

CAUTION

DO NOT swim to and grasp a drowning person unless you are trained in lifesaving.

If reach, throw, and row are impossible and you are a capable swimmer trained in water lifesaving procedures, you can go to the drowning victim by swimming. Entering even calm water makes a swimming rescue difficult and hazardous. All too often a would-be rescuer becomes a victim as well.

Care for Drowning

1. Survey the scene (see the chapter entitled Action at an Emergency), then carry out a water rescue **Figure 1**.
2. If the victim was diving (or it is unknown whether he or she was diving), suspect a possible spine injury. Keep the victim in-line floating on the water surface until properly trained rescuers arrive with a backboard.
3. Check breathing and treat accordingly. Any nonbreathing victim who has been submerged in cold water should be resuscitated unless submerged for more than 60 minutes.
4. If no spinal injury is suspected, after the victim has been resuscitated, place the victim on his or her side to allow fluids to drain from the airway.

Cold-Water Immersion

Immersion in cold water is a potential hazard for anyone who participates in activities in the oceans, lakes, and streams of all but the tropical regions of the world. The US Coast Guard defines cold water as water with a temperature of less than 70°F. However, water does not need to be that cold for a person to become hypothermic. A person can become hypothermic in water that is 77°F. Most North American lakes, rivers, and coasts are colder than that year-round. The risk of immersion hypothermia in North America is nearly universal most of the year. A person immersed in cold water loses heat about 25 times faster than someone exposed to cold air.

The US Coast Guard and other rescue organizations recommend that survivors get as much of their bodies

out of the water as possible to minimize cooling rate and maximize survival time. A widespread misunderstanding of the concept of wind chill often causes people to conclude that survivors have higher heat losses if they are exposed to wind, especially if they are wet, than if they are immersed in water. During recreational activities at beaches, lakes, and swimming pools, most people have experienced feeling colder after leaving the water than they do while swimming. That reinforces the misunderstanding, which has sometimes led accident victims to abandon a safe position atop a capsized vessel and reenter the water, usually with tragic results.

Cold-water immersion is associated with two potential medical emergencies: drowning and hypothermia. Numerous case histories and statistical evidence document the prominence of cold-water immersion as a cause of drowning and hypothermia.

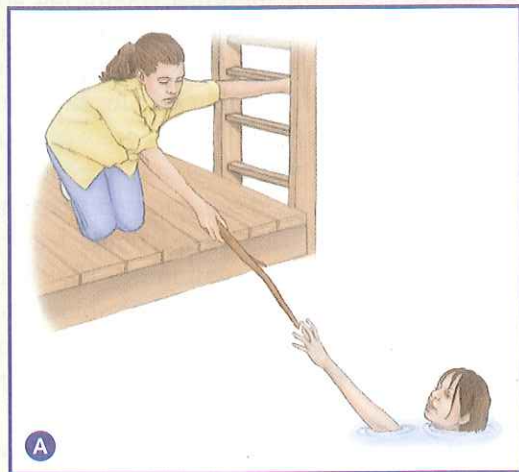
A *heat escape lessening position* (HELP) has been devised, in which the victim draws the knees up close to the chest, presses the arms to the sides, and remains as quiet as possible **Figure 2**. For two or more people, huddling quietly and closely together (huddle position) will decrease heat loss from the groin and the front of the body. Both of these positions require personal flotation devices (life jackets).

► Ice Rescue

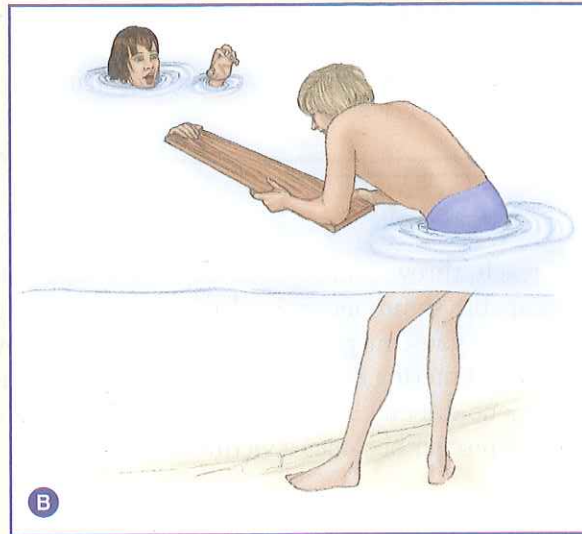
If a person has fallen through the ice near the shore, extend a pole or throw a line with a floatable object attached to it. When the person has hold of the object, pull him or her toward the shore or the edge of the ice. If the person has fallen through the ice away from the shore and you cannot reach him or her with a pole or a throwing line, lie flat and push a ladder, plank, or similar object ahead of you **Figure 3**. You can also tie a rope to a spare tire and the other end to an anchor point on the shore, lie flat, and push the tire ahead of you. Pull the person ashore or to the edge of the ice.

CAUTION

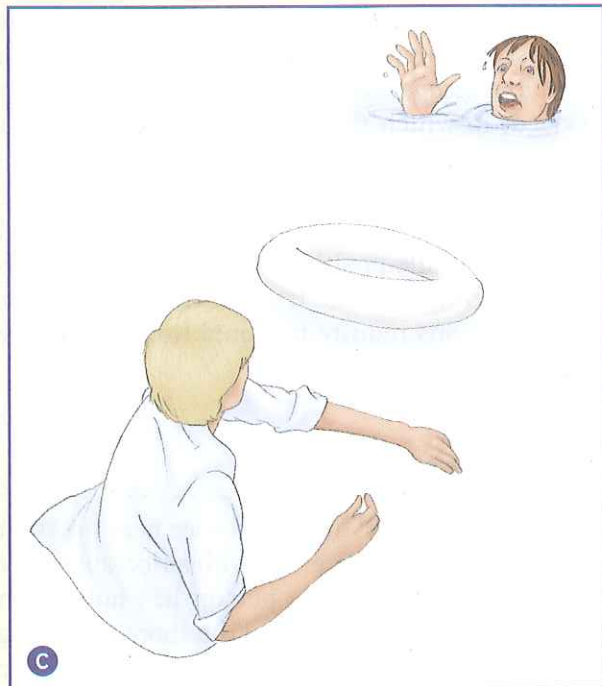
DO NOT go near broken ice without support.



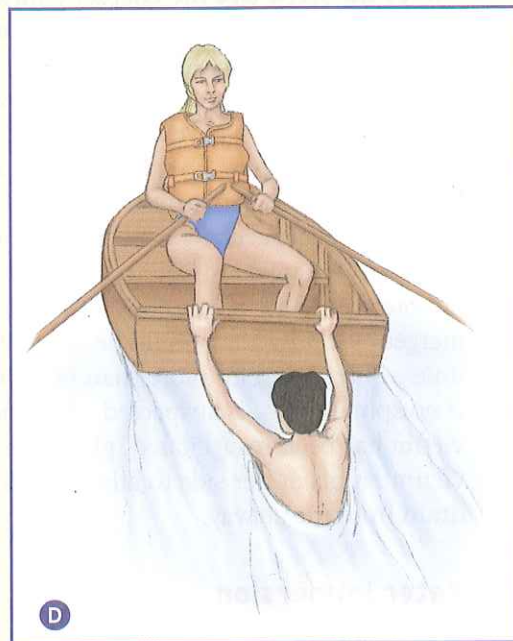
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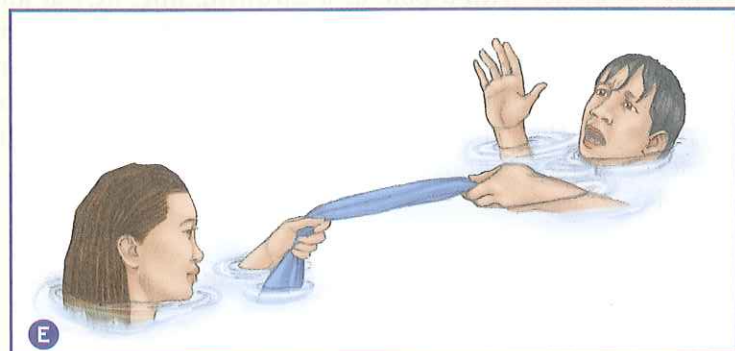
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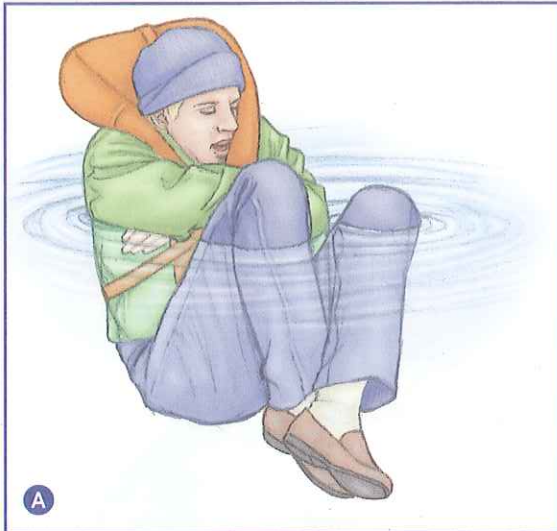
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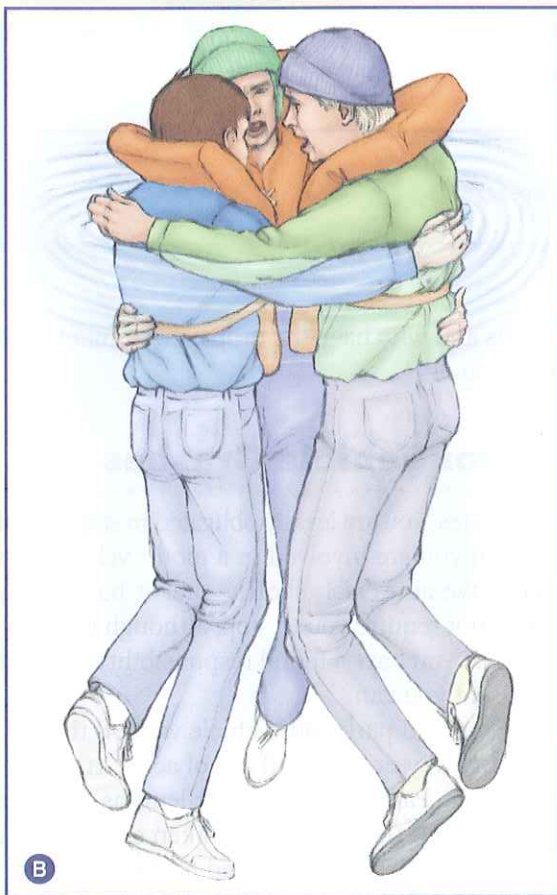
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Figure 1

Water rescue. A. Reach the victim from shore. B. If you cannot reach the victim from shore, wade closer. C. If a floating object is available, throw it to the victim. D. Use a boat if one is available. E. If you must swim to the victim, use a towel or board for the victim to grab and hold onto. Do not let the victim grab you.



A



B

Figure 2

HELP or huddle. A. A person wearing a flotation device can minimize heat loss and increase chances of survival by assuming the heat escape lessening position (HELP) in which the knees are pulled up to the chest and the arms crossed. B. Groups of three or more can conserve heat by wrapping their arms around one another and pulling into a tight circle or huddle.

► Electrical Emergency Rescue

Electrical injuries can be devastating. Just a mild shock can cause serious internal injuries. A current of 1,000 V or more is considered high voltage, but even the 110 V of household current can be deadly.

When a person receives an electrical shock, electricity enters the body at the point of contact and travels along the path of least resistance (nerves and blood vessels). The current travels rapidly, generating heat and causing destruction.

Most indoor electrocutions are caused by faulty electrical equipment or the careless use of electrical appliances. Before you touch the victim, turn off the electricity at the circuit breaker, fuse box, or outside switch box or unplug the appliance if the plug is undamaged.

If the electrocution involves high-voltage power lines, the power must be turned off before anyone approaches the victim. If you approach a victim and feel a tingling sensation in your legs and lower body, stop. You are on energized ground, and an electric current is entering one foot, passing through your lower body, and leaving through the other foot. You should raise one foot off the ground, turn around, and hop to a safe place. Wait for trained personnel with the proper equipment to cut the wires or disconnect them. If a power line falls over a car, tell the driver and passengers to stay in the car. A victim should try to jump out of the car only if an explosion or fire threatens and then without making contact with the car or the wire.

CAUTION

DO NOT touch an appliance or the victim until the current is off.

DO NOT try to move downed wires.

DO NOT use any object, even dry wood (broomstick, tools, chair, stool) to separate the victim from the electrical source.

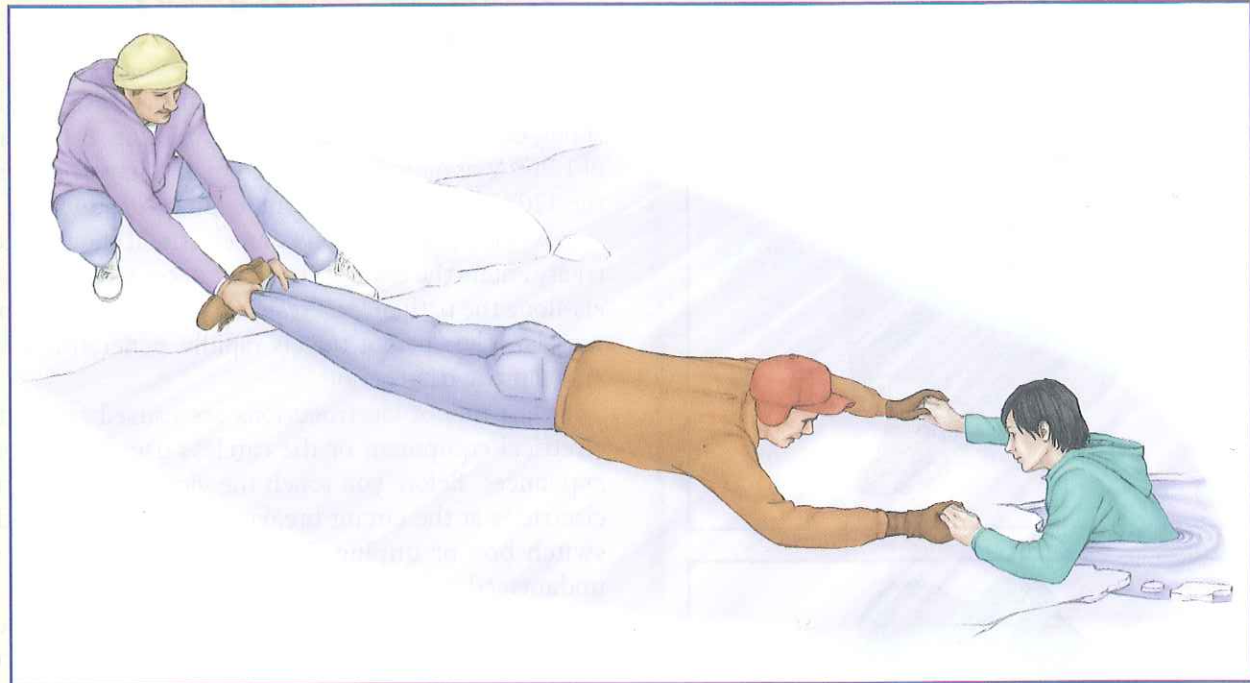


Figure 3

Ice rescue: Lie flat to distribute the weight over a larger surface area.

► Hazardous Materials Incidents

Almost any highway crash scene involves the potential danger of hazardous chemicals. Clues that indicate the presence of hazardous materials include the following:

- Look for warning signs on the vehicle (for example, “explosive,” “flammable,” “corrosive”). If you are unable to read the placard or labels, do not move closer and risk exposure. If you are able to read the placard with the naked eye, you may be too close and should consider moving farther away. **Figure 4** shows a chart illustrating the hazardous materials warning placards, and **Figure 5** shows a chart illustrating the warning labels.
- Watch for a leak or spill from a tank, container, truck, or railroad car with or without hazardous material placards or labels.
- A strong, noxious odor can denote a hazardous material.
- A cloud or strange-looking smoke from the escaping substance “says” stay away.

Stay well away and upwind from the area. Only people who are specially trained in handling hazardous

materials and who have the proper equipment should be in the area.

► Motor Vehicle Crashes

In most states, you are legally obligated to stop and give help when you are involved in a motor vehicle crash. If you arrive at a crash shortly after it happens, the law does not require you to stop, although it might be argued that you have a moral responsibility to provide any aid that you can.

1. Stop and park your vehicle well off the highway or road and out of active traffic lanes. Park at least five car lengths from the crash. If the police have taken charge, do not stop unless you are asked to do so. If the police or other emergency vehicles have not arrived, call or send someone to call 9-1-1 or the local emergency number as soon as possible. Ways to call include the following:
 - Finding a pay phone or roadside emergency phone
 - Using a cellular phone or CB (citizen’s band) radio
 - Using a phone at a nearby house or business

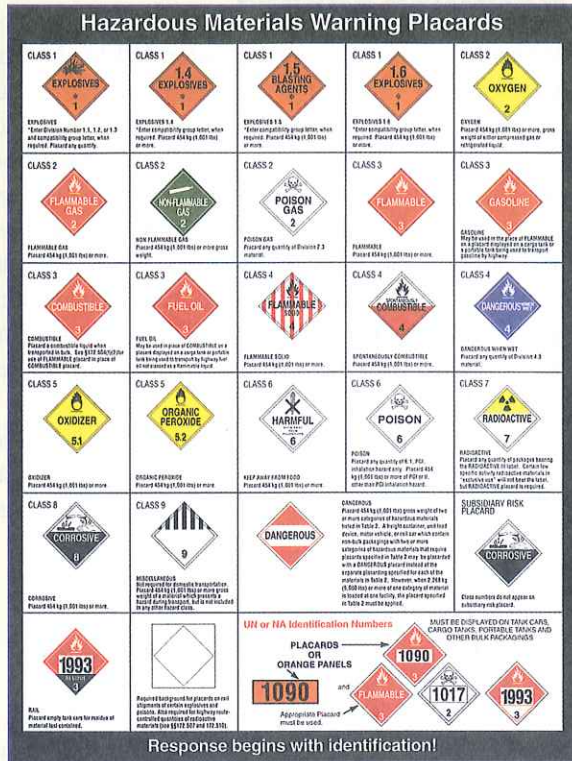


Figure 4

Hazardous materials warning placards.

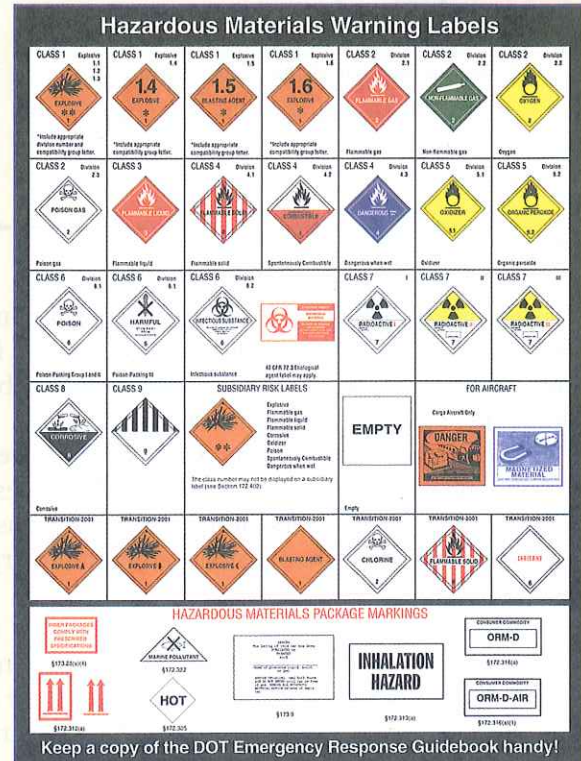


Figure 5

Hazardous materials warning labels.

2. Turn on your vehicle's emergency hazard flashers. Raise the hood of your vehicle to draw more attention to the scene.
3. Make sure everyone on the scene is safe.
 - Ask the driver to turn off the ignition or turn it off yourself.
 - Ask bystanders to stand well off the roadway.
 - Place flares or reflectors 250 to 500 feet behind the crash scene to warn oncoming drivers of the crash. Do not ignite flares around leaking gasoline or diesel fuel.
4. If the driver or passenger is unresponsive or might have spinal injuries, use your hands to stabilize the person's head and neck.
5. Check and keep monitoring the victim's breathing. Treat any life-threatening injuries.
6. Whenever possible, wait for EMS personnel to extricate the victims from vehicles because they have training and the proper equipment. In most cases, keep the victims' conditions stabilized inside the vehicle.
7. Allow the EMS ambulance to take victims to the hospital.

CAUTION

DO NOT rush to get the victims out of a car that has been in a crash. Contrary to opinion, most vehicle crashes do not involve fire, and most vehicles stay in an upright position.

DO NOT move or allow victims to move unless there is an immediate danger such as fire or oncoming traffic.

DO NOT transport victims in your car or any other bystander's vehicle.

► Fires

Should you encounter a fire, you should:

1. Get all the people out of the vehicles and area quickly.
2. Call the emergency telephone number (usually 9-1-1).

Then—and *only* then—if the fire is small and if your own escape route is clear, should you fight the fire yourself with a fire extinguisher. You may be able to

CAUTION

DO NOT let victims run if their clothing is on fire.

DO NOT become trapped while fighting a fire. Always keep a door behind you so you can exit if the fire gets too big.

put out the fire or at least hold damage to a minimum. Because a fire can spread quickly, efforts to contain it within the first 5 minutes of a blaze can make a substantial difference in the eventual outcome.

To use a fire extinguisher, aim directly at whatever is burning and sweep across it at the base of the flames. Extinguishers expel their contents quickly; it takes just 8 to 25 seconds for most home models containing dry chemicals to empty.

If clothing catches fire, tear the article off, in a motion away from the face. Keep the victim from running, because running fans the flames. Wrap a rug or a woolen blanket around the victim's neck to keep the fire from the face or throw a blanket on the victim. In some cases, you may be able to smother the flames by throwing the victim to the floor and rolling him or her in a rug.

► Threatening Dogs

When you enter any emergency scene, look for signs of a dog and proceed with caution if the animal is not threatening. Ask the owner to control a threatening dog. If you cannot be delayed, consider using a fire extinguisher, water hose, or pepper spray. For a vicious dog, call the police for assistance.

► Farm Animals

Emergencies involving farm animals can be dangerous to rescuers. Horses kick and bite. Cattle kick, bite, gore, or squeeze people against a pen or barn. Pigs can deliver severe bites.

- Approach a situation involving animals with caution.
- Do not frighten an animal. Speak quietly to reassure it.
- If food is available, use it to lure the animal away from the victim.

► Confined Spaces

A *confined space* is any area not intended for human occupancy that may have or develop a dangerous atmosphere. They have limited openings for entrance and exit. There are three types of confined spaces: below ground, ground level, and above ground. Below-ground confined spaces include manholes, below-ground utility vaults and storage tanks, old mines, cisterns, and wells. Ground-level confined spaces include industrial tanks and farm storage silos. Above-ground confined spaces include water towers and legged storage tanks.

An accident in a confined space demands immediate action. If someone enters a confined space and signals for help or becomes unresponsive, follow these steps:

1. Call 9-1-1 for immediate assistance.
2. Do not rush in to help.
3. When help arrives, try to rescue the victim without entering the space.
4. If rescue from the outside cannot be done, only trained and properly equipped (respiratory protection plus safety harnesses or lifelines) rescuers should enter the space and remove the victim.
5. Once the victim is removed, provide care. Additional training is required if first aiders may be on-call in helping rescue confined space victims.

Triage: What to Do With Multiple Victims

You may encounter emergency situations in which there are two or more victims. This often occurs in multiple vehicle accidents or disasters. After making a quick scene survey, decide who must be cared for and transported first. This process of prioritizing or classifying injured victims is called **triage**. Triage comes from the French word *trier*, to sort. The goal is to do the greatest good for the greatest number of victims. Triage may require unpleasant decisions to withhold care from victims who are unlikely to survive so that lifesaving care can be given to those more likely to survive.

► Finding Life-Threatened Victims

A variety of systems are used to identify care and transportation priorities. To find the people needing immediate care for life-threatening conditions, first tell all victims who can get up and walk to move to a specific area. Victims who can get up and walk rarely have life-threatening injuries. These victims (walking wounded) are classified as needing delayed care (see the following definitions). Do not force a victim to move if he or she reports pain.

Find the life-threatened victims by performing only a primary check on all remaining victims. Assess motionless victims first. You must move rapidly (spend less than 60 seconds with each victim) from one victim to the next until all have been assessed. Classify victims according to the following care and transportation priorities:

1. Immediate care: Victim needs immediate care and transport to medical care as soon as possible.
 - Breathing difficulties
 - Severe bleeding
 - Severe burns
 - Signs of shock
 - Open chest or abdominal injuries
2. Delayed care: Care and transport can be delayed up to 1 hour.
 - Burns without airway problems
 - Major or multiple bone or joint injuries
 - Back injuries with or without suspected spinal cord damage
3. Walking wounded: Care and transportation can be delayed up to 3 hours.
 - Minor fractures
 - Minor wounds
4. Dead: Victim is obviously dead or unlikely to survive because of the type and extent of the injuries. This includes most cases of cardiac arrest due to injury.

Do not become involved in treating the victims at this point, but ask knowledgeable bystanders to provide care for immediate life-threatening problems (eg, bleeding).

Reassess victims regularly for changes in their condition. Only after victims with immediate life-threatening conditions receive care should people with less serious conditions be given care.

You may have to care for multiple victims without adequate help until more highly trained emergency

personnel arrive. You will usually be relieved when more highly trained emergency personnel arrive on the scene. You may then be asked to provide first aid, to help move victims, or to help with ambulance or helicopter transportation.

Moving Victims

A victim should not be moved until he or she is ready for transportation to a hospital, if required. All necessary first aid should be provided before moving a victim. A victim should be moved only if there is an immediate danger, such as the following:

- There is a fire or danger of a fire.
- Explosives or other hazardous materials are involved.
- It is impossible to protect the scene from hazards.
- It is impossible to gain access to other victims in the situation who need lifesaving care (such as in a vehicle crash).

A cardiac arrest victim is usually moved unless he or she is already on the ground or floor because CPR must be performed on a firm, level surface.

FYI

Principles of Lifting

- Know your capabilities. Do not try to handle a load that is too heavy or awkward; seek help.
- Use a safe grip. Use as much of your palms as possible.
- Keep your back straight. Tighten the muscles of your buttocks and abdomen.
- Bend your knees to use the strong muscles of the thighs and buttocks.
- Keep your arms close to your body and your elbows flexed.
- Position your feet shoulder width apart for balance, one in front of the other.
- When lifting, keep and lift the victim close to your body.
- While lifting, do not twist your back; pivot with your feet.
- Lift and carry slowly, smoothly, and in unison with the other lifters.
- Before you move a victim, explain to him or her what you are doing.

CAUTION

DO NOT move a victim unless absolutely necessary, such as if the victim is in immediate danger or must be moved to shelter while waiting for EMS personnel to arrive.

DO NOT make the injury worse by moving the victim.

DO NOT move a victim who could have a spinal injury unless absolutely necessary due to other threats to life such as fire.

DO NOT move a victim without stabilizing the injured part.

DO NOT move a victim unless you know where you are going.

DO NOT leave an unconscious victim alone except for taking a short time to call 9-1-1.

DO NOT move a victim when you can send someone for help. Wait with the victim.

DO NOT try to move a victim by yourself if other people are available to help.

► Emergency Moves

The major danger in moving a victim quickly is the possibility of aggravating a spinal injury. In an emergency, every effort should be made to pull the victim in the direction of the long axis of the body to provide as much protection to the spinal cord as possible. If the victims are on the floor or ground, you can drag them away from the scene by using the various techniques shown in **Figure 6** to **Figure 19**.

► Nonemergency Moves

All injured parts should be stabilized before and during moving. If rapid transportation is not needed, it is helpful to practice on another person about the same size as the injured victim.

Stretcher or Litter

The safest way to carry an injured victim is on some type of stretcher or litter, which can be improvised. Before using it, test an improvised stretcher by lifting a rescuer about the same size as the victim.

- Blanket-and-pole improvised stretcher. If the blanket is properly wrapped, the victim's



Figure 6

Shoulder drag. Use for short distances over a rough surface; stabilize the victim's head with your forearms.

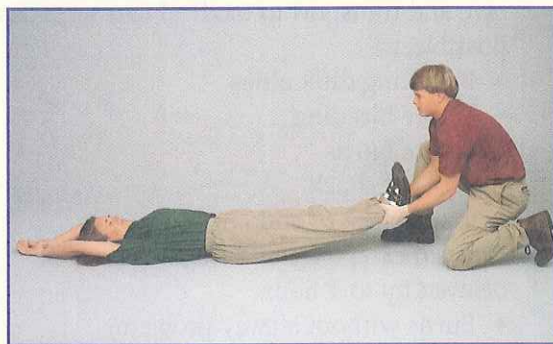


Figure 7

Ankle drag. This is the fastest method for a short distance on a smooth surface.



Figure 8

Blanket pull. Roll the victim onto a blanket, and pull from behind the victim's head.

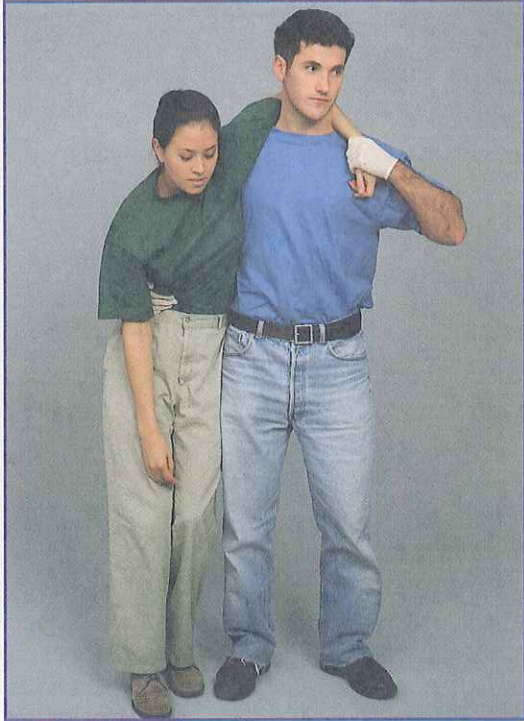


Figure 9

Human crutch (one person helps victim to walk). If one leg is injured, help the victim to walk on the good leg while you support the injured side.

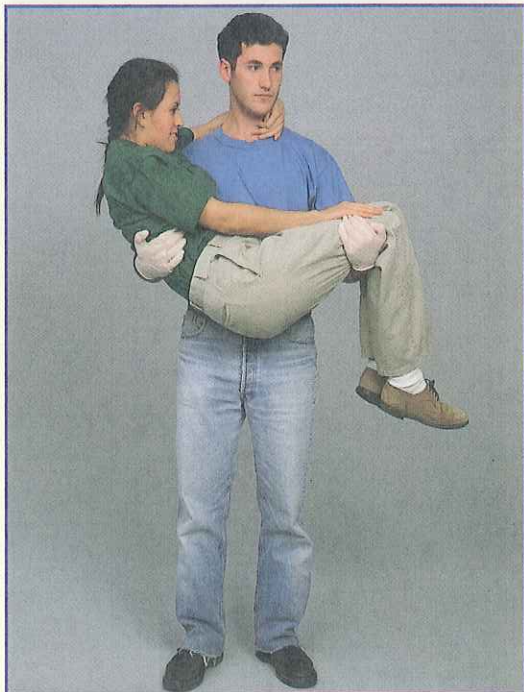


Figure 10

Cradle carry. Use this method for children and lightweight adults who cannot walk.

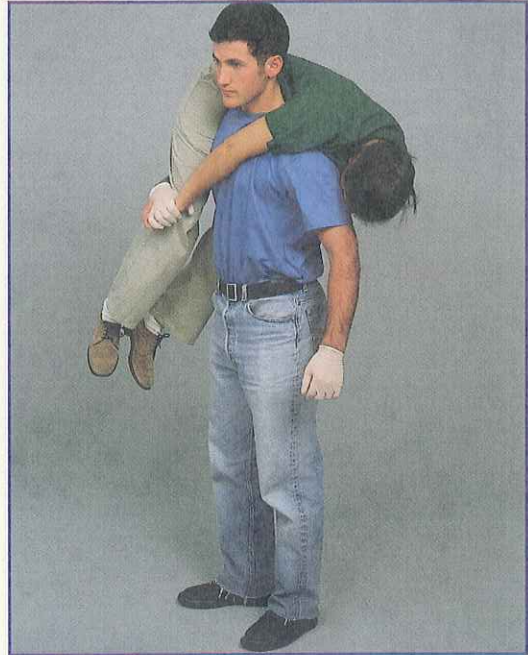


Figure 11

Fire fighter's carry. If the victim's injuries permit, you can travel longer distances if you carry the victim over your shoulder.

weight will keep it from unwinding

Figure 20

- Blanket with no poles. The blanket is rolled inward toward the victim and grasped for carrying by four or more rescuers.
- Board-improvised stretcher. These are sturdier than a blanket-and-pole stretcher but heavier and less comfortable. Tie the victim on to prevent him or her from rolling off

Figure 21

- Commercial stretchers and litters. These usually are not available except through EMS.

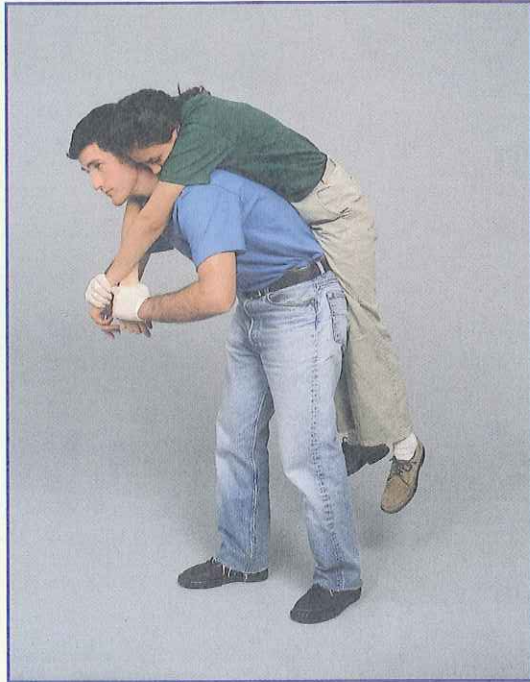


Figure 12

Pack-strap carry. When injuries make the fire fighter's carry unsafe, this method is better for longer distances.

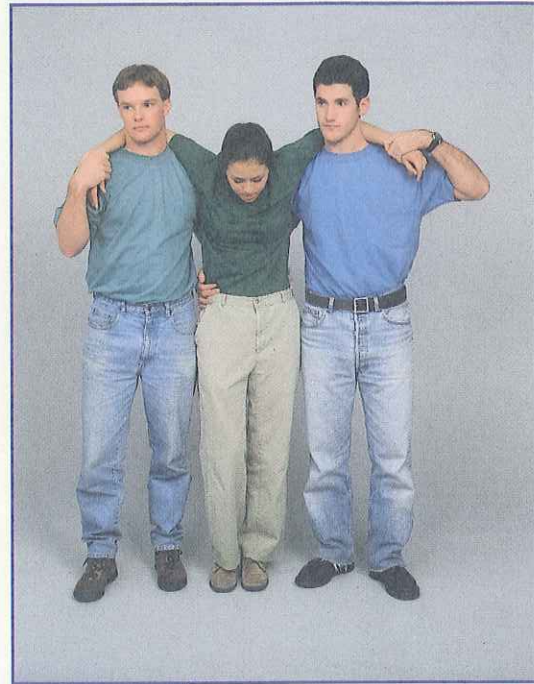


Figure 14

Two-person assist. This method is similar to the human crutch.

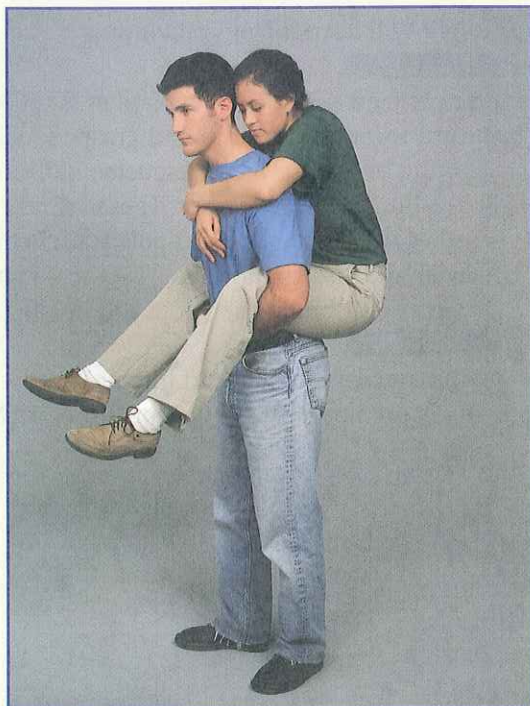


Figure 13

Piggyback carry. Use this method when the victim cannot walk but can use the arms to hang onto the rescuer.

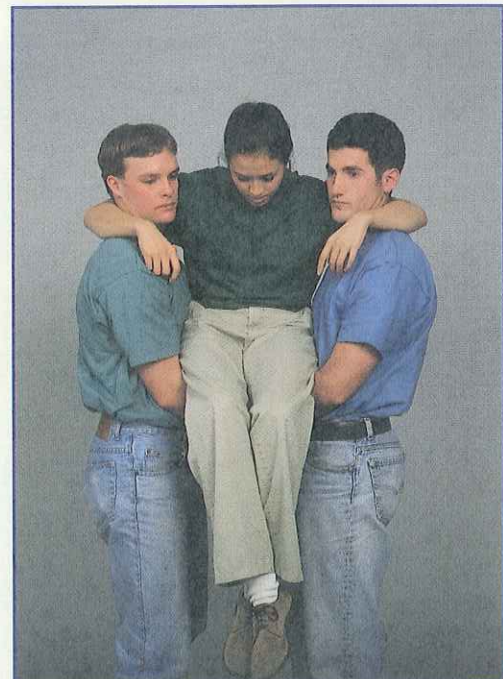


Figure 15

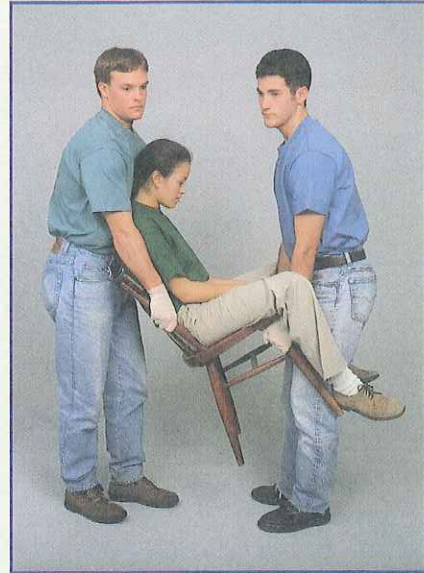
Two-handed seat carry.

**Figure 16**

Four-handed seat carry. This is the easiest two-person carry when no equipment is available and the victim cannot walk but can use the arms to hang onto the two rescuers.

**Figure 17**

Extremity carry.

**Figure 18**

Chair carry. This method is useful for a narrow passage or up or down stairs. Use a sturdy chair that can take the victim's weight.

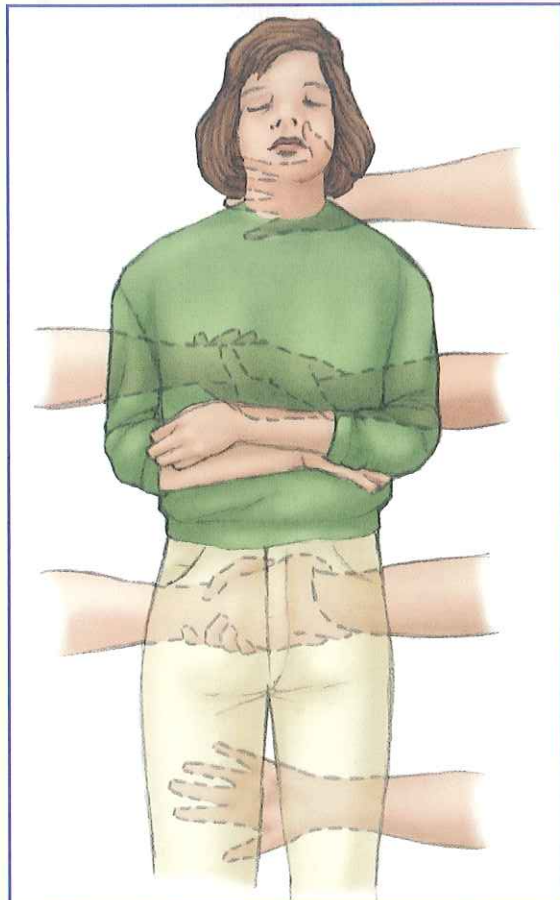
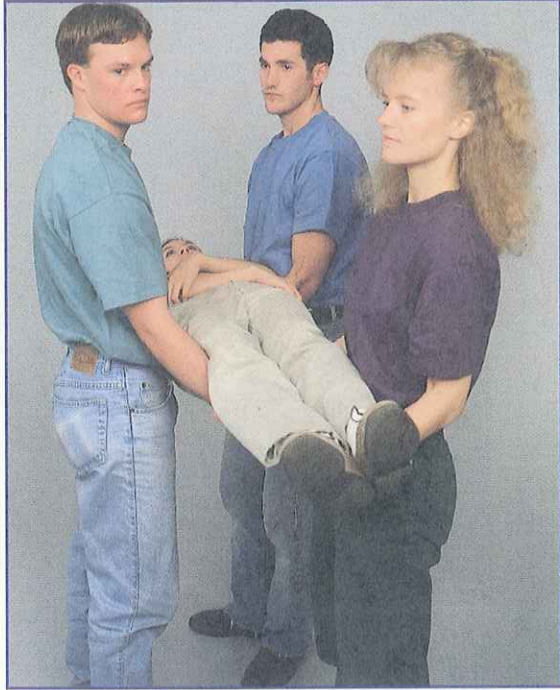


Figure 19

Hammock carry. Three to six people stand on alternate sides of the injured person and link hands beneath the victim.

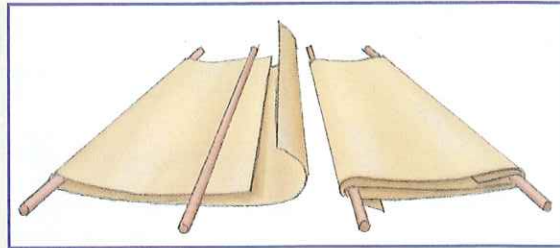


Figure 20

Blanket-and-pole improvised stretcher.

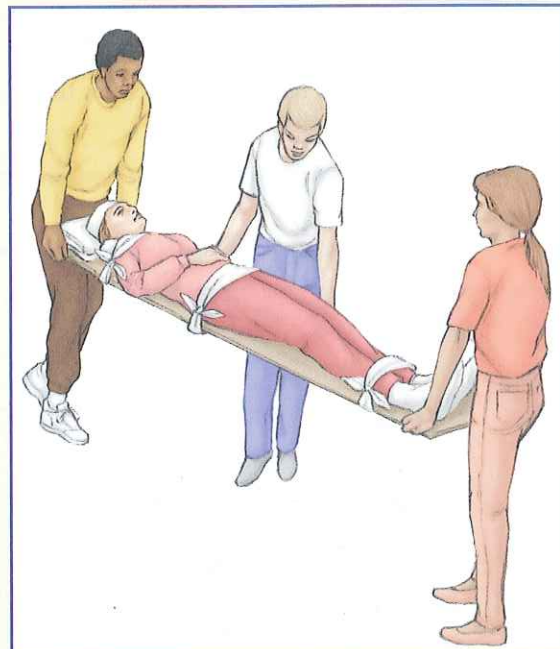


Figure 21

Board-improvised stretcher.

prep kit

► Ready for Review

- Reach-throw-row-go identifies the sequence for attempting a water rescue.
- If a person has fallen through the ice near the shore, extend a pole or throw a line with a floatable object attached to it.
- Electrical injuries can be devastating.
- Almost any highway crash scene involves the potential danger of hazardous chemicals.
- In most states, you are legally obligated to stop and give help when you are involved in a motor vehicle crash.
- Should you encounter a fire, you should:
 - Get all people out fast.
 - Call 9-1-1.
- When you enter any emergency scene, look for signs of an animal and proceed with caution if the animal is not threatening.
- Emergencies involving farm animals can be dangerous to rescuers.
- A confined space is any area not intended for human occupancy that may have or develop a dangerous atmosphere.
- The goal of triage is to do the greatest good for the greatest number of victims.

- A variety of systems are used to identify care and transportation priorities.
- A victim should not be moved until he or she is ready for transportation to a hospital, if required.
- The major danger in moving a victim quickly is the possibility of aggravating a spinal injury.
- All injured parts should be stabilized before and during moving.

► Vital Vocabulary

triage A system used for sorting victims to determine the order in which they will receive medical attention.

prep kit

► Assessment in Action

You are fishing at the nearby lake. Several swimmers and others in canoes are also enjoying the lake. One swimmer decides to swim to the other side but begins to struggle about 30 feet off shore.

Directions: Circle Yes if you agree with the statement; circle No if you disagree.

- Yes No 1. This type of drowning situation is called distressed nonswimmer.
- Yes No 2. You are a very strong swimmer so you should immediately jump in the lake to rescue the victim.
- Yes No 3. You could try throwing a floating object to the victim.
- Yes No 4. The best option in this situation would be to use a canoe to rescue the victim.

► Check Your Knowledge

Directions: Circle Yes if you agree with the statement; circle No if you disagree.

- Yes No 1. You should attempt to move downed power lines away from a victim by using a broom or other wooden object.
- Yes No 2. Strong, unusual odors or clouds of vapor are possible indications of the presence of hazardous materials.
- Yes No 3. To keep from becoming trapped while attempting to extinguish a fire, you should always keep a door behind you for rapid exit.
- Yes No 4. In a situation involving several victims, those with breathing difficulties need immediate attention.
- Yes No 5. A major concern in moving a victim quickly is the possibility of aggravating a spinal injury.
- Yes No 6. "Row-throw-reach-go" represents the safe order for executing a water rescue.
- Yes No 7. In most states, you are legally obligated to stop and give help when you are involved in a motor vehicle crash.
- Yes No 8. The first thing to do in case of a fire is to use a fire extinguisher and try to put out the fire.
- Yes No 9. When using a fire extinguisher, aim it at the base of the flames.
- Yes No 10. When several people are injured, those crying or screaming should receive your attention first.

appendix A

► Medication Information

As a first aider, you might be in a situation that requires you to give a victim certain medications (or to assist a victim in taking his or her own medication). A knowledgeable first aider should be familiar with the following medications:

Over-the-counter pain relievers:

- Acetaminophen
- Aspirin
- Ibuprofen
- Naproxen

Physician-prescribed medications:

- Metered-dose inhaler
- Nitroglycerin
- Epinephrine

Over-the-counter medications carried in a first aid kit or available from the victim:

- Oral glucose

► Pros and Cons of Popular Pain Relievers

Acetaminophen

Brand name: Tylenol

Advantages: Relieves pain and fever, does not irritate stomach

Disadvantages: Heavy or prolonged use can damage liver

Aspirin

Brand names: Bufferin, Anacin, Bayer

Advantages: Relieves pain, fever, inflammation; useful for heart attacks and their prevention

Disadvantages: Interferes with blood clotting; might trigger stomach bleeding; can cause Reye's syndrome in children with viral infections

Ibuprofen

Brand names: Advil, Nuprin, Motrin

Advantages: Relieves pain, fever, and inflammation

Disadvantages: Interferes with clotting; can cause stomach bleeding, ulcers, irritation; heavy or prolonged use can damage liver and kidneys

Naproxen

Brand name: Aleve

Advantages: Relieves pain, fever, and inflammation; one dose lasts 8 to 12 hours

Disadvantages: Can cause stomach bleeding, ulcers, irritation; prolonged use can harm kidneys

► Nitroglycerin

Give a victim nitroglycerin (trade name Nitrostat) if the following conditions exist:

- The victim is an adult.
- The victim has chest pain.
- The victim has physician-prescribed sublingual tablets or spray.

Do not give a victim nitroglycerin if any of the following conditions applies:

- The victim has a head injury.
- The victim is an infant or a child.
- The victim has already taken three doses.

Medication forms: tablet (about one tenth the size of an aspirin), sublingual spray, and patch.

Dosage: One dose.

Procedure

1. Once you have decided to administer nitroglycerin, follow these steps:
2. Check the expiration date of nitroglycerin.

3. Ask the victim about the last dose taken. Ask the victim to lift his or her tongue. Place the tablet or spray dose under the tongue or have the victim do so. Do not touch the tablet—wear gloves because your skin can absorb nitroglycerin and your blood pressure may be affected.
4. Have the victim keep his or her mouth closed (if doing so will not interfere with easy breathing) with the tablet under the tongue (without swallowing) until the tablet dissolves and is absorbed.

Actions

Nitroglycerin takes the following actions:

- Relaxes (dilates) blood vessels
- Reduces the workload of the heart

Side Effects

Side effects of nitroglycerin include the following:

- Lower blood pressure (victim should sit or lie down)
- Headache
- Heart rate changes

► Epinephrine Auto-Injector

Give a victim epinephrine (trade name Adrenaline, Epi-pen) if both of the following conditions exist:

- The victim exhibits signs of a severe allergic reaction (includes breathing distress or shock).
- The victim has physician-prescribed medication.

Medication form: liquid from automatic needle-and-syringe injection system.

Dosage

- Adult: One adult auto-injector (0.3 mg)
- Child/infant: One infant/child auto-injector (0.15 mg)



Figure A-1

Auto-injectors.

Procedure

Use these steps when administering epinephrine:

1. Obtain the victim's physician-prescribed auto-injector.
2. Remove the safety cap.
3. Place the tip of the auto-injector against the victim's thigh.
4. Push the injector firmly against the thigh to inject medication.
5. Hold the injector in place for 10 seconds.
6. Call 9-1-1.

Actions

Epinephrine takes the following actions:

- Dilates the bronchioles (small tubes in lungs)
- Constricts blood vessels

Side Effects

Epinephrine has the following side effects:

- Increased heart rate
- Dizziness
- Headache
- Chest pain
- Nausea
- Vomiting
- Anxiety

► Metered-Dose Inhaler

Give a victim a metered-dose inhaler (trade names Albuterol, Proventil, Ventolin) if the victim is experiencing asthma, difficulty breathing with wheezing.

Dosage

- Adult/child: 1 to 2 inhalations

Procedure

Use these steps when administering a metered-dose inhaler:

1. Obtain the victim's physician-prescribed inhaler.
2. Coach the victim to take one to two inhalations while pressing the inhaler. The victim must inhale all medication in one breath.
3. Coach the victim to hold breath for 5 seconds after inhalation.
4. Wait 5 minutes before repeating dose.

Actions

A metered-dose inhaler takes the following actions:

- Stimulates the nervous system
- Causes bronchodilation

Side Effects

A metered-dose inhaler has the following side effects:

- Hypertension
- Increased heart rate
- Anxiety
- Restlessness

► Oral Glucose

Give a victim oral glucose if all of the following conditions exist:

- The victim has low blood glucose (hypoglycemia, insulin reaction).
- The victim is able to swallow.
- The victim is alert and able to follow instructions.

Dosage

Adult: 1 tube of gel or three tablets

Procedure

Use these steps when administering oral glucose:

1. Coach the victim to squeeze oral glucose between a cheek and the gum, then let it dissolve.
2. If the victim experiences a decline in responsiveness or there is no improvement in the low glucose after 15 minutes, call 9-1-1. If the patient remains alert, repeat the dose while awaiting EMS arrival.

Actions

When oral glucose is absorbed by the body, it provides glucose for cell use.

Side Effects

Oral glucose has the following side effects:

- Nausea
- Vomiting

answer key

Assessment in Action

Chapter 1

1. No; 2. Yes; 3. No; 4. No

Chapter 2

1. Yes; 2. No; 3. Yes; 4. Yes

Chapter 3

1. No; 2. Yes; 3. No; 4. Yes; 5. Yes

Chapter 4

1. Yes; 2. No; 3. No; 4. Yes; 5. No; 6. Yes

Chapter 5

1. Yes; 2. Yes; 3. No; 4. Yes; 5. No

Chapter 6

1. Yes; 2. Yes; 3. No; 4. No

Chapter 7

1. Yes; 2. Yes; 3. No; 4. Yes

Chapter 8

1. No; 2. No; 3. Yes; 4. No

Chapter 9

1. No; 2. No; 3. Yes; 4. Yes; 5. Yes

Chapter 10

1. No; 2. Yes; 3. Yes; 4. No

Chapter 11

1. Yes; 2. Yes; 3. Yes; 4. No; 5. Yes

Chapter 12

1. Yes; 2. Yes; 3. Yes; 4. No; 5. Yes

Chapter 13

1. Yes; 2. Yes; 3. No; 4. No

Chapter 14

1. No; 2. Yes; 3. No; 4. Yes

Chapter 15

1. No; 2. No; 3. Yes; 4. Yes

Chapter 16

1. No; 2. No; 3. No; 4. Yes; 5. Yes

Chapter 17

1. Yes; 2. Yes; 3. No; 4. Yes; 5. No

Chapter 18

1. No; 2. Yes; 3. Yes; 4. No; 5. Yes; 6. Yes

Chapter 19

1. No; 2. No; 3. Yes; 4. Yes

Check Your Knowledge

Chapter 1

1. No; 2. Yes; 3. No; 4. No; 5. Yes; 6. No; 7. Yes;
8. Yes; 9. Yes; 10. No

Chapter 2

1. Yes; 2. No; 3. Yes; 4. Yes; 5. Yes; 6. Yes; 7. Yes; 8. No

Chapter 3

1. Yes; 2. Yes; 3. No; 4. Yes; 5. No; 6. No; 7. Yes;
8. No; 9. Yes; 10. Yes

Chapter 4

1. Yes; 2. Yes; 3. Yes; 4. Yes; 5. No; 6. Yes; 7. Yes;
8. Yes; 9. No; 10. Yes

Chapter 5

1. Yes; 2. Yes; 3. No; 4. No; 5. No; 6. Yes; 7. No;
8. Yes; 9. Yes; 10. No

Chapter 6

1. No; 2. Yes; 3. No; 4. No; 5. Yes; 6. Yes; 7. Yes;
8. Yes; 9. Yes; 10. No

Chapter 7

1. No; 2. No; 3. Yes; 4. Yes; 5. Yes; 6. No; 7. Yes;
8. Yes; 9. Yes; 10. No

Chapter 8

1. Yes; 2. No; 3. Yes; 4. Yes; 5. Yes; 6. No; 7. Yes;
8. No; 9. No; 10. Yes

Chapter 9

1. No; 2. No; 3. Yes; 4. No; 5. Yes; 6. Yes; 7. Yes;
8. No; 9. Yes; 10. No

Chapter 10

1. No; 2. No; 3. No; 4. Yes; 5. No; 6. Yes; 7. No;
8. Yes; 9. Yes; 10. No

Chapter 11

1. Yes; 2. Yes; 3. No; 4. No; 5. Yes; 6. Yes; 7. No;
8. Yes; 9. No; 10. Yes

Chapter 12

1. Yes; 2. Yes; 3. Yes; 4. Yes; 5. No; 6. No; 7. No;
8. Yes; 9. No; 10. Yes

Chapter 13

1. Yes; 2. No; 3. Yes; 4. No; 5. No; 6. Yes; 7. Yes;
8. No; 9. No; 10. Yes

Chapter 14

1. Yes; 2. Yes; 3. Yes; 4. Yes; 5. Yes; 6. No; 7. Yes;
8. No; 9. Yes; 10. Yes

Chapter 15

1. Yes; 2. No; 3. No; 4. No; 5. No; 6. No; 7. Yes;
8. Yes; 9. Yes; 10. Yes

Chapter 16

1. Yes; 2. No; 3. No; 4. Yes; 5. Yes; 6. Yes; 7. Yes;
8. No; 9. No; 10. Yes

Chapter 17

1. Yes; 2. No; 3. Yes; 4. Yes; 5. Yes; 6. No; 7. No;
8. Yes; 9. Yes; 10. No

Chapter 18

1. Yes; 2. Yes; 3. Yes; 4. Yes; 5. Yes; 6. No; 7. Yes;
8. No; 9. Yes; 10. Yes

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1. No; 2. Yes; 3. Yes; 4. Yes; 5. Yes; 6. No; 7. Yes;
8. No; 9. Yes; 10. No

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