

Breathing Problems

Sometimes, a person may develop mild or severe blockage of the air passages for many different reasons. One possible cause is asthma, a disease of the air passages. A person who is having an asthma attack will have trouble breathing. Someone experiencing a heart attack, a stroke, or certain injuries also may have breathing problems. Your actions in the first few minutes after you see the signs of any of these conditions could help save a life.

Signs of Breathing Problems

You can tell that someone is having trouble breathing if the person

- Is breathing very fast or very slowly
- Is having trouble with every breath
- Has noisy breathing—you hear a sound or whistle as the air enters or leaves the lungs
- Can only make sounds or speak only a few words at a time between breaths, even though the person is trying to say more

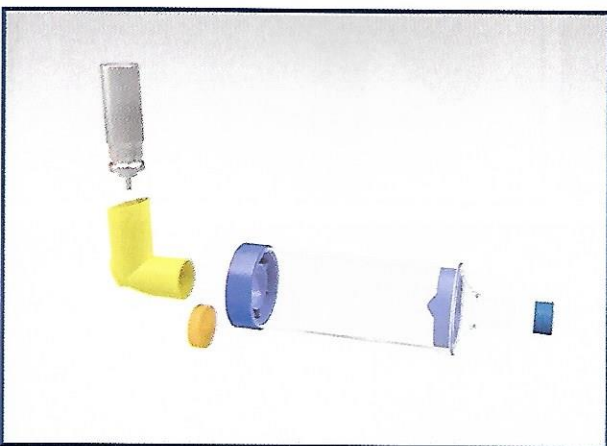
Someone with a medical condition involving breathing problems, such as asthma, usually knows about the condition and what to do. These people often carry inhaler medicine, which helps them breathe more easily within minutes after using it.

At times, a person can have such a hard time breathing that they need help using their inhaler. For this reason, you should be ready to assemble the inhaler and help them use it.

Using an Inhaler

Inhalers have a medicine canister, a mouthpiece, and sometimes a spacer (Figure 48). The spacer can be attached to make it easier for the person with the breathing problem to inhale all the medicine (Figure 49).

Figure 48. Parts of an inhaler: medicine canister, mouthpiece, and spacer.



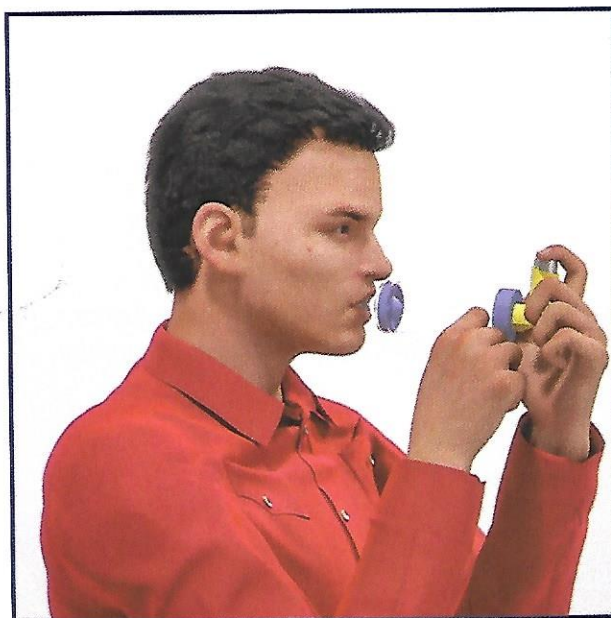
Actions to Take: Use an Inhaler

To use the inhaler

- Remove the cap and shake well.
- Have the person breathe out all the way.
- Place the mouthpiece between their teeth and have them seal their lips around it.
- As they start to breathe in slowly, press down on the canister one time.
- Have them breathe in as slowly and as deeply as they can, for about 5 seconds.
- Count to 10 to allow the medicine to reach the airways of the lung.
- Repeat the steps above for each puff indicated on the inhaler, generally 2 puffs total.
- Replace the cap on the inhaler.

Some inhalers may also come with a separate apparatus called a *spacer* or *chamber*, which is an oval plastic container that attaches to the mouthpiece of the inhaler. If the person's inhaler has a spacer, attach it to the mouthpiece of the inhaler after shaking but before having the person breathe out all the way.

Figure 49. Using an inhaler with a spacer.



Actions to Take: Help Someone With Breathing Problems

- Ask, "Do you need help?" If the answer is yes, ask "Do you have medicine?"
- If the person has medicine, get it. Then, help the person use it.
- Phone 9-1-1 if the person
 - Has no medicine
 - Does not get better or gets even worse after using their medicine
 - Has trouble speaking
 - Becomes unresponsive
- Stay with the person until someone with more advanced training arrives and takes over.

Choking in an Adult, a Child, or an Infant

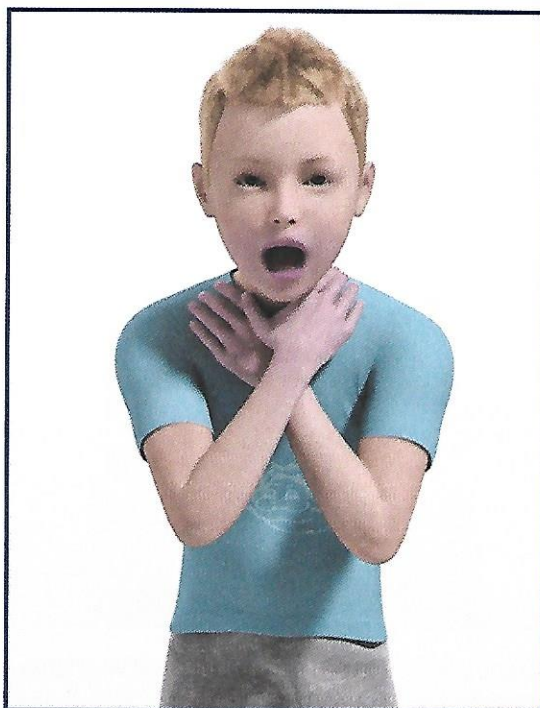
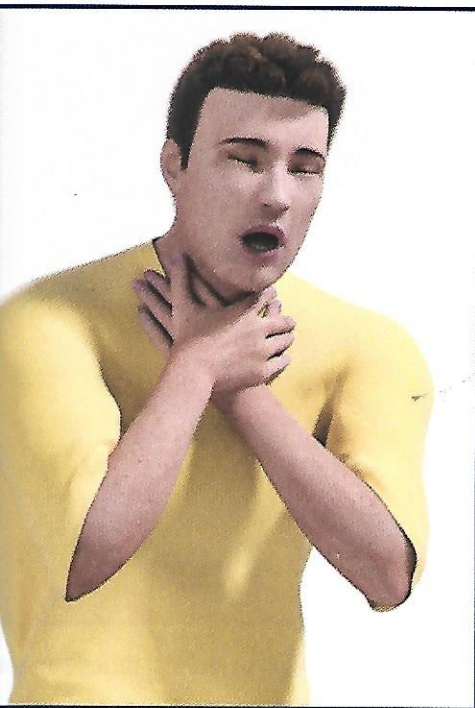
Choking is when food or another object gets stuck in the airway in the throat. The object can block the airway and stop air from getting to the lungs. In adults, choking is often caused by food. In children, choking can be caused by food or another object.

Mild vs Severe Airway Block

A block in the airway that causes choking can be either mild or severe. A person with a **mild airway block** can still talk or make sounds or can cough loudly. Stand by and let the person cough. If you're worried about the person's breathing, phone 9-1-1.

A person with a **severe airway block** cannot breathe, talk, or make sounds; has a silent cough; or makes the choking sign by holding the neck with 1 or both hands (Figure 50). When this happens, you should act quickly.

Figure 50. The choking sign: holding the neck with 1 or both hands.



Severe Airway Block in an Adult or a Child

If an adult or a child has a severe airway block, give thrusts slightly above the navel. These thrusts are called **abdominal thrusts**. Each thrust pushes air from the lungs, like a cough does. This can help move or dislodge an object that is blocking the airway.

Any person who receives abdominal thrusts for choking should see a healthcare provider as soon as possible.

Actions to Take: Severe Airway Block in an Adult or a Child

- If you think someone is choking, ask, "Are you choking? Can I help?"
- If the person nods yes, say, "I'm going to help you."
- Stand firmly or kneel behind the person (depending on your size and the size of the person choking).
- Wrap your arms around the person's waist so that your fists are in front.
- Make a fist with one hand.
- Put the thumb side of your fist slightly above the navel and well below the breastbone.
- Grasp the fist with your other hand and give quick upward thrusts into the abdomen (Figure 51).
- Give thrusts until the object is forced out and the person can breathe, cough, or speak, or until the person becomes unresponsive.

Figure 51. Giving abdominal thrusts.

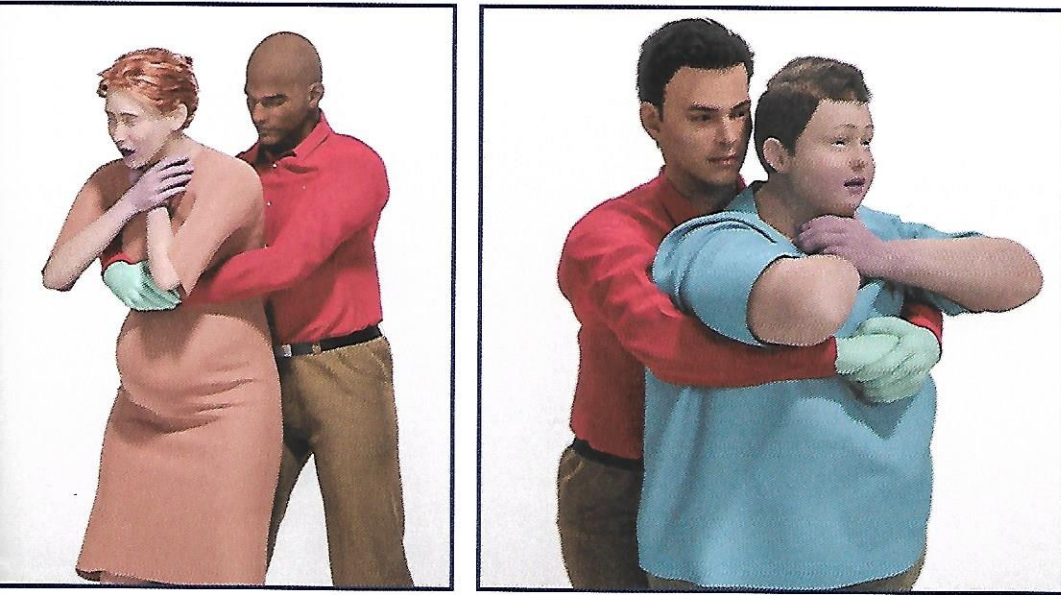


If the person who has a severe airway block is very large or is a pregnant woman, give chest thrusts instead of abdominal thrusts.

Actions to Take: Severe Airway Block in a Pregnant Woman or a Large Adult or Child

- ▶ If you can't wrap your arms fully around the waist, give thrusts on the chest instead of the abdomen.
- ▶ Put your arms under the armpits and your hands on the lower half of the breastbone.
- ▶ Pull straight back to give chest thrusts (Figure 52).

Figure 52. Giving chest thrusts to a choking pregnant woman or a large adult or child.



Severe Airway Block in an Infant

When an infant has a severe airway block, use back slaps and chest thrusts to help remove the object. *Give only back slaps and chest thrusts to an infant who is choking.* Never use abdominal thrusts. Giving thrusts to an infant's abdomen can cause serious harm.

Actions to Take: Severe Airway Block in an Infant

- Hold the infant facedown on your forearm. Support the infant's head and jaw with your hand.
- With the heel of your other hand, give up to 5 back slaps between the infant's shoulder blades (Figure 53A).
- If the object does not come out after 5 back slaps, turn the infant over, supporting the head.
- Give up to 5 chest thrusts, using 2 fingers of your other hand to push on the chest in the same place you push during CPR (Figure 53B).
- Repeat giving 5 back slaps and 5 chest thrusts until the infant can breathe, cough, or cry, or until they become unresponsive.

Figure 53. How to help an infant who has a severe airway block. **A,** Back slaps. **B,** Chest thrusts.

A



B



Help a Choking Adult, Child, or Infant Who Becomes Unresponsive

If you can't remove the object blocking the airway, the person will become unresponsive. Always give CPR to anyone who is unresponsive and is not breathing normally or is only gasping. Giving both compressions and breaths is very important for someone with a severe airway block who becomes unresponsive.

Review how to provide CPR and use an AED in the CPR and AED section.

Remember: Unresponsive + No breathing or only gasping = Provide CPR

Choking Adult Who Becomes Unresponsive

Actions to Take: Help a Choking Adult Who Becomes Unresponsive

- Shout for help.
- Phone or have someone else phone 9-1-1 and get an AED. Put the phone on speaker mode so that you can talk to the dispatcher.
- Provide CPR, starting with compressions.
- After each set of 30 compressions, open the airway to give breaths.
- Look in the mouth. If you see an object in the mouth, take it out.
- Give 2 breaths and then repeat 30 compressions.
- Continue CPR until
 - The person moves, speaks, blinks, or otherwise reacts
 - Someone with more advanced training arrives and takes over

Remember: Every time you open the airway to give breaths, look for the object in the back of the throat. If you see an object, take it out.

Do not perform a blind finger sweep. This could cause the object to get lodged farther back in the airway.

Choking Child or Infant Who Becomes Unresponsive

A child or an infant who has a severe airway block and becomes unresponsive needs immediate CPR. If you are alone without a cell phone, it is important to provide 5 sets of 30 compressions and 2 breaths first. Then, you can leave the child or infant, or carry the child or infant with you, while you go to phone 9-1-1 and get an AED. Use the AED as soon as it is available.

Actions to Take: Help a Choking Child or Infant Who Becomes Unresponsive

- Shout for help.
- Make sure the child or infant is lying faceup on a firm, flat surface.
- Phone 9-1-1, begin CPR, and get an AED. Use the AED as soon as it is available.

If someone comes to help and a cell phone is available

- Ask the person to phone 9-1-1 on the cell phone, put it on speaker mode, and go get an AED while you begin CPR.
- Use the AED as soon as it is available.

If someone comes to help and a cell phone is not available

- Ask the person to phone 9-1-1 and go get an AED while you begin CPR.
- Use the AED as soon as it is available.

(continued)

Actions to Take: Help a Choking Child or Infant Who Becomes Unresponsive *(continued)*

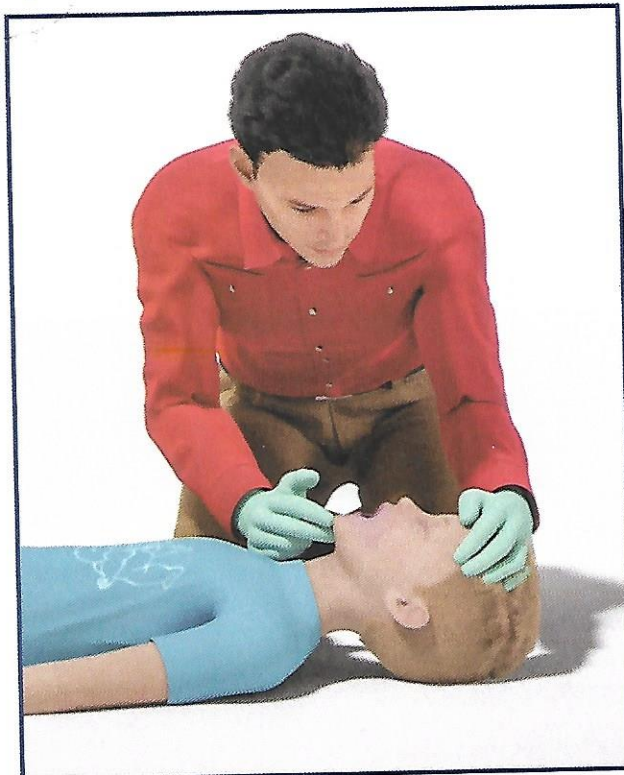
If you are alone and do have a cell phone

- Phone 9-1-1 and put the phone on speaker mode while you begin CPR.
- Give 5 sets of 30 compressions and 2 breaths.
- Go get an AED, and use it as soon as it is available. (If you're alone, you can carry the child or infant with you while you go to get an AED.)
- Return to the child or infant and continue CPR.

If you are alone and don't have a cell phone

- Give 5 sets of 30 compressions and 2 breaths.
- Phone 9-1-1 and get an AED. Use the AED as soon as it is available. (If you're alone, you can carry the child or infant with you while you go to phone 9-1-1 and get an AED.)
- Return to the child or infant and continue CPR.
- Provide CPR.
 - Give sets of 30 compressions and 2 breaths.
 - After each set of 30 compressions, open the airway to give breaths.
 - Look in the mouth (Figure 54). If you see an object in the mouth, take it out. *Do not perform a blind finger sweep.*
 - Give 2 breaths.
- Continue CPR and looking in the mouth after each set of compressions until
 - The child or infant moves, cries, speaks, blinks, or otherwise reacts.
 - Someone with more advanced training arrives and takes over.

Figure 54. Look in the mouth for objects.



Allergic Reactions

Allergies are quite common, but for some people, certain things can cause a severe allergic reaction that can quickly turn into a medical emergency. Signs of a mild allergic reaction include stuffy nose, sneezing, itching around the eyes or on the skin, and a raised, red rash on the skin (hives).

Signs of a severe allergic reaction include trouble breathing, swelling of the tongue or face, or signs of shock.

Some things that can cause a severe allergic reaction are

- Chocolate
- Eggs
- Insect bites and stings, especially bee stings
- Peanuts
- Some medications

Epinephrine Pen for a Severe Allergic Reaction

Epinephrine is a drug that can stop a severe allergic reaction. It is available by prescription in a self-injectable device called an *epinephrine pen*. People who are known to have severe allergic reactions are encouraged to carry epinephrine pens with them at all times.

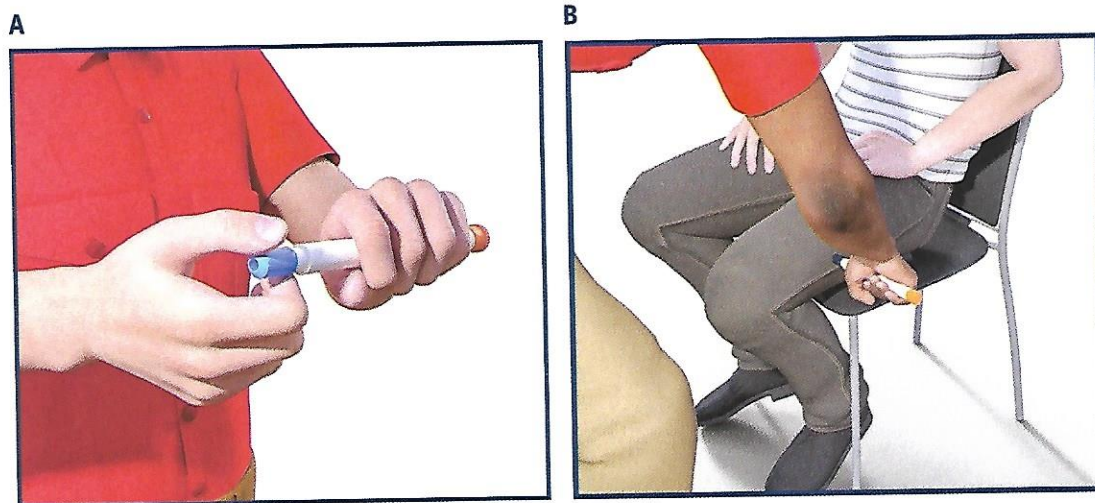
There are 2 types of epinephrine pens: spring activated and electronic. They are different for children and adults, so be sure you are using the person's prescribed device.

Usually, a person who has an epinephrine pen will know how and when to use it. If the person needs help administering an epinephrine injection and they have a prescription, Good Samaritan laws allow for you to help, providing you act in good faith.

Actions to Take: Use an Epinephrine Pen

- Follow the instructions on the pen. The needle comes out of one end of the pen, so always hold the pen in your fist without touching either end. You can give the injection through clothes or on bare skin.
- Take off the safety cap (Figure 55A).
- Hold the leg firmly in place just before and during the injection. Press the tip of the injector hard against the side of the person's thigh, about halfway between the hip and the knee (Figure 55B).
 - Different injectors need to be held in place for different amounts of time. Be familiar with the manufacturer's instructions for the type of injector you are using. For example, EpiPen and EpiPen Jr injectors recommend holding the injector in place for 3 seconds. Some other injectors recommend holding them in place for up to 10 seconds.
- Pull the pen straight out, making sure you don't touch the end that was pressed against the person's thigh.
- Either the person getting the injection or the person giving the injection should rub the injection spot for about 10 seconds.
- Note the time of the injection.
- If the person doesn't get better, phone 9-1-1. If it takes more than 10 minutes for advanced help to arrive, consider giving a second dose, if available.
- Give any used pens to the emergency responders for proper disposal.

Figure 55. Using an epinephrine pen. **A,** Take off the safety cap. **B,** Press the tip of the injector hard against the side of the person's thigh, about halfway between the hip and the knee.



Dispose of the Epinephrine Pen Correctly

It's important to dispose of needles correctly so that no one gets stuck. Follow your company's disposal policy for sharps. If you don't know what to do, give the needle to someone with more advanced training.

If possible, save a sample of what caused the reaction.

Heart Attack

Heart disease is one of the leading causes of death in the world.

If someone has signs of a possible heart attack, you must act and phone 9-1-1 right away—even if the person doesn't want you to. The first minutes of a heart attack are the most important. That's when a person is likely to get worse or even die. Also, many treatments for heart attack are most successful if you give them quickly.

If a person says they have chest pain, make sure they stay calm and rest. It's best if the person doesn't drive themselves to the hospital. Stay with them until someone with more advanced training arrives and takes over.

Difference Between Heart Attack and Cardiac Arrest

People often use the terms *cardiac arrest* and *heart attack* to mean the same thing—but they are not the same. *Cardiac arrest* is a "rhythm" problem. It occurs when the heart malfunctions and stops beating unexpectedly. *Heart attack* is a "clot" problem. It occurs when a clot blocks blood flow.

Cardiac Arrest

Cardiac arrest results from an abnormal heart rhythm. This abnormal rhythm causes the heart to quiver so that it can no longer pump blood to the brain, lungs, and other organs. Within seconds, the person becomes unresponsive and is not breathing or is only gasping. Death occurs within minutes if the victim does not receive immediate lifesaving treatment.

Heart Attack

A heart attack occurs when blood flow to part of the heart muscle is blocked by a clot. Typically during a heart attack, the heart continues to pump blood. The longer the person with a heart attack goes without treatment, the greater the possible damage to the heart muscle. Occasionally, the damaged heart muscle triggers an abnormal rhythm that can lead to cardiac arrest.

Signs of a Heart Attack

Chest discomfort: Most heart attacks involve discomfort in the center of the chest that lasts more than a few minutes or that goes away and comes back. It can feel like uncomfortable pressure, squeezing, fullness, or pain. It may be mistaken for heartburn or indigestion.

Discomfort in other areas of the body: Discomfort also may appear in other areas of the upper body. Symptoms can include pain or discomfort in one or both arms or in the back, neck, jaw, shoulder, or stomach.

Other signs: Other signs of a heart attack are shortness of breath (with or without chest discomfort), breaking out in a cold sweat, nausea, or light-headedness.

Signs in Women

Women may be more likely than men to experience these signs of a heart attack:

An uncomfortable feeling in the back, jaw, neck, or shoulder

Shortness of breath

Nausea or vomiting

Denying Discomfort

Many people won't admit that their discomfort may be caused by a heart attack. People often say the following:

"I'm too healthy."

"I don't want to bother the doctor."

"I don't want to frighten my spouse."

"I'll feel silly if it isn't a heart attack."

If you suspect someone is having a heart attack, act quickly and phone 9-1-1 right away. Don't hesitate, even if the person doesn't want to admit discomfort.

Actions to Take: Signs of a Heart Attack

Make sure the person stays calm and rests. Phone or have someone else phone 9-1-1.

Ask someone to get the first aid kit and an AED if available.


If the person doesn't have an allergy to aspirin, serious bleeding, or signs of a stroke, have them chew and swallow 1 full-strength (adult) aspirin or 2 low-dose aspirins.

– If you are uncertain about the person's allergies or uncomfortable giving aspirin, do not encourage the person to take aspirin.

If the person becomes unresponsive, be prepared to give CPR and use the AED.

Heart Attack Symptoms: Men vs Women

The most common symptom of a heart attack for both men and women is chest pain. But women may experience less obvious warning signs.



Men	Women
Nausea or vomiting	Nausea or vomiting
Jaw, neck, or back pain	Jaw, neck, or upper back pain
Squeezing chest pressure or pain	Chest pain, but not always
Shortness of breath	Pain or pressure in the lower chest or upper abdomen
	Shortness of breath
	Fainting
	Indigestion
	Extreme fatigue

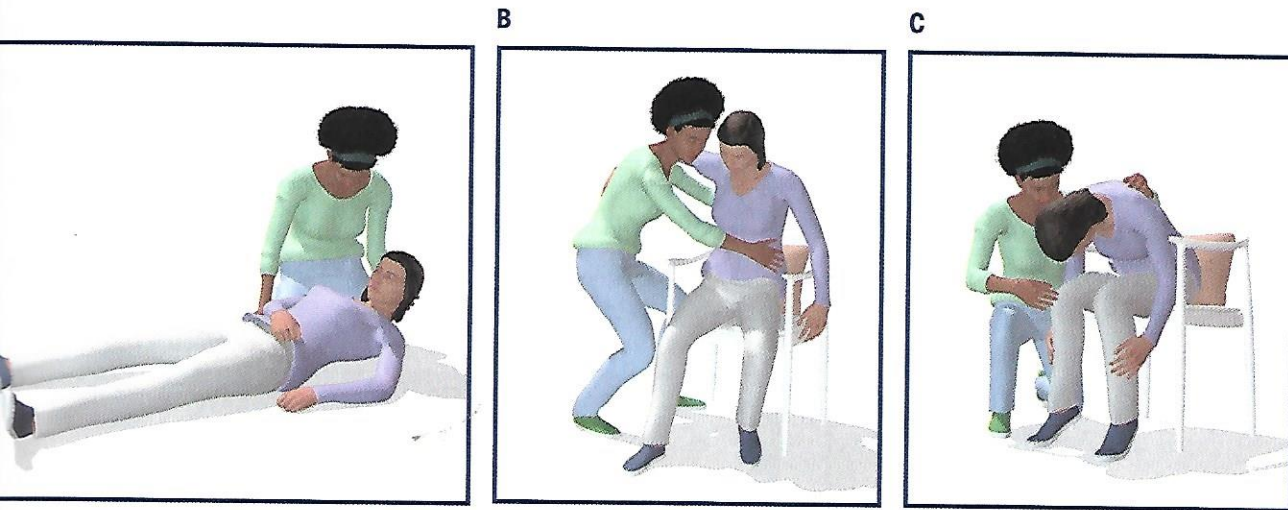
Fainting

Fainting is a short period of time, usually less than a minute, when a person briefly stops responding and then comes back to consciousness. Often, a person who faints gets dizzy and then becomes unresponsive. Fainting may occur when a person:

- stands without moving for a long time, especially if it's hot
- has a heart condition
- suddenly stands after squatting or bending down
- receives bad news

There are also certain movements someone can do that will help prevent fainting (Figure 56).

Figure 56. How to help prevent fainting. **A,** Help the person lie flat on the floor. **B,** Don't let them get up too quickly. **C,** Have them put their head between their legs if they are sitting.



Actions to Take: Prevent Someone From Fainting or Help Someone Who Is Dizzy but Still Responds

- Help the person lie flat on the floor.
- Don't let them get up too quickly.
- Put their head between their knees if they are sitting.
- If the person is lying down, have them cross one leg over the other and tense their leg, abdominal, and buttocks muscles.
- You can also have them lower their body into a squatting position and tense their abdominal muscles.
- Phone 9-1-1 if the person doesn't improve or becomes unresponsive.
- If the person becomes unresponsive and is not breathing, give CPR.

Actions to Take: Help Someone Who Faints

- Make sure the person is on their back.
- Make sure the person is breathing and has no injuries.
- If the person stays unresponsive for more than 1 minute, phone 9-1-1.
- Do not move the injured person if you suspect a head, neck, or spine injury.

If the person starts to respond

- Ask the person to continue to lie flat on the floor until they can sit up and feel normal.
- If the person fell, look for injuries caused by the fall.
- Phone 9-1-1.

Diabetes and Low Blood Sugar

Diabetes is a disease that affects the levels of sugar in the blood. Too much or too little sugar causes problems. Some people with diabetes take medication, such as insulin, to maintain their sugar levels. Low blood sugar can occur if someone with diabetes has not eaten or is vomiting, has not eaten enough food for the level of activity, or has injected too much insulin.

Signs of Low Blood Sugar in a Person With Diabetes

If the person's blood sugar does get too low, behavior can change. Signs of low blood sugar can come on quickly. When a person with diabetes has low blood sugar, the person may become

- Irritable or confused
- Hungry or weak
- Sleepy
- Sweaty

In some cases, the person might even have a seizure.

Actions to Take: Signs of Low Blood Sugar

If the person can't sit up or swallow

- Phone or have someone else phone 9-1-1. Do not try to give the person anything to eat or drink.

If the person can sit up and swallow

- Ask the person to eat or drink something with sugar that can rapidly restore blood glucose levels. These items include glucose tablets, orange juice, soft chewy candy, jelly beans, or fruit leather.
- Have the person sit quietly or lie down.
- If the person does not improve within 10 minutes, phone or have someone else phone 9-1-1.

Stroke

Stroke is another medical emergency for which you may need to use your first aid skills. Strokes occur when blood stops flowing to a part of the brain. This can happen if a blood vessel in the brain is blocked or leaks.

For many people, getting treatment in the first hours after a stroke can reduce the damage and improve recovery. So it's important to recognize the signs of stroke quickly and get immediate medical care.

Warning Signs of Stroke

Use the F.A.S.T. method to recognize and remember the warning signs of stroke (Figure 57). *F.A.S.T.* stands for face, arms, speech, and time.

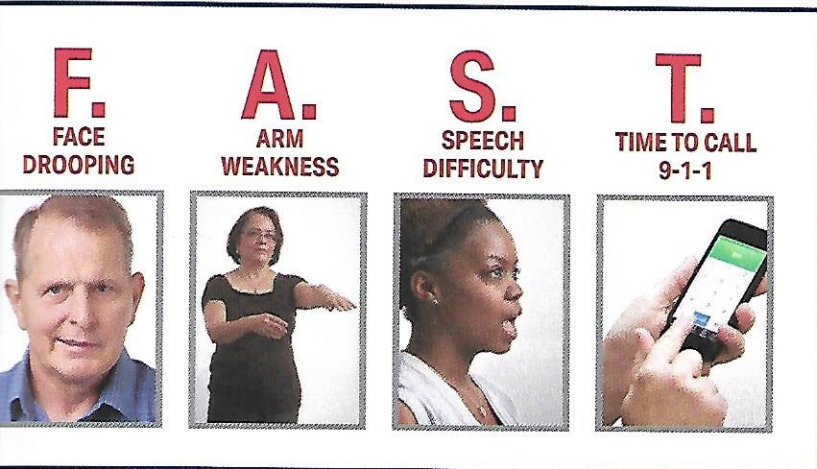
Face drooping: Does one side of the face droop, or is it numb?

Arm weakness: Is one arm weak or numb?

Speech difficulty: Is speech slurred?

Time to phone 9-1-1: If someone shows any of these symptoms, phone 9-1-1 immediately.

Figure 57. Use the F.A.S.T. method to remember the warning signs of stroke.



Actions to Take: Stroke

Phone or have someone else phone 9-1-1 and get the first aid kit and AED.

Note the time when the stroke signs first appeared.

Remain with the person until someone with more advanced training arrives and takes over.

If the person becomes unresponsive and is not breathing normally or is only gasping, give CPR.

Seizure

A *seizure* is abnormal electrical activity in the brain. Seizures are often caused by a medical condition called *epilepsy*, and they usually stop within a few minutes. Seizures also can be caused by head injury, low blood sugar, heat-related injury, poisoning, or cardiac arrest.

Signs of a Seizure

Signs of a seizure may differ. Some people who are having a seizure may

- Lose muscle control
- Fall to the ground
- Stop responding
- Have jerking movements of the arms, legs, and sometimes other parts of the body

However, not all seizures look like this. Other people might become unresponsive and have a glassy-eyed stare.

During the seizure, a person may bite their tongue, cheek, or mouth. You can give first aid for that injury when the seizure is over. After a seizure, the person might be confused, slow to respond, or even fall asleep.

Caution

If someone is having a seizure, don't put anything in the person's mouth. This can actually hurt instead of help. The most important first aid action you can take for a person having a seizure is to protect them from injury.

Actions to Take: During a Seizure

- Move furniture or other objects out of the way.
- Place something soft under the person's head.
- Never hold the person down or put something in their mouth.

Actions to Take: After a Seizure

- Quickly check to see if the person is responsive and breathing.
- Stay with the person until someone with more advanced training arrives and takes over.
- If the person is having trouble breathing because of vomiting or fluids in their mouth, roll them onto their side.
- If they are unresponsive and are not breathing normally or are only gasping, give CPR.

Bleeding From the Mouth

If the person has bitten their tongue, cheek, or mouth and is bleeding, give first aid after the seizure. See the Bleeding From the Mouth section in Injury Emergencies.

Medical Emergencies: Review Questions

When giving abdominal thrusts to an adult who is choking, you should

Place your hands near the throat

Place your hands near the left side of the lower abdomen

Put the thumb side of your fist slightly above their navel and well below the breastbone

Signs of a severe allergic reaction include trouble breathing or swelling of the face and tongue, and the person may stop responding.

True

False

A person with a _____ is usually awake and can talk but may have an uncomfortable feeling, such as tightness or pressure, in the chest.

Stroke

Seizure

Heart attack

Warning signs of _____ include sudden numbness or weakness of the face, arm, or leg, especially on one side of the body.

Fainting

Stroke

Heart attack

Seizure

If someone with low blood sugar is responding and can sit up and swallow, give the person something that contains sugar to eat or drink.

True

False

For high-quality adult CPR, you should push

at a rate of 80 to 100 compressions per minute

at a rate of no more than 60 compressions per minute

at a rate of 100 to 120 compressions per minute

What is the first link in the adult Chain of Survival?

Early CPR

Rapid AED use

Recognizing the emergency

8. When you phone 9-1-1, you should
 - a. Answer all the dispatcher's questions
 - b. Tell the dispatcher to call you back
 - c. Give the dispatcher only the victim's information
9. If someone isn't breathing or responding, you should start CPR and use an AED if available.
 - a. True
 - b. False
10. What is a sign that an infant is not responding?
 - a. The infant cries and blinks
 - b. The infant does nothing when you tap and shout
11. How deep should you push for adult chest compressions?
 - a. One half the depth of the chest
 - b. One third the depth of the chest
 - c. At least 2 inches
12. When performing CPR, you should switch positions
 - a. About every 2 minutes
 - b. About every 5 minutes
 - c. About every 10 minutes
13. To give breaths with a mask, tilt the head and cover the face completely with the mask.
 - a. True
 - b. False
14. If you are providing CPR and another person arrives with an AED, you should use it immediately.
 - a. True
 - b. False
15. How deep should you push for child chest compressions?
 - a. Approximately 2 inches
 - b. About 1 inch
 - c. About half an inch
16. If you are performing CPR on a child and the AED has only adult pads, what should you do?
 - a. Don't use the AED because the pads are only for adults
 - b. Use the adult pads, making sure they do not touch each other
 - c. Place the AED pads over the clothing to reduce the shock

17. If you are alone with an uninjured infant who needs CPR, give 5 sets of 30 compressions and 2 breaths, and then
 - a. Check for breathing
 - b. See if someone can help
 - c. Carry the infant with you while you go to phone 9-1-1
18. How deep should you push for infant chest compressions?
 - a. As far as possible without breaking any of the infant's ribs
 - b. At least one third the depth of the chest, or about 1½ inches
19. If a child is choking, you should put 2 fingers above their navel to give abdominal thrusts.
 - a. True
 - b. False
20. If an infant is still choking after you've given 5 back slaps and 5 chest thrusts, you should
 - a. Repeat back slaps and chest thrusts until the infant can breathe or stops responding
 - b. Put a finger in the infant's mouth and attempt to remove the blockage

Answers:

1. c, 2. a, 3. c, 4. b, 5. a, 6. c, 7. c, 8. a, 9. a, 10. b, 11. c, 12. a, 13. b, 14. a, 15. a, 16. b, 17. c, 18. b, 19. b, 20.