airway. If the person is unconscious or has obstructions of the airway, use the jaw-thrust maneuver to open the airway. This technique opens the airway while keeping to spine straight to prevent further injury to the person. To do this maneuver, place yourself above the patient's head and grab the base of their jaw with your hands. Gently pull the jaw upward.



- Breathing: Once you have checked the airway, make sure the person is breathing normally. Use the technique look, listen, and feel. If the person is not breathing normally and is unconscious, start CPR.
 - Circulation: Check for a pulse in the carotid artery to make sure the person's heart is beating. If the heart is not beating, and the person is unconscious, start CPR.
2. Do not attempt to move the injured person unless they are in danger or need to be transported to a hospital.
 3. Make sure the injured person stays as still as possible. Encourage them to stay still and keep them calm.
 4. Your job is to hold their neck in place so it cannot be moved. Even slight movement of an injured neck can lead to paralysis. Do not move the neck or attempt to straighten it. Hold the neck in the position it was in when you found the person. To do this, hold both sides of their head with your hands. Stay in this position until medical help arrives.



5. Have another person continue to check the person's ABCs (airway, breathing, and circulation) while you are holding the neck waiting for medical attention.

Activity: Have the class partner up and practice the jaw thrust maneuver again. Remind them that this is only needed if the person is unconscious or if the person's airway is not clear. Next, have the partners practice holding the neck still.

Moving a patient with an injured head, neck, or spine

Volunteers are needed to help demonstrate this.

There may be cases where you have to move the injured person. **This should only be done if absolutely necessary.** Sometimes the scene may become unsafe or you need to transport the person to medical care.

When moving a person with an injury to the head, neck, or spine, make sure to keep their body as straight as possible. Think of the spine as a chain. You do not want the links to move together and you want to keep the chain straight. Moving a person takes at least 3 people.

Drag (requires 3 people):

The move is only used to get an injured person out of danger. Only use this for short distances over smooth surfaces. Have one person hold the head to keep the neck straight. Have two other people grab the legs and drag the person. This will naturally pull their spine straight. Avoid twisting the person's body.

Log Roll and Stretcher (requires at least 4 people):

One person needs to hold the head to keep the neck straight throughout the whole moving process. Have the 2 other people position themselves on the same side of the injured person. Position one person at the legs and one person at the torso. Have the person at the legs grab the injured person's thigh with one hand and their lower back with the other hand. Have the person at the torso cross their arm over the arm of the person at the legs and grab the injured person below the buttocks. Have them grab the injured person's torso near the shoulder with their other hand. On the count of 3, have the 2 people roll the injured person towards them onto their side. The person holding the head should keep the neck in line with the rest of the spine. A fourth person will place a stretcher or a stiff board under the injured person's back. On the count of 3, lower the injured person onto their back on the stretcher. Use strips of cloth to tie around the person's legs and torso to secure them to the stretcher. While transporting the person on the stretcher, have someone continue to hold the their head. Putting a person on a stretcher or stiff board allows them to be moved while keeping their spine straight.

Activity: Have the class pair up in groups of 5-6. Have one person in each group be the victim. Have the groups practice the drag and log roll moves. Make sure everyone can practice all of the roles. Remind them to only move a person with a head, neck, or back injury if absolutely necessary.

Soft Tissue Injuries

Soft tissue injuries refer to ankle sprains, pulled muscles, and any other injuries to muscles or joints. Soft tissue injuries can be caused from sports, outdoor work, falls, or road traffic accidents. Soft tissue injuries can cause bleeding inside of the body which can lead to severe blood loss, infection, and shock. Knowing how to treat these injuries can save a life.

To treat soft tissue injuries, follow the acronym “RICE”.

Rest: Have the person stop moving and sit or lay down to be still.

Ice: If it is available, wrap ice in a cloth and hold it on the injury for 15 minutes. If ice is not available, cool water can also be used to pour over the injury or cloths soaked in cool water can be placed on the injury for 15 minutes. This helps to stop the swelling. Ice or pour cool water over the injury 4 times every day.

Compress: Apply pressure to the injury. Pressure can be applied by wrapping a thick strip of cloth tightly around the injury. Be sure not to wrap it too tightly so blood can still flow to the injury. If the person is losing feeling after having their injury wrapped, or if their skin looks discolored, loosen the cloth. Loosen the bandage every 2 hours in order to allow blood to circulate to the end of the limb.

Elevate: Raise the injured body part above the heart to allow gravity to pull the blood down towards the heart.

After 2 days have gone by, start soaking the injury in hot water 4 times a day for 15 minutes each. Make sure the hot water is comfortable to the touch. Soft tissue injuries take 3-4 weeks to heal. During the 3-4 weeks of healing, the person should be instructed to gradually increase the function of the injured limb. Hot water soaks should be used. Keep the injured area wrapped and elevated.



The most common soft tissue injury is a sprained ankle. A sprained ankle is one where the ligaments have been torn and the person is in so much pain that they cannot walk. Sprained ankles swell up and sometimes have bruising. There is a special way to wrap a sprained ankle to

ensure that it heals properly. A long strip of cloth will work well, but elastic bandages are preferred if they are accessible from a local pharmacy.

Start at the toes and wrap around the foot a few times to create a strong base. Next, pull the cloth around the ankle and bring it back to the foot. Wrap the bandage around the foot again and then bring it back around the ankle. Do this several times until the ankle seems secure. Fasten the cloth or elastic bandage with tape or tuck the tail end into the wrap to secure.



A volunteer is needed to demonstrate the technique of wrapping a sprained ankle.

When to seek medical help:

- If the pain or swelling has not decreased after 2 days
- If the person does not have feeling at the site of the soft tissue injury
- If the person cannot move the extremity where the soft tissue injury is
- If the person's injured extremity looks droopy
- If a few days later, the injured person has a fever or the injury is hot

Go back through the acronym RICE and make sure the class understands that each letter stands for.

Activity: Have the class partner up or get into small groups (depending on how many long strips of cloth there are) and practice wrapping a sprained ankle on each other.

Broken or Dislocated Bones

Broken or dislocated bones can be caused by road traffic accidents, falls, assault, and sports accidents. Broken or dislocated bones always need medical attention and can display a wide variety of characteristics. When in doubt, it is safest to treat the injury like it is broken or dislocated. Broken and dislocated bones should both be treated the same. This lesson is only going to talk about how to help people with broken or dislocated arms or legs. Please note that ALL broken or dislocated bones need medical attention.

Signs and symptoms of a fracture or dislocation (people can experience one or all of these):

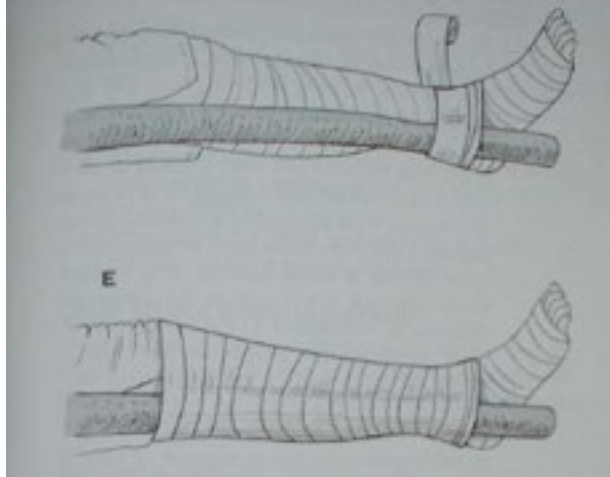
- Pain in the area of injury
- Inability to move the injured area
- Bruising or swelling in the injured area
- Deformity of the area
- Grinding of the bones (This can be heard or felt by the victim. This is known at “crepitus”.)

Steps for taking care of broken or dislocated limbs:

1. DR. ABC
 - Danger: Is the scene safe? If the scene is not safe, leave the area and try to get the victim to safety.
 - Response: Is the person conscious? If they are not, but are breathing, place them in the recovery position if you do not suspect them to have a head, neck, or back injury. The recovery position will help the person be able to breathe. If they are unconscious, check their airway and breathing right away.
 - Airway: Is the person’s airway open? Is anything blocking their throat (secretions, saliva, vomit)? If their throat is blocked, lay them in the recovery position to allow the secretions, saliva, or vomit to flow out of their mouth.
 - Breathing: Is the person able to breathe? Look to see for their chest rising and falling. Listen to their mouth and nose to hear if they are breathing. Feel next to their nose and mouth to feel if air is coming out. If the person is unconscious and not breathing, start CPR. Remember, if a person can talk or cry, they can breathe.
 - Circulation: Is the person’s heart beating? Feel for the carotid pulse (pulse in the neck) to see if their heart is beating. Remember, if a person is conscious, their heart is beating.
2. If there are open wounds, wash your hands with soap or ash before performing first aid. Wear gloves or plastic bags on your hands if they are available to protect yourself.
3. Control any bleeding by applying pressure on the wound with a clean cloth.
4. Instruct the person to be still and to not put any weight on the broken or dislocated area.

Broken or dislocated leg:

Keep the leg immobilized (unable to move) by tightly wrapping a stick to it to keep it straight. Wrap the stick above and below the break or dislocation, so it cannot bend.



Watch for swelling, changes in temperature, and discoloration of the limb. If the person is becoming tingly or losing feeling in the leg, loosen the wrap.

Broken or dislocated arm:

If the injury is in the arm, have the person bend their arm at a 90 degree angle and hold it across their body.

5. Make sure the injured person stays warm but does not overheat.
6. Continue checking the ABCs (airway, breathing, and circulation) while waiting for medical care.

Activity: Have the class group up to practice leg splinting. Give each group a long stick and 2 strips of long cloth for splinting and buddy wrapping. Remind the class that medical care is always needed for broken or dislocated bones.

Bite Wounds and Stings

This is a longer lesson with a lot of material and repetition. There is not a lot to practice here since it is similar to what has already been done. It is important to use volunteers to demonstrate the ideas and to keep the class engaged.

Bite wounds can happen to anyone and need to be taken very seriously. The most common bite wounds in western Kenya are from dogs. Bite wounds easily cause infection and the person who has been bitten needs to be asked if they have had a tetanus shot. Tetanus is an infection that can enter through broken skin from dirt, feces, saliva, and dust. Tetanus is known as “lockjaw” because it causes the muscles around the jaw to tighten, causing the person to not be able to swallow or open their mouth. Tetanus shots need to be given every 10 years. If the person is unsure about when their last tetanus shot was or has never gotten a tetanus shot, seek medical care immediately. Getting a tetanus shot after a bite can still prevent tetanus.

Mammal Bites

Discussion: Who knows what infection is transmitted through mammal bites? (Answer: rabies)

Rabies is another infection that can be transmitted through animal bites. Unless rabies is treated right away, it kills all of its victims. Rabies is mostly transmitted through wild animals, but dogs and cats are not exempt from carrying rabies. Note that rabies is only transmitted through mammals (not snakes, scorpions, or spiders).

Signs and symptoms of rabies: Many times a person does not have signs and symptoms of rabies until the disease has already developed. A person needs immediate medical attention if they have any of the following signs or symptoms after a bite.

- Fever
- Weakness
- Headache
- Itching and pricking feelings at the bite wound
- Agitation
- Confusion
- Insomnia

It is important to ask for help when giving first aid to a mammal bite victim. Always have somebody secure medical help and do not leave the victim if possible.

Steps for taking care of mammal bite wounds:

1. DR. ABC
 - Danger: Is the scene safe? Is the animal still around? If so, leave the area and try to get the mammal bite victim to safety.

- Response: Is the person conscious? If they are not, but are breathing, place them in the recovery position if you do not suspect them to have a head, neck, or back injury. The recovery position will help the person be able to breathe. If they are unconscious, check their breathing right away.
 - Airway: Is the person's airway open? Is anything blocking their throat (secretions, saliva, vomit)? If their throat is blocked, lay them in the recovery position to allow the secretions, saliva, or vomit to flow out of their mouth.
 - Breathing: Is the person able to breathe? Look to see for their chest rising and falling. Listen to their mouth and nose to hear if they are breathing. Feel next to their nose and mouth to feel if air is coming out. If the person is unconscious and not breathing, start CPR. Remember, if a person can talk or cry, they can breathe.
 - Circulation: Is the person's heart beating? Feel for the carotid pulse (pulse in the neck) to see if their heart is beating. Remember, if a person is conscious, their heart is beating.
2. If possible, wash your hands with soap or ash before performing first aid. Wear gloves or plastic bags on your hands if they are available, to protect yourself.
 3. Control bleeding if the bite wound needs it. Bite wounds can bleed severely and cause the person to lose a lot of blood.
 4. Whether or not the bleeding can be controlled, the bite wound needs to be thoroughly cleaned. Clean it after the blood has been controlled or while the tourniquet has been applied.
 5. Use cool water that has been boiled and pour it over the wound. Take a clean strip of cloth and gently clean out the wound with soap or ash. This helps kill infections such as rabies.
 6. If available, put a layer of honey over the wound.
 7. Cover the wound with gauze or a bandage if available, or a clean cloth.
 8. Wash your hands after giving first aid.
 9. Remember, the bitten person needs medical attention immediately.
 10. Continue checking the ABCs (airway, breathing, and circulation) while waiting for medical care.
 11. Clean out the wound and change the bandage every day until it is healed.

Please note that many bite wounds occur in children due to a lack of knowledge or concern about wild or unusual animals.

Snake Bites

All snake bites should be considered poisonous snake bites and need medical attention immediately. Medical attention is needed because poisonous snakes and non poisonous snakes cannot be differentiated easily. If possible, take note of all of the features of the snake to describe it to medical personnel. Medical personnel will most likely administer an antivenin that will take care of potential poisoning.

It is important to ask for help when giving first aid to a snake bite victim. Always have somebody secure medical help and do not leave the victim if possible.

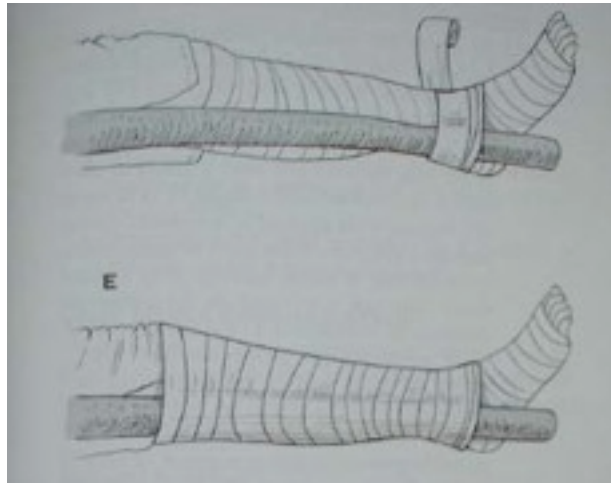
DO NOT suck the venom out with your mouth or try to catch the snake.

Steps for taking care of snake bite wounds:

1. DR. ABC
 - Danger: Is the scene safe? Is the snake still around? If so, leave the area and try to get the snake bite victim to safety.
 - Response: Is the person conscious? If they are not, place them in the recovery position. The recovery position will help the person be able to breathe.
 - Airway: Is the person's airway open? Is anything blocking their throat (secretions, saliva, vomit)? If their throat is blocked, lay them in the recovery position (see lesson 1) to allow the secretions, saliva, or vomit to flow out of their mouth.
 - Breathing: Is the person able to breathe? Look to see for their chest rising and falling. Listen to their mouth and nose to hear if they are breathing. Feel next to their nose and mouth to feel if air is coming out. If the person is not breathing and is unconscious, start CPR. Remember, if a person can talk or cry, they can breathe.
 - Circulation: Is the person's heart beating? Feel for the carotid pulse (pulse in the neck) to see if their heart is beating. Remember, if a person is conscious, their heart is beating.
2. If possible, wash your hands with soap or ash before performing first aid. Wear gloves or plastic bags on your hands if they are available, to protect yourself.
3. Thoroughly clean the bite wound with cool water that has been boiled and soap or ash. This will help clean out some of the snake venom.
Remove any jewelry, rings, or tight clothing. Snake bites can swell. Jewelry, rings, and tight clothing can cause a person's circulation to be cut off if they begin to swell.
4. Put a thin layer of honey or antibiotic cream over the bite wound and cover it with gauze, a bandage, or a clean cloth.
5. Keep the person calm and have them lay down until medical help arrives or until you can get them to medical care. This causes the effects of the venom to come on more slowly.
6. Wash your hands after giving first aid.
7. Continue checking the ABCs (airway, breathing, and circulation) while waiting for medical care.

Snake bite wound in the leg:

Keep the leg immobilized (unable to move) by tightly wrapping a stick to it to keep it straight. Wrap the stick above and below the knee, so it cannot bend.



Watch for swelling, changes in temperature, and discoloration of the limb. If the person is becoming tingly or losing feeling in the leg, loosen the wrap.

Snake bite wound in the arm:

If the bite is in the arm, have the person bend their arm at a 90 degree angle and hold it across their body.

Immobilizing the arms or legs causes the effects of the snake venom to come on more slowly.

Snake bite wound in the eyes:

Use cool clean water to rinse the eyes. Pour the water from the inside of the eyes (near the nose) towards the outside of the eyes. Do this for 20 minutes.



Spider Bites and Scorpion Stings

Many spider bites and scorpion stings can be treated without medical attention. Many will be extremely painful and will swell up. Medical attention is only needed if the pain does not go away after several hours. Please note that all children who are stung by scorpions should be seen by medical personnel.

Steps for taking care of spider bites or scorpion stings:

1. DR. ABC
 - **Danger:** Is the scene safe? Is the spider or scorpion still around? If so, leave the area and try to get the victim to safety.
 - **Response:** Is the person conscious? If they are not, place them in the recovery position. The recovery position will help the person be able to breathe.
 - **Airway:** Is the person's airway open? Is anything blocking their throat (secretions, saliva, vomit)? If their throat is blocked, lay them in the recovery position (see lesson 1) to allow the secretions, saliva, or vomit to flow out of their mouth.
 - **Breathing:** Is the person able to breathe? Look to see for their chest rising and falling. Listen to their mouth and nose to hear if they are breathing. Feel next to their nose and mouth to feel if air is coming out. If the person is not breathing and is unconscious, start CPR. Remember, if a person can talk or cry, they can breathe.
 - **Circulation:** Is the person's heart beating? Feel for the carotid pulse (pulse in the neck) to see if their heart is beating. Remember, if a person is conscious, their heart is beating.
2. If possible, wash your hands with soap or ash before performing first aid. Wear gloves or plastic bags on your hands if they are available to protect yourself.
3. Thoroughly clean the bite or sting wound with cool water that has been boiled and soap or ash. This will help clean out some of the venom.
4. Remove any jewelry, rings, or tight clothing from the area of the bite wound.
5. If ice is available, wrap it in a cloth and place it on the wound for 20 minutes. If ice is unavailable, pour cool water over the wound for 20 minutes. This will help slow down the swelling. Repeat this step several times.
6. Wash your hands after giving first aid.
7. Continue checking the ABCs (airway, breathing, and circulation).
8. If the pain does not decrease, medical attention is needed immediately.

Allergic reaction to spider bites or scorpion stings:

Sometimes, people will react badly to spider bites or scorpion stings. This is called an allergic reaction. Signs and symptoms of an allergic reaction include wheezing, shortness of breath, a tight feeling in the chest, dizziness, fainting, and swelling of the throat which causes the inability to breathe. Allergic reactions should be taken very seriously because the person could die. Get the person to medical care immediately. Medical personnel will give the person a drug called epinephrine which will stop the allergic reaction.

Some people carry around what is called an Epi Pen if they know that they are allergic to bites and stings. This is an epinephrine injection that can be self administered. If you know

the person is having an allergic reaction and has an Epi Pen, encourage them to inject themselves with it. If the person is unable to inject the Epi Pen themselves, take the cap off and jam that end into their outer thigh. Please note that the needle can go through clothing. This curriculum will not go into any more detail on Epi Pens, but directions on how to administer them are on the device itself.

DO NOT use someone else's Epi Pen for the bite or sting victim.

DO seek medical care immediately after the injection from an Epi Pen. Epinephrine can hurt a person's heart and they need to be seen by medical personnel to make sure this hasn't happened.

Activity: Board Races

Divide the class into two teams. Read each question aloud. Designate a writer for the team (People can take turns every question) to go up to write the answer on the chalkboard. The team to write the first answer correctly gets a point. The team with the most points at the end wins.

1. The most common bite wound in Kenya is from what animal?
 - a. Dogs
2. How many years should people get a tetanus shot?
 - a. 10 years
3. What kind of infection is transmitted only through bites from mammals?
 - a. Rabies
4. What are two signs or symptoms of rabies?
 - a. Fever, weakness, headache, itching and pricking feeling at the bite wound, agitation, confusion, insomnia
5. What needs to be continually checked after bite wounds have been cleaned and bandaged?
 - a. ABCs (airway, breathing, and circulation)
6. What natural ointment can be put over bite wounds to prevent infection and speed up healing?
 - a. Honey
7. Which age group of people are most at risk for animal bites?
 - a. Children
8. True or False: All snake bites should be considered poisonous.
 - a. True
9. What helps slow down the effects of snake venom?
 - a. Keeping the person calm, having the person lay down, immobilizing the arm or leg (if that is where the snake bite occurred)
10. Which types of bites need medical attention immediately? Name 2.
 - a. Mammal bites, snake bites, scorpion bites in children
11. What can be used to immobilize a person's leg after they have been bitten by a snake?
 - a. Stick (cloth is acceptable too)

12. When would a spider bite or scorpion sting need medical attention?
 - a. If the pain does not go away after several hours
13. What are two signs or symptoms of an allergic reaction?
 - a. Wheezing, shortness of breath, a tight feeling in the chest, dizziness, fainting, and swelling of the throat which causes the inability to breathe

No Breathing, Unconsciousness, and CPR

(This section was created with the help of Lauren Haggerty.)

CPR is the most important life saving technique that can be learned. Medical professionals are required to relearn CPR every two years in order to ensure that they remember how to do it.

Discussion: Does anyone know what CPR stands for? Does anyone know what CPR is?

CPR stands for cardiopulmonary resuscitation.

Cardio: heart

Pulmonary: lungs

Resuscitation: to revive

CPR is a lifesaving technique to use when someone's breathing or heartbeat has stopped. It keeps blood flowing to the brain and other vital organs. CPR has been proven to increase an unconscious, not breathing person's chance of living by 2-3 times.

Checking DR. ABC when giving first aid will alert you if you need to perform CPR or not. You will know if you need to perform CPR if the person is unconscious, non-responsive, and not breathing normally.

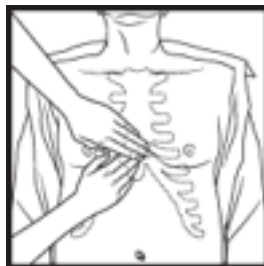
Please note that CPR is performed differently on babies, children, and adults.

Teen and Adult CPR

Steps to perform hands only CPR:

Hands only CPR can be used when you SEE the teen or adult become unconscious. As soon as you see them become unconscious and confirm that they are not breathing normally, start CPR.

1. Ask for help and have somebody arrange medical help for the victim.
2. Put victim on his or her back on a firm surface.
2. Kneel next to the victim's shoulders.
3. Place the heel of one hand over their sternum (breastbone) between the nipples.



4. Place your other hand on top of the first hand and interlock your fingers. Keep your elbows straight and move your shoulders directly above your hands.
5. Use your upper body weight (not just your arms) to push straight down on (compress) the chest about 5-6 centimeters (2 inches).



6. Continue these compressions at a rate of about 100 per minute, until help arrives. Let the chest rise completely before pushing down again.
7. Do not stop CPR until medical help arrives and they ask you to stop or the victim starts breathing normally. If this happens, place the victim in the recovery position and continue to check DR. ABC.

Steps to perform CPR with rescue breaths:

CPR with rescue breaths should be used on teens and adults who you FIND unconscious and not breathing normally. CPR with rescue breaths should also be used on teens and adults, who have been drowning, choking, have a breathing abnormality that made them become unconscious, or have overdosed on drugs.

1. After 30 chest compressions, perform 2 rescue breaths.
2. Tilt the head back and hold in position with 2 fingers under the chin.



3. Squeeze the nose closed.
4. Place your mouth over the victim's mouth, and breathe into their mouth 2 times. Each breath should take 1 second. Watch for the victim's chest rising.
5. Continue with 30 compressions to 2 breaths.

Child and Infant CPR

Child and infant CPR differs from teen and adult CPR because it always uses rescue breaths and the chest compressions are not as strong. Please note, hands only CPR is not as effective for people under the age of 12. If you are not comfortable giving rescue breaths, compressions will

work a lot better than nothing. Begin CPR if the child or infant is unconscious, non-responsive and not breathing normally.

Steps to perform child CPR (ages 1-12):

1. Ask for help and have somebody arrange medical help for the child.
2. Carefully place the child on his or her back. If there is a chance the child has a spinal injury, two people should move the child to prevent the head and neck from twisting.
3. Kneel next to the child's shoulders. Place the heel of one hand over their sternum (breastbone) between the nipples.
4. Perform chest compressions: Use only one hand. The depth of the compressions should be about 1/3 of the child's chest.
5. Continue these compressions at a rate of at least 100 per minute. Let the chest rise completely before pushing down again.
8. Do not stop CPR until medical help arrives and they ask you to stop, or the child starts breathing normally. If this happens, place the victim in the recovery position and continue to check DR. ABC.

If you feel comfortable giving rescue breaths: After every 30 compressions, perform 2 rescue breaths, just like you would do with an adult patient.

Steps to perform infant CPR (age less than 1 year):

1. Stroke the baby's foot during DR ABC to check responsiveness. When looking for a response from the baby, it is better to shout and stroke the foot (rather than tapping the shoulder).
2. Ask for help and have somebody arrange medical help for the baby.
3. Kneel next to the baby's shoulders. Place two fingers over their sternum (breastbone) between the nipples.



4. Perform chest compressions. Give 30 chest compressions at a rate of at least 100 per minute. The depth of the compressions should be about 1/3 of the infant's chest.
5. Open the airway. Tilt the head back and lift the chin.



6. Give 2 rescue breaths. Place your mouth over the baby's mouth and nose, forming a tight seal. Give 2 gentle breaths.



7. Continue the cycle of 30 compressions and 2 rescue breaths. Do not stop CPR until medical help arrives and they ask you to stop, or the baby starts breathing normally. If the baby starts to breathe, but then in the recovery position for babies.

General Information about CPR

- If a person has not started breathing after 30 minutes of compressions, it is unlikely for them to be saved.
- Do not breathe forcefully when performing rescue breaths. Rescue breaths that are too forceful can cause the person to vomit.
- You can take turns doing compressions with another person so you do not tire as easily. Switch every 200 compressions, but DO NOT take a break from compressing the victim's chest. Two people can kneel on either side of the victim so that once one person has performed 200 compressions, the next person can start with their 200 compressions right away. If performing CPR with rescue breaths, switch doing 30 compressions 2 and rescue breaths every 2 minutes.
- 100 chest compressions per minute can be hard to estimate. This is just under 2 chest compressions per second. You can compress the chest to the beat of the song "Stayin' Alive" by the 1960s-1970s American band called the Bee Gees.

Activity: Play the song "Stayin' Alive" by the Bee Gees and have the class clap along to hear the beat. Divide the class into groups of 3-4 and give each group a doll. Have everybody practice adult, child, and infant CPR. Omit practicing rescue breaths directly on the doll for sanitary purposes. Students can pretend by breathing just over the doll's mouth.

Choking

A choking person can pose a scary situation for everyone involved. Choking happens when an object or food blocks a person's airway. This can lead to suffocation. Being comfortable with helping a choking person is an important skill to have.

How to tell if someone is choking

- The person is coughing. If a person is coughing, crying, or talking, they can breathe. All you need to do is encourage them to keep coughing.
- The person's face or lips look blue or discolored.
- The person cannot make any noise.
- The person grabs their neck.
- The person has veins in their face or neck that are sticking out.
- The person becomes unconscious.

Choking: Adults and children over 1 year

Heimlich maneuver: The Heimlich maneuver is a way to help anyone over the age of 1 year to stop choking. The Heimlich maneuver should be used on adults and children over 1 year if they are choking and cannot talk, breathe, or cough. The Heimlich maneuver uses strong abdominal thrusts and can damage internal organs or crack ribs. You should take extreme caution to only use the Heimlich maneuver if the person cannot talk, breathe, or cough. After the person has stopped choking by use of the Heimlich maneuver, they need to be seen by medical personnel to make sure they do not have internal damage. Remember, it is better to cause internal damage to a person to help them breathe than to not perform the maneuver as they could suffocate to death.

Steps to perform the Heimlich maneuver:

1. Ask the person if they are choking. If they can talk, breathe, or cough, DO NOT perform the Heimlich maneuver. If they cannot respond to you, proceed with the Heimlich maneuver.
2. Stand behind the person and wrap your arms around their stomach.
3. Make a fist with one hand and hold your fist with the other hand.



4. Place the thumb part of your fisted hands above the person's belly button, but below their rib cage.
5. Thrust your hands into the person's stomach and pull up slightly towards their rib cage.



6. The thrusts should be quick and strong.
7. Abdominal thrusts should be continued until the object comes out of the person's mouth or until they become unconscious.

Choking: Adults and children over 1 year who are unconscious

A choking person can become unconscious because they are unable to breathe.

Steps to help a choking, unconscious adult or child over 1 year:

1. Ask someone to get medical help immediately.
2. Lay the person on their back.
3. Open their mouth to see if anything is visibly blocking the airway. If you see something in the mouth, remove it. DO NOT reach your fingers down their throat to try to get an object out. This could push it down farther.
4. Start CPR with cycles of 30 chest compressions to 2 rescue breaths.
5. When giving rescue breaths, check to see if the person's chest is rising. If a person's chest is rising, that means air is flowing into it and their airway is clear. If the chest is not rising, the person is still choking because their airway is not clear. If their chest is not rising, open their mouth and see if there is anything visible in the mouth, blocking the airway. If you see something in the mouth, remove it. DO NOT reach your fingers down the person's throat to try to get an object out. This could push it down farther.
6. If the airway cannot be cleared (meaning the chest will not rise when the person is given rescue breaths), kneel over the unconscious, choking person and push on their stomach in the same area you gave abdominal thrusts (above the belly button, below the rib cage). Keep pushing hard and quickly, until the object is out of the person's throat.



7. Continue CPR.
8. Do not stop CPR until medical help arrives and they ask you to stop, or the person starts breathing normally. If this happens, place the person in the recovery position and continue to check DR. ABC.

Activity: Have the class partner up. The pairs should practice the motions of the Heimlich maneuver on each other. Remind them to not actually push into each other's stomachs.

Choking: Infants under 1 year

The Heimlich maneuver is too strong to be used on infants. Infants are given a series of back blows and chest thrusts to help stop choking. DO NOT give back blows or chest thrusts if the infant is crying, breathing, or coughing.

Steps to help a choking infant:

1. Make sure the infant cannot cry, breathe, or cough.
2. Lay the infant face down on your forearm. Hold the jaw with your fingers and hold the chest in your hand.
3. Place your arm on your leg for support.
4. Make sure the infant's head is lower than the rest of their body.
5. Give the infant 5 strong blows to the back using the palm of your free hand.
6. Check to see if the object has come out of the infant's throat.
7. If not, turn the infant so they are facing upwards, lying on your leg or lap.
8. Support the infant's head with one hand.
9. Use your other hand and place two fingers on the infant's chest in between the nipples.
10. Compress the chest 5 times; compressing the chest about 1/3-1/2 of its depth (These are similar to infant CPR chest compressions.).
11. Continue the cycle of 5 back blows to 5 chest compressions until the object comes out of the infant's throat or the infant becomes unconscious.
12. If the infant becomes unconscious, shout and have someone secure immediate medical attention.
13. Open their mouth to see if anything is visibly blocking the airway. If you see something in the mouth, remove it. DO NOT reach your fingers down their throat to try to get an object out. This could push it down farther.
14. Start CPR with cycles of 30 chest compressions to 2 rescue breaths.

15. When giving rescue breaths, check to see if the infant's chest is rising. If the infant's chest is rising, that means air is flowing into it and their airway is clear. If the chest is not rising, the infant is still choking because their airway is not clear. If their chest is not rising, open their mouth and see if there is anything visible in the mouth, blocking the airway. If you see something in the mouth, remove it. DO NOT reach your fingers down their throat to try to get an object out. This could push it down farther.
16. Continue the cycle of 30 compressions and 2 rescue breaths. Do not stop CPR until medical help arrives and they ask you to stop, or the infant starts breathing normally. If the infant starts to breathe, make sure their airway stays open by putting them in the recovery position for babies.

Activity: Have the class get into groups of 3-4 and give each group a doll. Each person should go through the steps of how to help a choking infant.

Heimlich maneuver on yourself

If you are alone and choking, or people around you do not know how to perform the Heimlich maneuver, you can perform it on yourself. This is the easiest technique to stop choking that you will learn.

Steps to perform the Heimlich maneuver on yourself:

1. If you can talk, breathe, or cough, DO NOT perform the Heimlich maneuver on yourself.
2. Make a fist with one hand and hold your fist with the other hand.
3. Place the thumb part of your fisted hands above your belly button, but below your rib cage.
4. Thrust your hands into your stomach and pull up slightly towards your rib cage.
5. The thrusts should be quick and strong.
6. Abdominal thrusts should be continued until the object comes out of your mouth.
7. Alternatively to abdominal thrusts, you can use the edge of a table, chair, or railing. Strongly and quickly thrust the upper part of your stomach into one of these objects until you stop choking.
8. Seek medical help immediately after you stop choking.



Activity: Have the class stand up and practice steps 2 and 3 of performing the Heimlich maneuver on themselves. Do not have the class practice actual abdominal thrusts on themselves. Do make sure they understand the motions of their hands during thrusts. This can be practiced without pushing too hard into the stomach.

Poisoning

Poisoning mostly happens when people swallow something that is bad for them. The most common causes of poisoning are ingesting household cleaners, overdosing on medications, or consuming poisonous plants. Other routes of poisoning come from touching the poison and inhalation of the poison.

Signs and symptoms of poisoning:

- Vomiting
- Fever
- Confusion
- Discolored skin
- Seizures
- Breathing trouble
- Pain

If you find someone who has been poisoned, they need medical help right away. Poisoning can affect a person's airway, breathing, and circulation. It is important to take note of what poisoned the person and how much was ingested. This is important information for medical personnel.

Things you should not do when helping a poisoned person:

- Make the person throw up (unless medical personnel are with you and want you to)
- Give them a drink (unless medical personnel are with you and want you to)
- Touch the poison

Steps to taking care of a poisoned person:

1. DR. ABC

- **Danger:** Is the scene safe? Will the poison hurt you (remember not all poisons are swallowed, some can be inhaled or touched)?
- **Response:** Is the person conscious? If so, proceed to treat them. If not, lay them in the recovery position and make sure they can breathe.
- **Airway:** Is the person's airway open? Is anything blocking their throat (secretions, saliva, vomit)? If their throat is blocked, lay them in the recovery position (see lesson 1) to allow the secretions, saliva, or vomit to flow out of their mouth.
- **Breathing:** Is the person able to breathe? Look to see for their chest rising and falling. Listen to their mouth and nose to hear if they are breathing. Feel next to their nose and mouth to feel if air is coming out. If the person is unconscious and cannot breathe, start CPR. Remember, if a person can talk or cry, they can breathe.
- **Circulation:** Is the person's heart beating? Feel for the carotid pulse (pulse in the neck) to see if their heart is beating. Remember, if a person is conscious, their heart is beating.

2. Ask someone for help and have that person seek medical care for the poisoned person.

3. Lay the person in the recovery position even if they are conscious. This helps the poison not to be absorbed so quickly.

4. Write down everything you can about what caused the poisoning and how much was ingested. If you do not have paper or a pencil, take mental notes. You can do this while waiting for medical help. This is important information for medical personnel.

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