

# 10 First Aid

**As covered in Chapter 7**, when you encounter an ill or injured victim, you must follow a series of general procedures designed to ensure a proper assessment and response. These procedures include activating the emergency action plan (EAP), sizing up the scene, performing a primary assessment and summoning emergency medical services (EMS) personnel for any life-threatening emergencies. If you do not find a life-threatening situation, you should complete a secondary assessment and provide first aid as needed.

This chapter covers how to perform a secondary assessment, including how to check a conscious victim and how to take a brief history using the SAMPLE technique. It also describes how to recognize and provide first aid for some of the injuries, illnesses and medical conditions that you might encounter while on the job.

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# 10-1 RESPONDING TO INJURIES AND ILLNESSES

Even when everyone works to prevent emergencies, injuries and illnesses do occur at aquatic facilities. With some injuries, such as a nosebleed, the problem will be obvious and easy to treat by following the first aid care steps described in this chapter. In other situations, such as a sudden illness, it may be harder to determine what is wrong.

In all cases, remember to follow the general procedures for injury or sudden illness on land, and to use appropriate personal protective equipment, such as nitrile, latex-free disposable gloves and CPR breathing barriers. It is a common practice to carry a few first aid supplies in your hip pack (Figure 10-1).



Figure 10-1 | A few first aid supplies can be carried in your hip pack.

Also, be aware that every facility should have a first aid area where an injured or ill person can receive first aid and rest, and where additional first aid supplies are available (Figure 10-2). Some facilities staff the first aid area with highly trained personnel, such as emergency medical technicians (EMTs). You should know where your facility's first aid area is located, the type of equipment and supplies available, how to provide first aid correctly, the communications systems used to summon additional emergency personnel and whether staff with more advanced training are present.



Figure 10-2 | Every facility should have first aid supplies that are available from a first aid area.

## Considerations for Responding to Injuries and Illnesses

Your job as a lifeguard requires you to juggle many responsibilities. Injuries happen suddenly, and in a first aid emergency you must decide how best to respond to the situation, including when to activate the EAP. The ability to recognize that an emergency has occurred is the first step toward taking appropriate action. Once you recognize that an emergency has occurred, you must decide to act. To help make decisions in an emergency situation, ask yourself the following questions:

- Should I provide care where the victim was found, or move them to the first aid room?
- Is the safety of the victim or others compromised?

- Is there a risk of further injury to the victim?
- Is there a risk of exposing the victim or others to pathogens (e.g., by leaving a trail of blood or other potentially infectious materials)?
- Should I summon EMS personnel?
- When should I recommend that the victim see a healthcare provider to seek further medical treatment?

# 10-2 SECONDARY ASSESSMENT

During the secondary assessment, you should perform a quick examination and then take a brief history (Figure 10-3). If any life-threatening conditions develop or are found during your secondary assessment, stop the assessment and provide appropriate care immediately. If additional lifeguards are available, delegate care.



Figure 10-3 | When caring for a responsive victim, perform a quick examination and take a brief history.

## Using SAMPLE to Take a Brief History

Use the SAMPLE mnemonic as an easy way to remember what you should ask about when you are taking the brief history:

- S = Signs and symptoms**
  - These include bleeding, skin that is cool and moist, pain, nausea, headache and difficulty breathing.
- A = Allergies**
  - Determine if the victim is allergic to any medications, food or environmental elements, such as pollen or bees.
- M = Medications**
  - Find out if the victim is taking any prescription or nonprescription medications and whether they took them today as prescribed.
- P = Pertinent past medical history**
  - Determine if the victim has any medical conditions, has had medical problems in the past or recently has been hospitalized.
- L = Last oral intake**
  - Find out what the victim most recently took in by mouth, as well as the volume or dose consumed. This includes, food, drinks and medication.
- E = Events leading up to the incident**
  - Determine what the victim was doing just before and at the time of the incident.

When talking to a child, get down at eye level with the child, speak slowly and in a friendly manner, use simple words and ask questions that the child can easily understand. For children and infants, you will need to involve the parent or legal guardians and obtain consent, when possible.

If the person is responsive but not fully awake and alert, you may need to ask bystanders several of the SAMPLE questions in order to gather a history.

## Checking a Responsive Person

After taking the SAMPLE history, check an alert and awake victim by performing a head-to-toe examination. Before beginning the examination, tell the person what you are going to do. Visually inspect the person's body, looking carefully for any bleeding, cuts, bruises and obvious deformities. Do not ask the person to move any areas in which they have discomfort or pain, or if a head, neck or spinal injury is suspected.

When checking a child or infant for non-life-threatening conditions, observe the child or infant before touching them. Look for signs that indicate changes in the level of consciousness (LOC), trouble breathing and any apparent injuries or conditions. For a non-life-threatening situation involving a child or an infant, conduct the check from toe to head. This will allow the child or infant to become familiar with the process and see what is happening. Check for the same things on a

child or infant that you would look for on an adult. However, if there is a life-threatening condition or the child or infant's condition is unknown, conduct the check starting with the head.

See the Checking a Responsive Person skill sheet at the end of this chapter for steps to follow when performing a head-to-toe examination.

If the person is unable to move a body part or has pain on movement:

- Help the person rest in a comfortable position.
- Keep the person from getting chilled or overheated.
- Reassure the person.
- Determine whether to summon EMS personnel.
- Continue to watch for changes in LOC and breathing.

### Did you know:

*When inspecting a victim, look for a medical identification (ID) tag, necklace or bracelet on the person's wrist, neck or ankle (Figure 10-4). A digital medical identification tag may also be available on the person's mobile phone; this tag can be accessed without unlocking the phone. These ID tags will provide medical information about the person if they are unable to communicate with you, explain how to care for the conditions identified and list whom to call for help.*



Figure 10-4 | Medical ID tags, necklaces and bracelets can provide important information about an injured or ill person.

## 10-3 SUDDEN ILLNESS

Sudden illness can happen to anyone, anywhere. You may not be able to identify the illness, but you still can provide care. Victims of sudden illness usually look and feel ill. If you suspect something is wrong, check the victim and look for a medical ID tag, necklace or bracelet on the person's wrist, neck or ankle. The victim may try to say nothing is

seriously wrong, but the victim's condition can worsen rapidly. Do not be afraid to ask the victim questions.

There are many types of sudden illness, including diabetic emergencies, fainting, seizures and stroke.

## Signs and Symptoms of Sudden Illness

Many sudden illnesses have similar signs and symptoms. These include:

- Changes in LOC
- Nausea or vomiting
- Difficulty speaking or slurred speech
- Numbness or weakness
- Loss of vision or blurred vision
- Changes in breathing; the person may have trouble breathing or may not be breathing normally
- Changes in skin color (pale, ashen or flushed skin)
- Sweating
- Persistent pressure or pain
- Diarrhea
- Paralysis or an inability to move
- Severe headache

## General Care Steps for Sudden Illness

When providing care for sudden illness, follow the general procedures for an injury or sudden illness on land:

- Care for any life-threatening conditions first.
- Monitor the victim's condition and watch for changes in LOC.
- Keep the victim comfortable and reassure them.
- Keep the victim from getting chilled or overheated.
- Do not give the victim anything to eat or drink, unless the victim is awake, able to swallow and follow simple commands and intake is indicated based on the treatment recommendations.
- Care for any other problems that develop, such as vomiting.

## Diabetic Emergencies

People who are diabetic sometimes become ill because there is too much or too little sugar in their blood. Many people who are diabetic use diet, exercise and/or medication to control their diabetes. The person may disclose that they are diabetic, or you may learn this from the information on a medical ID tag or from a bystander. Often, people who have diabetes know what is wrong and will ask for something with sugar if they are experiencing symptoms of low blood sugar (**hypoglycemia**). They may carry some form of sugar with them, such as glucose tablets.

If the person is awake and can safely swallow and follow simple commands, give them sugar (Figure 10-5). If it is available, give 15 to 20 grams of sugar in the form of glucose tablets to the victim. If not available, 15 to 20 grams of sugar from several sources can be given, including glucose- and sucrose-containing candies, jelly beans, orange juice or whole milk. If the person has hypoglycemia, sugar will help quickly. If the problem is high blood sugar (**hyperglycemia**), giving the sugar will not

cause any immediate harm. Give something by mouth only if the victim is awake and able to safely swallow. Always summon EMS personnel for any of the following circumstances:

- The person is unresponsive.
- The person is responsive but not fully awake and is unable to swallow.
- The person does not feel better within about 10 to 15 minutes after taking sugar, or gets worse.
- A form of sugar cannot be found immediately (In that event, do not spend time looking for it.)



Figure 10-5 | Give a victim experiencing a diabetic emergency glucose tablets.

## Fainting

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When a person suddenly loses consciousness and then reawakens, they may simply have fainted. Fainting is not usually harmful, and the person will usually quickly recover once horizontal. Position the person on their back. Loosen any tight clothing, such as a tie or collar. Make sure the victim is breathing normally. Do not give the victim anything to eat or drink. If the victim vomits, position the

victim on their side. Once the victim is sign-and-symptom-free, you may have them slowly sit up, and then you should reassess their condition. If they remain sign-and-symptom-free for several minutes, have the victim try to stand, and then reassess once again. If the victim is unable to sit up or stand without any signs or symptoms, call EMS for further evaluation.

## Seizures

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There are many different types of seizures. Generalized seizures usually last 1 to 3 minutes and can produce a wide range of signs and symptoms. When this type of seizure occurs, the person loses consciousness and can fall, causing injury. The person may become rigid and then experience sudden, uncontrollable muscular convulsions lasting several minutes. Breathing may become irregular and even stop temporarily. A seizure is also considered a possible sign of cardiac arrest, so the victim should be assessed and monitored closely.

Seeing someone have a seizure may be intimidating, but you can provide care for the person. The person cannot control any muscular convulsions that may occur, and it is important to allow the seizure to run its course because attempting to restrain the person can cause further injury. To provide care to a person having a seizure:

- Protect the person from injury by moving nearby objects away from the person.
- Protect the person's head by placing a thin cushion under the head and shoulders to keep the airway open. Folded clothing makes an adequate cushion.

When the seizure is over, the person usually begins to breathe normally. They may be drowsy and disoriented or unresponsive for a period of time. Check to see if the person was injured during the seizure. Be reassuring and comforting. If the seizure occurred in public, the person may be embarrassed and self-conscious. Ask bystanders not to crowd around the person. They will be tired and want to rest. Stay with the person until they are fully awake and alert.

If the person is known to have periodic seizures, there may be no need to summon EMS personnel. They usually will recover from a seizure in a few minutes. However, summon EMS personnel if:

- The seizure occurs in the water.
- This is the person's first seizure.
- The seizure lasts more than 5 minutes.
- The person has repeated seizures with no lucid period.
- The person appears to be injured.
- The cause of the seizure is unknown.
- The person is pregnant.
- The person is known to have diabetes.
- The person fails to regain consciousness after the seizure.
- The person is elderly and may have suffered a stroke.

## Seizures in the Water

If a person has a seizure in the water, follow these steps:

1. Summon EMS personnel.
2. Support the person with their head above water until the seizure ends (Figures 10-6).
3. Remove the person from the water as soon as possible after the seizure (since they may have inhaled or swallowed water), or if directed by EMS personnel for a prolonged seizure.
4. Once on land, position the person on their back and perform a primary assessment. Give ventilations or CPR, if needed. If the person vomits, turn the victim on their side to drain fluids from the mouth. Sweep out the mouth (or suction out the mouth if you are trained to do so).
5. If the victim is breathing normally, position the victim on their side and continue to monitor their airway and breathing until the victim is fully awake and alert.



Figure 10-6 | If someone experiences a seizure while in the water, support the victim's head above the water until the seizure ends.

## Stroke

As with other sudden illnesses, the signs and symptoms of a stroke are a sudden change in how the body is working or feeling. This may include sudden weakness or numbness of the face, an arm or a leg. Usually, weakness or numbness occurs only on one side of the body. Other signs and symptoms include:

- Difficulty with speech (trouble speaking and being understood, and difficulty understanding others)
- Blurred or dimmed vision
- Sudden, severe headache, dizziness or confusion
- Loss of balance or coordination
- Trouble walking
- Ringing in the ears

If the person shows any signs or symptoms of stroke, time is critical. The objective is to recognize a possible stroke and summon EMS personnel immediately. There are several treatments that can be administered in the hospital setting that can limit the long-term effects of a stroke, but they are time-limited. Every minute matters.

To identify and care for a victim of a stroke, use a stroke screening scale: Think FAST. Use the FAST mnemonic to help you remember how to care for a victim of stroke:

- F** = **Face**—Weakness on one side of the face (Figure 10-7).
  - Ask the person to smile. This will show if there is drooping or weakness in the muscles on one side of the face. Does one side of the face droop?
- A** = **Arm**—Weakness or numbness in one arm (Figure 10-8).
  - Ask the person to raise both arms in front of them self to find out if there is weakness in the limbs. Does one arm drift downward?
- S** = **Speech**—Slurred speech or trouble speaking.
  - Ask the person to speak a simple sentence, and then listen for slurred or distorted speech. Example: “The sky is blue.” Can the victim repeat the sentence correctly and clearly?
- T** = **Time**—Time to summon EMS personnel if any *one* of these signs or symptoms are seen.
  - Note the time of onset of signs and symptoms, and summon EMS personnel immediately. If the possible stroke is unwitnessed, try to find out the time the victim was last known to be well and free of signs and symptoms of a stroke.

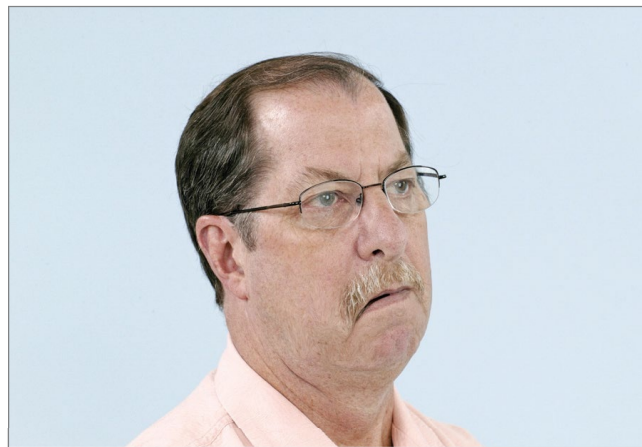


Figure 10-7 | Signals of a stroke include facial drooping.

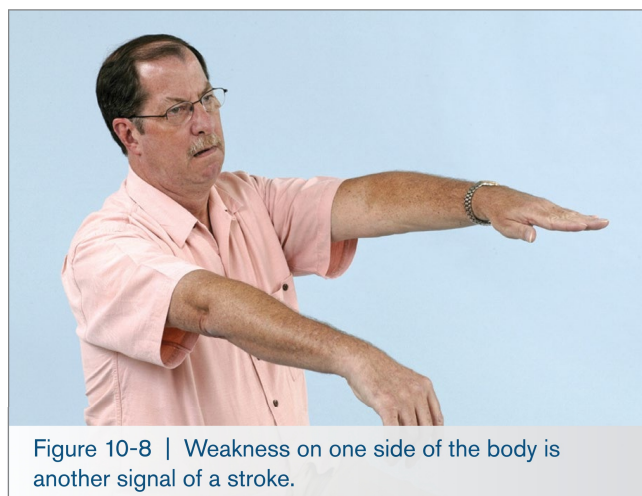


Figure 10-8 | Weakness on one side of the body is another signal of a stroke.

## 10-4 SKIN AND SOFT TISSUE INJURIES

Soft tissues are the layers of skin and the fat and muscle beneath the skin’s outer layer. A physical injury to the body’s soft tissue is called a **wound**. Any time the soft tissues are damaged or torn, the body is threatened. Injuries may damage the soft tissues at or near the skin’s surface, or deep in the body. Germs can enter the body through a scrape, cut, puncture or burn and cause infection. Bleeding can occur at or under the skin’s surface, where it is harder to detect.

Burns are a special kind of soft tissue injury. Like other types of soft tissue injury, burns can damage the top layer of skin, or the skin and the layers of other tissues beneath.

Soft tissue injuries typically are classified as either closed or open wounds.



## Closed Wounds

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Closed wounds occur beneath the surface of the skin. The simplest closed wound is a bruise or contusion. Bruises result when the body is subjected to blunt force, such as when you bump your leg on a table or chair. Such a blow usually results in damage to soft tissue layers and blood vessels beneath the skin, causing internal bleeding.

### Caring for Internal Bleeding

Summon EMS personnel immediately if the victim shows any sign or symptom of shock, or:

- The victim complains of severe pain or cannot move a body part without pain.
- The force that caused the injury was great enough to cause serious damage.
- An injured arm or leg is blue or extremely pale.
- The victim becomes confused, faint, drowsy or unresponsive.
- The victim is vomiting blood or coughing up blood.
- The victim has skin that feels cool or moist, or looks pale or bluish.
- The victim has tender, swollen, bruised or hard areas of the body, such as the abdomen.

While waiting for EMS personnel to arrive, the objectives are to:

- Care for any life-threatening conditions first.
- Help the victim rest in a comfortable position and reassure them.
  - If there are signs and symptoms of shock, lay the person flat.

Most closed wounds do not require special medical care. However, a significant violent force can cause injuries involving larger blood vessels and the deeper layers of muscle tissue. These rare injuries can result in severe bleeding beneath the skin. In these cases, medical care is needed quickly.

- Monitor the victim's condition, and watch for any changes in LOC.
- Keep the victim from getting chilled. (Care for shock.)
- Care for other problems that develop, such as vomiting.

If the closed wound is not serious:

1. Apply a cold pack on the area to help control the bleeding under the skin and provide comfort.
  - To make a cold pack, fill a sealable plastic bag with a mixture of ice and water. Place a gauze pad, towel or other cloth between the source of the cold and the victim's skin. Never put ice directly on the skin.
  - If a cold pack is not available, use a chemical cold pack.
2. Apply the cold pack for no more than 20 minutes. If continued cooling is needed, remove the pack for 20 minutes and re-chill it, and then replace it.
3. Monitor the victim for the potential for hypothermia, especially in children when applying cold therapy.

## Open Wounds

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In an open wound, the break in the skin can be as minor as a scrape of the top layer of skin (abrasion) or as severe as a deep, penetrating injury beneath all layers of skin. The amount of external bleeding depends on the location and severity of the injury. Most external bleeding injuries that you encounter will be minor, such as a small cut that can be cared for by applying direct pressure over the wound until the bleeding stops, cleaning the wound and applying an adhesive bandage.

However, some cuts are too large, or the blood is under too much pressure, for effective clotting to occur. In these cases, you need to recognize the situation and provide care quickly. Remember to always wear nitrile, latex-free disposable gloves and follow all other standard precautions when giving care.

The following are the four main types of open wounds:

- **Abrasion** (Figure 10-9).
  - The skin has been rubbed or scraped away (e.g., scrape, road rash or rug burn). The area usually is painful.
  - Dirt and other matter may have entered the wound. Cleaning the wound with soap and water is important to prevent infection.
  
- **Laceration** (Figure 10-10).
  - Cuts bleed freely, and deep cuts can bleed severely.
  - Deep cuts can damage nerves, large blood vessels and other soft tissues.
  
- **Avulsion** (Figure 10-11).
  - An avulsion is a cut in which a piece of soft tissue or even part of the body, such as a finger, is torn loose or torn off entirely (e.g., amputation). An avulsion often leaves a flap of skin still attached to the wound.
  - Often, deeper tissues are damaged, causing significant bleeding.
  
- **Puncture** (Figure 10-12).
  - Puncture wounds often do not bleed profusely, but can easily become infected.
  - Bleeding can be severe internally, with damage to major blood vessels or internal organs.
  - Any impaled object embedded in the wound should not be removed, unless it makes CPR impossible to perform.



Figure 10-9 | Abrasion



Figure 10-10 | Laceration



Figure 10-11 | Avulsion



Figure 10-12 | Puncture

## Caring for External Bleeding

To care for a minor wound, such as an abrasion, follow these general guidelines:

- Control any bleeding.
  - Place a sterile dressing over the wound.
  - Apply direct pressure until bleeding stops (Figure 10-13A).
- Clean the wound thoroughly with soap (if available) and water. If possible, irrigate an abrasion with clean, warm, running tap water for about 5 minutes to remove any dirt and debris.
- If bleeding continues, use a new sterile dressing and apply more pressure.
- After bleeding stops, remove the dressing and apply wound gel or an antibiotic ointment to the wound, if one is available, the victim has no known allergies or sensitivities to the medication and local protocols allow you to do so.
- Cover the wound with a sterile dressing and bandage (or with an adhesive bandage). (Figure 10-13B).
- Wash your hands immediately after providing care.



Figure 10-13A | Apply direct pressure firmly against a wound for a few minutes to control any bleeding.



Figure 10-13B | Use a sterile dressing and bandage to cover the wound.

To care for a major wound:

- Activate the EAP, summon EMS personnel and follow the general procedures for injury or sudden illness on land.
- Cover the wound with a sterile gauze dressing, if available, and apply direct pressure over the wound using the flat part of your fingers. A large wound may require more pressure; use pressure from your full hand with gauze dressings to try to stop the bleeding. For an open fracture, do not apply direct pressure over the broken bones, but instead pack sterile gauze around the area to control bleeding and prevent infection.
- Do not remove the dressing if it becomes saturated with blood while you are applying pressure. Instead, place additional dressings over the soaked bandage and reapply direct pressure. Then cover the dressings with a bandage to hold them in place.
- Keep the victim warm and position the victim on their back.
- Care for other conditions, including shock.
- Wash your hands immediately after providing care.

If conscious and able, the victim may use their hand to apply pressure while you put your gloves on and prepare the necessary supplies.

# Severe, Life-Threatening Bleeding

Although a rare event, there may be times when you encounter a victim with severe, life-threatening bleeding when direct pressure is not effective or not possible due to the circumstances of the injury.

When direct pressure fails or is not possible, there are two bleeding control adjuncts that can be used to control severe, life-threatening bleeding: tourniquets and hemostatic dressings.

## TOURNIQUETS

A tourniquet is a device placed around an arm or leg to constrict blood vessels and stop blood flow to a wound. In some life-threatening circumstances, you may need to use a tourniquet to control bleeding as the first step, instead of maintaining direct pressure over several minutes. Examples of situations where it may be necessary to use a tourniquet include:

- Severe, life-threatening bleeding that cannot be controlled using direct pressure
- A physical location that makes it impossible to apply direct pressure to control the bleeding (e.g., the injured person or the person's limb is trapped in a confined space)
- Multiple people with life-threatening injuries who need care
- A scene that is or becomes unsafe

If you find yourself in a situation where you need to apply a tourniquet, a commercially manufactured tourniquet is preferred over a makeshift device. Follow the manufacturer's instructions for applying the tourniquet. Although tourniquets may have slightly different designs, all are applied in generally the same way.

To apply a manufactured tourniquet:

1. Position the tourniquet around the wounded extremity approximately 2 inches above the wound, avoiding the joint.
2. Secure the tourniquet tightly in place according to the manufacturer's instructions.
3. Tighten the tourniquet by twisting the rod (windlass) until the flow of bright red blood stops, and then secure the rod in place.
4. Note and record the time that you applied the tourniquet, and give this information to EMS personnel. Once the tourniquet is applied, it should not be removed until the person reaches a healthcare facility.

If it is necessary to use a tourniquet and a commercially manufactured tourniquet is not available, make a tourniquet using a strip of soft material that is 2 to 4 inches wide (such as a triangular bandage that has been folded into a tie) and a short, sturdy stick or other rigid object. Tie the stick or other rigid object into the material and twist it to tighten the makeshift tourniquet.

*Note: Do not cover the tourniquet with clothing.*

# HEMOSTATIC DRESSINGS

A hemostatic dressing (Figure 10-14) is a dressing treated with a substance that speeds clot formation. As is the case with tourniquets, hemostatic dressings are used when severe, life-threatening bleeding exists and standard first aid procedures fail or are not practical. Typically, hemostatic dressings are used on parts of the body where a tourniquet cannot be applied, such as the neck or torso. A hemostatic dressing can also be used to control bleeding from an open wound on an arm or a leg, if a tourniquet is ineffective or not available.

The hemostatic dressing is applied at the site of the bleeding (possibly inside of the wound) and is used along with direct pressure.

You should always follow local protocols, as well as your facility's specific procedures. Your facility's management should train you in the use of **hemostatic agents** if you are expected to use them in an emergency.



Figure 10-14 | Hemostatic dressings

## Shock

Any serious injury or illness can result in a condition known as shock. Shock is a natural reaction by the body when tissues do not receive adequate perfusion. Shock usually means the victim's condition is serious. Signs and symptoms of shock include:

- Restlessness or irritability
- Altered LOC
- Pale, ashen, cool or moist skin
- Nausea or vomiting
- Rapid breathing and pulse
- Excessive thirst

To minimize the effects of shock:

- Make sure that EMS personnel have been summoned.
- Have the victim lie down flat on their back.
- Cover the victim with a blanket to prevent loss of body heat.
- Comfort and reassure the victim until EMS personnel arrive and take over.
- Administer emergency oxygen, and if you are trained to do so.
- Monitor the victim's condition and watch for changes in LOC.
- Control any external bleeding.
- Keep the victim from getting chilled or overheated.

**Note: Do not give food or drink to a victim of shock, even if the victim asks for them.**

## Care for Wounds—Specific Situations

Patrons at aquatic facilities can suffer a variety of wounds, from a minor nosebleed to a severed body part. No matter how seriously the victim is wounded, you must remain calm and follow the general procedures for injury or sudden illness on land. This section covers how to care for some of the specific wounds that you might encounter on the job.

### Nosebleeds

To care for a nosebleed:

- Have the victim sit leaning slightly forward to prevent swallowing or choking on the blood (Figure 10-15).
- Pinch the nostrils together for about 5 to 10 minutes, or until the bleeding stops.
  - Do not pack the victim's nose to stop the bleeding.
- After the bleeding stops, have the victim avoid rubbing or blowing the nose, which could restart the bleeding.
- Medical attention is needed if the bleeding persists or recurs, or if the victim says the nosebleed was a result of high blood pressure.
- If the victim becomes unresponsive, perform a primary assessment. If the victim is breathing, place them on their side to allow blood to drain from the nose. Monitor the victim's airway, and have suction ready, if available. Summon EMS personnel immediately.



Figure 10-15 | Control a nosebleed by having the victim sit with the head slightly forward, pinching the nostrils together.

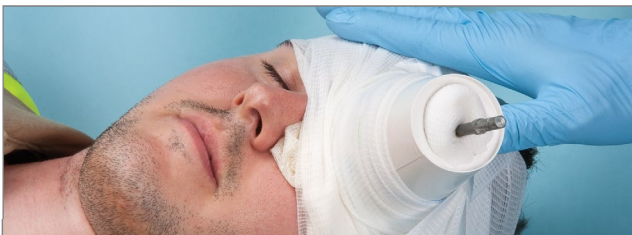


Figure 10-16 | To care for an impaled object in the eye, stabilize the object with a shield, such as a paper cup, and bandage the cup in place.

### Eye Injuries

Care for open or closed wounds around the eye as you would for any soft tissue injury. Never put pressure directly on the eye. For impaled objects, significant blunt trauma or penetrating injuries to the eye:

- Summon EMS personnel.
- Keep the victim as still as possible.
- Do not try to remove the object from the eye.
- Bandage loosely and do not put pressure on the injured eye.
- Stabilize the object as best as possible. Cover both eyes loosely with a cup or shield. Depending on the size of the object, you may be able to stabilize it by encircling the eye with a gauze dressing or soft sterile cloth, but be careful not to apply any pressure to the area. Position bulky dressings, such as roller gauze, around the impaled object, and then cover it with a shield, such as a paper cup (Figure 10-16) or sunglasses. The shield should not touch the object. To cover both eyes, bandage any shields and dressings in place with a self-adhering bandage or roller bandage to keep any impaled objects stable and minimize movement of both eyes.

For small foreign bodies in the eye, such as sand, lint or pollen:

- Tell the victim to blink several times to try to remove the object.
- Gently flush the affected eye with water.
- Seek medical attention if the object remains.

For chemicals in the eye:

- Flush the eye continuously with tap water for at least 15 minutes, or until EMS personnel take over. If tap water is not available, use normal saline or another commercially available eye irrigation solution. Always flush away from the uninjured eye.

## Injuries to the Mouth and Teeth

If a head, neck or spinal injury is **not** suspected:

- Rinse out the victim's mouth with cold tap water, if available.
- Have the victim lean slightly forward, or place the victim on their side.
- Try to prevent the victim from swallowing the blood, which could cause nausea or vomiting.
- Apply a dressing.
  - For injuries inside the cheek, place folded sterile dressings inside the mouth against the wound.
  - For injuries outside the cheek, apply direct pressure using a sterile dressing.
  - For injuries to the tongue or lips, apply direct pressure using a sterile dressing. Apply cold to reduce swelling and ease pain.

If a tooth is knocked out:

1. Control any bleeding.
2. Have the victim gently bite down on a rolled sterile dressing in the space left by the tooth (or teeth).
3. Save any displaced teeth.
  - Carefully pick up the tooth by the crown (white part), not the root.
  - Do not scrub or attempt to clean the tooth, or remove any attached tissue fragments.
  - Place the tooth in a Hank's Balanced Salt Solution. If not available, place the tooth (in order of preference) in egg white, coconut water or whole milk. If none of these solutions are available, place the tooth in the victim's saliva (not in the mouth).
4. Advise the victim to get to an emergency department or dentist as soon as possible. For the greatest chance to save the tooth, it needs to be re-implanted within 30-60 minutes.

## Scalp Injuries

Scalp injuries often appear to bleed heavily. Putting pressure on the area around the wound can control the bleeding.

- Apply gentle pressure if there is suspicion of a skull fracture (Figure 10-17). If you feel a depression, spongy areas or bone fragments, do not put direct pressure on the wound.
- Summon EMS personnel if you cannot determine the seriousness of the scalp injury.

- For an open wound with no sign of a fracture, control the bleeding with direct pressure using several dressings. Once bleeding is controlled, secure the dressings with a bandage.

If you suspect a head, neck or spinal injury, minimize movement of the head, neck and spine. See Chapter 11 on how to care for a head, neck or spinal injury.

## Impaled Objects

An object that remains in an open wound is called an impaled object. Take the following steps to care for an impaled object:

- Summon EMS personnel.
- Place several dressings around the object to stabilize it and keep it from moving. Avoid placing pressure on or moving the object.
- Bandage the dressings in place around the object (Figure 10-18).
- Do not remove the object.



Figure 10-17 | Control bleeding from a scalp injury by applying pressure around the wound. Avoid direct pressure.



Figure 10-18 | Place several dressings around an impaled object to keep it from moving. Bandage the dressings in place around the object.

## Injuries to the Abdomen

Be aware that open wounds to the abdomen can cause internal organs to push outside of the body. To care for an open abdominal injury, follow these guidelines:

- Summon EMS personnel.
- Carefully remove clothing from around the wound.
- If organs are protruding:
  - Do not attempt to put them back into the abdomen.
  - Cover the organs with a moist, sterile dressing and cover the dressing with plastic wrap.
  - Place a folded towel or cloth over the dressing to keep the organs warm.
- Care for shock.

## Animal and Human Bites

An animal or human bite may be serious because of the nature of the wound and risk of infection. A person who is bitten by an animal should be removed from the situation, if possible, but only without endangering yourself or others. Do not try to restrain or capture the animal. Tetanus and rabies immunizations may be necessary, so it is vital to report bites from any wild or unknown domestic animal to the local health department or other agency, according to local protocols. For animal or human bites, follow these guidelines:

- Summon EMS personnel if the wound bleeds severely, or if the animal is suspected to have rabies.
- For severe bleeding, control the bleeding first. Do not clean the wound; it will be properly cleaned at the hospital.
- If the bleeding is minimal:
  - Wash the wound with soap and water and then rinse with clean, running water. Saline may be used, if water is not available.
  - Apply a small amount of antibiotic wound ointment, cream or gel to the wound if the person has no known allergies or sensitivities to the ingredients.
  - Control the bleeding.
  - Cover with a sterile bandage.

## Severed Body Parts

Caring for a victim with a severed body part can be disturbing. Remain calm, and take the following steps:

- Summon EMS personnel.
- Control the bleeding. Most bleeding can be controlled with direct pressure. Consider using a tourniquet if there is severe, life-threatening bleeding that is not controlled with hard pressure.
- Cover the wound with a sterile dressing, and bandage the wound to prevent infection.
- Wrap the severed body part(s) in sterile gauze (or other clean material) (Figure 10-19).
- Place the severed body part(s) in a plastic bag, and seal the bag.
- Put the plastic bag in another plastic bag containing an ice and water slurry (not on ice alone).
- Care for shock.
- Be sure that the body part is taken to the hospital with the victim immediately.



Figure 10-19 | Wrap a severed body part in sterile gauze, put in a plastic bag and put the bag on ice.



# Burns

---

Burns are a special kind of soft tissue injury. Like other types of soft tissue injury, burns can damage the top layer of skin, or the skin and the soft tissue beneath. There are four sources of burns: heat, radiation, chemicals and electricity.

Burns are classified by their depth. The deeper the burn, the more severe. The severity of the burn depends on the:

- Temperature or strength of the heat or other energy source.
- Length of exposure to the burn source.
- Location of the burn.
- Area and size of the burn.
- Victim's age and general medical condition.

Critical burns can lead to shock and other life-threatening situations and need immediate medical attention. These include burns:

- That cause a victim to have difficulty breathing.
- That cover more than one body part or a large body surface area.
- To the head, neck, hands, feet, abdomen or genitals.
- To the airway. (Burns to the mouth and nose may be a signal of this.)
- To a child or elderly person (other than very minor burns.)
- From chemicals, explosions or electricity.

## Caring for Burns

To care for burns, follow the general procedures for a land emergency. If the scene is safe, check the victim for life-threatening conditions. Summon EMS personnel if the condition is life-threatening. The following general guidelines apply for all types of burns:

- Stop the burning by removing the victim from the source of the burn.
- Cool the burned area with large amounts of cool or cold tap water for at least 10 minutes. If cool or cold water is not available, use a cool or cold compress that is clean.
- Monitor the victim for hypothermia when cooling large burns.
- Cover the burned area loosely with a dry, sterile dressing.
- Comfort and reassure the victim.

On the next page, Table 10-1 outlines specific considerations and care steps for the different sources of burns.

**Table 10-1: Care Steps Based on Source of Burn**

Electrical	Chemical	Radiation (Sun)
<ul style="list-style-type: none"> <li>▪ Summon EMS personnel.</li> <li>▪ Check the scene for safety, and check for life-threatening injuries. If a power line is down, wait for the fire department or the power company to disconnect the power source.</li> <li>▪ Cool the burn with cold tap water for at least 10 minutes.</li> <li>▪ Cover the burn loosely with a dry, sterile dressing.</li> <li>▪ Be aware that electrocutions can cause cardiac and breathing emergencies. Be prepared to perform CPR or defibrillation. Take steps to minimize shock.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Summon EMS personnel.</li> <li>▪ Brush off dry chemicals with a gloved hand, being careful not to get the chemical on yourself or to brush it into the victim's eyes. Flush the affected area continuously with large amounts of cool water.</li> <li>▪ Keep flushing the area for at least 20 minutes, or until EMS personnel arrive.</li> <li>▪ If a chemical gets into an eye, flush the eye with tap water for at least 15 minutes, or until EMS personnel arrive and begin care. Always flush the affected eye from the nose outward and downward to prevent washing the chemical into the other eye.</li> <li>▪ If possible, have the victim remove contaminated clothes to prevent further contamination while continuing to flush the area.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Cool the burned area, and protect it from further damage by keeping it out of the sun.</li> </ul>

# 10-5 BITES AND STINGS

## Spider Bites and Scorpion Stings

Only two spiders in the United States are poisonous: the black widow and the brown recluse. A bite from one of these spiders can cause serious illness or death. Some scorpion stings also can be fatal. When patrons are

bitten by spiders at aquatic facilities, it is usually when they are reaching or rummaging in dark places, such as lockers or storage areas. They are typically bitten on their hands or arms.

If someone has been bitten by a black widow or brown recluse spider, or stung by a scorpion:

- Summon EMS personnel.
- Wash the wound thoroughly.
- Bandage the wound. Apply a topical antibiotic ointment to the bite to prevent infection if the person has no known allergies or sensitivities to the medication.
- Apply a cold pack to the site to reduce swelling and pain.

- Give the victim anti-venom—a medication that blocks the effects of the spider's poisonous venom—if it is available and local protocols allow.
- Care for life-threatening conditions.
- Monitor the victim's condition and watch for changes in LOC.
- Keep the victim comfortable.

## Snakebites

Snakebites kill few people in the United States. Whereas 7,000 to 8,000 venomous snakebites are reported each year in the United States, fewer than five victims die from the snakebite.

To provide care for a bite from a venomous snake:

- Summon EMS personnel.
- Keep the injured area still and lower than the heart. The victim should walk only if absolutely necessary.
- Wash the wound.
- Apply an elastic roller bandage. Use a narrow bandage to wrap a hand or wrist, a medium-width bandage to wrap an arm or ankle and a wide bandage to wrap a leg.
  - Check for feeling, warmth and color of the limb beyond where the bandage will be placed, and note changes in skin color and temperature.
  - Place the end of the bandage against the skin and use overlapping turns (Figure 10-20).
  - Gently stretch the bandage while wrapping. The wrap should cover a long body section, such as an arm or a calf, beginning at the point farthest from the heart. For a joint, like a knee or ankle, use figure-eight turns to support the joint.

- Always check the area above and below the injury site for warmth and color, especially fingers and toes, after applying an elastic roller bandage. By checking before and after bandaging, you will be able to determine if any tingling or numbness is a result of the bandaging or of the injury itself.
- Check the snugness of the bandage—a finger should easily, but not loosely, pass under the bandage.

For any snakebite, do not apply ice or electricity, suction or a tourniquet, and do not cut the wound.



Figure 10-20 | Apply an elastic roller bandage using overlapping turns to slow the spread of venom.

## Insect Stings

Insect stings can be painful. They also can be fatal for people who have severe allergic reactions (anaphylaxis). Allergic reactions can result in a breathing emergency. If someone is having a breathing emergency, summon EMS personnel.

To care for an insect sting:

- Examine the sting site to see if the stinger (if there is one) is in the skin. Remove the stinger if it is still present. Scrape it away with the edge of a plastic card, such as a credit card.
- Wash the wound with soap and water.
- Cover the site with a dressing and keep the wound clean.
- Apply a cold pack to the site to reduce pain and swelling.
- Watch the victim for signals of a severe allergic reaction—shortness of breath; swelling of the face, neck or tongue; rash or hives or a tight feeling in the chest and throat.
- Care for life-threatening conditions.
- Monitor the victim's condition, and look for changes in LOC.
- Keep the victim comfortable.

## Marine Life

The stings of some forms of marine life not only are painful, but they can make the victim feel sick, and in some parts of the world, they can be fatal (Figure 10-21). The side effects of a sting from an aquatic creature can include allergic reactions that can cause breathing and heart problems, as well as paralysis and death. If the sting occurs in water, the victim should be moved to dry land as soon as possible. Emergency care is necessary if the victim has been stung by a lethal jellyfish, does not know what caused the sting, has a history of allergic reactions to stings from aquatic life, has been stung on the face or neck, or starts to have difficulty breathing.

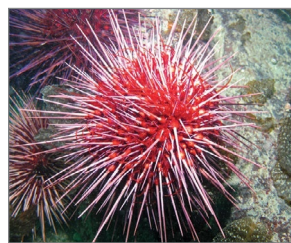
The basic care steps for jellyfish stings are to remove the victim from the water, prevent further injection of poisonous material by deactivating or removing nematocysts (stingers), and controlling pain.

There are some differences in specific care based on the region and the species of jellyfish. The supervisor of the aquatic facility should inform you of specific treatment recommendations and provide you with photographs of the jellyfish to aid in identification.

To deactivate the stingers/tentacles for most types of jellyfish in most waters in the United States, remove any remaining tentacles with gloved hands,

a towel or the pads of your fingers. Flush the injured part in salt water as soon as possible for at least 30 seconds to offset the toxin. Do not rub the wound or apply fresh water, ammonia, rubbing alcohol, vinegar or baking soda, because these substances may increase pain.

Then use hot-water immersion (as hot as can be tolerated) for at least 20 minutes, or until pain is relieved. If hot water is not available, dry hot packs or, as a second choice, dry cold packs also may be helpful in decreasing pain. Do not apply a pressure immobilization bandage.



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Figure 10-21 | Stingray, iStockphoto.com/Dia Karanouh | Bluebottle jellyfish/Portuguese man-of-war, iStockphoto/Mark Kostich | Sea anemone, iStockphoto/Omers | Jellyfish, Shutterstock/Johan1900

# 10-6 POISONING

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A poison is any substance that can cause injury, illness or death when introduced into the body. Poisons can be in the form of solids, liquids, sprays or fumes (gases and vapors). If a person is showing signs and symptoms of poisoning, call the Poison Control Center at 1-800-222-1222. If the person is unresponsive or experiences a change in LOC, or if another life-threatening condition is present, summon EMS personnel.

In an aquatic facility, the Safety Data Sheet (SDS) is required onsite for every product/chemical in use. In the case of a known poisoning by a product or chemical, the SDS should accompany the victim to the doctor or hospital.

## Ingested Poison

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Ingested poisons are poisons that are swallowed and include:

- Certain foods, such as specific types of mushrooms and shellfish
- Drugs, such as excessive amounts of alcohol
- Overdosing on medications, such as aspirin or opioids
- Household items, such as cleaning products, pesticides and certain household plants

A person who has ingested poison generally looks ill and displays symptoms common to other sudden illnesses. If you have even a slight suspicion that a person has been poisoned, call the Poison Control Center.

## Inhaled Poison

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Poisoning by inhalation occurs when a person breathes in poisonous gases or fumes. Poisonous fumes can come from a variety of sources. They may or may not have an odor. Common inhaled poisons include:

- Carbon monoxide, which can come from car exhaust, fires or charcoal grills
- Chlorine gas, which is highly toxic; you will need special training to recognize and treat this type of poisoning
- Fire extinguisher gases

If someone has inhaled poisonous fumes:

- Size up the scene to be sure that it is safe to help the victim.
- Summon EMS personnel.
- Move the victim to fresh air.
- Care for life-threatening conditions.
- Monitor the victim's condition, and watch for changes in the LOC.
- If conscious, keep the victim comfortable.

## Absorbed Poison

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An absorbed poison enters through the skin or mucous membranes in the eyes, nose and mouth. Absorbed poisons come from plants, as well as from chemicals and medications. Poison ivy, poison oak and poison sumac are the most

common poisonous plants in the United States. Some people are allergic to these poisons and have life-threatening reactions after contact, whereas others may not even get a rash.

If someone has come in contact with a poisonous substance:

- Remove exposed clothing and jewelry, and immediately rinse the exposed area thoroughly with water for 20 minutes, using a shower or garden hose if possible.
- If a rash or wet blisters develop, advise the victim to see their healthcare professional.
- If the condition spreads to large areas of the body or face, have the victim seek medical attention.

## 10-7 HEAT-RELATED ILLNESSES AND COLD-RELATED EMERGENCIES

Exposure to extreme heat or cold can make a person ill. A person can develop a heat-related illness or a cold-related emergency, even when temperatures are not extreme. Factors that may contribute to these emergencies include environmental conditions, such as wind speed, humidity level and general working or living conditions, as well as the victim's personal

physical attributes, such as age, state of health and recent physical exertion.

Once the signs and symptoms of a cold-related emergency or heat-related illness appear, the victim's condition can quickly get worse and lead to death.

### Heat-Related Illnesses

Heat-related illnesses are progressive conditions caused by overexposure to heat. If recognized in the early stages, heat-related emergencies usually can be reversed. If not recognized early, they may progress to heat stroke, a life-threatening condition. There are three types of heat-related illnesses, which form a continuum progressing from one to the next:

- **Heat cramps** are painful muscle spasms that usually occur in the legs and abdomen. Heat cramps are the least severe of the heat-related emergencies.
- **Heat exhaustion** is an early indicator that the body's cooling system is becoming overwhelmed. Signs and symptoms of heat exhaustion include:
  - Cool, moist, pale, ashen or flushed skin
  - Headache, nausea and dizziness
  - Weakness and exhaustion
  - Heavy sweating
- **Heat stroke** occurs when the body's systems are overwhelmed by heat, causing them to stop functioning. Heat stroke is a life-threatening condition. Signs and symptoms of heat stroke include:
  - Changes in LOC
  - Skin that is hot to the touch
  - Skin that is wet or dry or appears red or pale
  - Vision disturbances
  - Seizures
  - Vomiting
  - Rapid and shallow breathing
  - Rapid and weak pulse
  - Lack of sweating

## Caring for Heat-Related Illnesses

Take the following steps to care for someone suffering from a heat-related illness:

- Move the victim to a cool place.
- Loosen tight clothing.
- Remove perspiration-soaked clothing.
- Cool the victim by spraying them with cool water or applying cool, wet towels to the skin.
- Fan the victim.
- Encourage the victim to drink small amounts of a commercial sports drink, coconut water or milk, if the victim is conscious and able to swallow. Give water if none of these drinks are available.

If the victim refuses water or vomits, or has a mental status change, vision disturbance or a seizure:

- Send someone to summon EMS personnel immediately.
- Take steps to rapidly cool the victim as soon as possible by any means available.
  - Preferably immerse the victim up to their neck in cold water, if safe to do so.
  - Alternatively, place ice-water-soaked towels over the person's entire body, rotating towels frequently.
  - If bags of ice are available, place them on the victim's body, over the towels.
- If you are not able to measure and monitor the victim's temperature, apply rapid cooling methods for 20 minutes, or until the victim's condition improves or EMS personnel arrive. Give care as needed for other conditions that you find.

## Cold-Related Emergencies

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Temperatures do not have to be extremely cold for someone to suffer a cold-related emergency, especially if the victim is wet or it is windy.

### Hypothermia

**Hypothermia** occurs when a victim's entire body cools because its ability to keep warm fails. A victim with severe hypothermia will die if care is not provided. A victim who has hypothermia may seem indifferent, disoriented or confused. You may notice that the victim has a "glassy" stare. Initially, the victim may shiver, but as the hypothermia progresses, the shivering may stop. This is a sign that the victim's condition is worsening and they need immediate medical care. In advanced cases of hypothermia, the victim may become unresponsive, and their breathing may slow or stop. The body may feel stiff because the muscles have become rigid.

To care for hypothermia:

- Perform a primary assessment.
- Summon EMS personnel.
- Gently move the victim to a warm place. Sudden movements may cause cardiac arrest.
- Remove any wet clothing.

- Warm the victim by wrapping all exposed body surfaces in blankets or by putting dry clothing on the victim. Be sure to cover the head, since a significant amount of body heat is lost through the head.
  - Do not warm the victim too quickly, such as by immersing them in warm water.
- Have the victim drink liquids that are warm, but not hot, and that do not contain alcohol or caffeine, if the victim is alert.
- Wrap water bottles or chemical hot packs, if you are using one, in a towel or blanket before applying.
- Monitor the victim's condition, and watch for changes in LOC.

# 10-8 INJURIES TO MUSCLES, BONES AND JOINTS

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Accidents, such as falls, are a common cause of injuries to muscles, bones and joints. There are four types of muscle, bone and joint injuries:

- **Fracture**—A complete break, a chip or a crack in a bone. Fractures can be open or closed.
  - **Closed fractures:** The skin over the broken bone is intact.
  - **Open fractures:** There is an open wound in the skin over the fracture.
- **Dislocation**—Displacement of a bone away from its normal position at a joint. These usually are more obvious than fractures.

- **Sprain**—Tearing ligaments at a joint.
- **Strain**—Stretching and tearing muscles or tendons.

It is difficult to know whether a muscle, bone or joint injury is a closed fracture, dislocation, sprain or strain. However, you do not need to be able to identify the type of injury because the type of care provided is universal. The objective is to keep the injured area stable in the position found until EMS personnel take over.

## Caring for Muscle, Bone and Joint Injuries

---

When caring for muscle, bone and joint injuries, except for an open fracture, use the general procedures for a land emergency and:

- Summon EMS personnel if the victim cannot move or use the injured area.
- Support the injured area above and below the site of the injury.
- Check for circulation and sensation below the injured area.
- Immobilize and secure the injured area only if the victim must be moved and doing so does not cause further pain or injury. In many cases, it may be best to allow EMS personnel to immobilize the injury prior to transport.
- Recheck for circulation and sensation below the injured area.

## Immobilizing Muscle, Bone and Joint Injuries

---

Immobilizing a muscle, bone or joint injury helps keep the injured body part from moving. This also may help to reduce any pain. Splinting is a method of immobilizing an injured extremity and should be used **only** if you must move or transport a person prior to EMS arrival to seek medical attention, and if splinting does not cause more pain.

A tool or device used to immobilize an injury is called a splint. Commercially manufactured splints are widely available, but if necessary, you can improvise one from items available at the scene. The following can be used to immobilize common muscle, bone and joint injuries:

- **Anatomic splints:** The person's body is the splint. For example, an arm can be splinted to the chest, or an injured leg to the uninjured leg.
- **Soft splints:** Soft materials—such as a folded blanket, towel, pillow or folded triangular bandage—can be used to form a splint. A sling is a specific kind of soft splint that uses a triangular bandage tied to support an injured arm, wrist or hand.
- **Rigid splints:** Boards, folded magazines or newspapers, or metal strips that do not have sharp edges, can serve as splints.
- **The ground:** An injured leg may be immobilized by being stretched out on the ground.



If splinting is necessary, splint the injury in the position in which the injured area was found. Splint the injured area and the joints or bones

above and below the injury site. Check for circulation and sensation before and after splinting.

## RICE

The general care for all musculoskeletal injuries is similar: **rest, immobilize, cold** and **elevate**, or “RICE.”

### Rest

Avoid any movements or activities that cause pain. Help the victim to find the most comfortable position. If you suspect head, neck or spinal injuries, leave the victim lying flat.

### Immobilize

Stabilize the injured area in the position in which it was found. In most cases, applying a splint will **not** be necessary prior to EMS arrival. For example, the ground can provide support to an injured leg, ankle or foot, or the victim may cradle an injured elbow or arm in a position of comfort.

### Cold

Apply a cold pack for periods of 20 minutes. If 20 minutes cannot be tolerated, apply cold for periods of 10 minutes. If continued cooling is needed, remove the pack for 20 minutes, and then replace it.

Cold helps to reduce swelling and eases pain and discomfort. Make a cold pack by placing ice (crushed or cubed) with water in a plastic bag and wrapping it with a towel or cloth. If a cold pack is not available, use a commercial cold pack, which can be stored in a kit until ready to use. Place a thin layer of gauze or cloth between the source of cold and the skin to prevent injury to the skin. Do not apply a cold pack directly over an open fracture, because doing so would require you to put pressure on the open fracture site and could cause discomfort to the victim. Instead, place cold packs around the site. Do **not** apply heat, as there is no evidence that applying heat helps.

### Elevate

Elevating the injured area above the level of the heart helps slow the flow of blood and reduce swelling. Elevation is particularly effective in controlling swelling in extremity injuries. However, never attempt to elevate an injured area if it causes pain.

## Caring for Open Fractures

---

An open fracture occurs when a broken bone tears through the skin and surrounding soft tissue. To care for a victim with an open fracture:

- Summon EMS personnel.
- Place sterile dressings around the open fracture.
- Control any bleeding, as necessary.
- Bandage the dressings in place around the fracture.
- Do not move the exposed bone and limb, or attempt to align or place the bones back into the body.

# 10-9 EMERGENCY CHILDBIRTH

---

If a pregnant woman is about to give birth, summon EMS personnel. Important information to give to the dispatcher includes the pregnant woman's age and expected due date, the length of time she has been having labor pains and the number of previous pregnancies she has had.

You also should speak with the woman to help her remain calm; place layers of clean sheets, towels or blankets under her and over her abdomen; control the scene so that she will have privacy; and position her on her back with her knees bent, feet flat and legs spread apart.

Remember, the woman delivers the baby, so be patient and let it happen naturally. The baby will be slippery, so take care to avoid dropping the newborn. After delivery, wrap the newborn in a clean, warm blanket or towel and place them on the mother's chest.

Continue to meet the needs of the newborn while caring for the mother. Help the mother to begin nursing the newborn, if possible. This will stimulate the uterus to contract and help to slow the bleeding. The placenta still will be in the uterus, attached to the newborn by the umbilical cord. Contractions of the uterus usually will expel the placenta within 30 minutes. Do not pull on the umbilical cord. Catch the placenta in a clean towel or container. It is not necessary to separate the placenta from the newborn. Follow local protocols and medical direction for guidance on cutting the cord.

- ***Do not let the woman get up or leave to find a restroom. (Most women at this point feel a desire to use the restroom.)***
- ***Be sure to allow the woman's knees to be spread apart to avoid causing complications or harm to the baby.***
- ***Do not place your fingers in the woman's vagina for any reason.***
- ***Do not pull on the baby.***

# 10-10 WRAP-UP

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As a professional lifeguard, you may need to care for patrons with a variety of injuries and illnesses. An important part of your job is to provide these victims with effective care. Remember to follow the general procedures for injury or sudden illness on land until EMS personnel arrive and take over. This includes performing a primary assessment and,

if you do not find a life-threatening emergency, performing a secondary assessment. You must know how to check a responsive person from head to toe, take a brief SAMPLE history and provide the victim with whatever first aid is needed based on your training and local protocols.

## **BENCHMARKS FOR LIFEGUARDS**

Lifeguards should:

- Obtain consent, identifying themselves as trained responders.
- Be equipped and ready to use personal protective equipment and other first aid supplies.
- Conduct a secondary assessment to take a brief history and identify any non-life-threatening conditions.
- Provide appropriate care for victims in need of first aid.
- Recognize and respond to injuries and illnesses.
- Identify life-threatening conditions and provide appropriate care.

## **BENCHMARKS FOR LIFEGUARDING OPERATIONS**

Lifeguard managers should:

- Maintain and implement a facility-specific exposure control plan.
- Manage and monitor frequent refreshers and in-service training of lifeguarding staff.



# Chapter 10 Review

1. When completing a secondary assessment, lifeguards use **SAMPLE** to gather a brief history of the responsive victim. What does the mnemonic **SAMPLE** stand for?

**S** \_\_\_\_\_

**A** \_\_\_\_\_

**M** \_\_\_\_\_

**P** \_\_\_\_\_

**L** \_\_\_\_\_

**E** \_\_\_\_\_

2. List five symptoms of sudden illnesses:

1)
2)
3)
4)
5)



## Chapter 10 Review

**3. List the general precautions for injury or sudden illness on land:**

- 1)
- 2)
- 3)
- 4)
- 5)
- 6)

**4. How should you provide care for a victim experiencing a diabetic emergency?**

**5. When would you summon EMS personnel for a victim of a diabetic emergency?  
Provide two examples.**

- 1)
- 2)



## Chapter 10 Review

**6. List three reasons why you should summon EMS personnel for a victim who is having, or had a seizure.**

1)
2)
3)

**7. You are lifeguarding at a crowded facility and recognize a patron in the water who appears to be having a seizure. Place the following response and care steps in order.**

Remove the person from the water.	
Perform a primary assessment.	
Support the person with their head above water until the seizure ends.	
Summon EMS personnel.	
If breathing normally, position the victim on their side and monitor airway and breathing.	

**8. You are conducting a secondary assessment on an adult patron who lost their balance on the pool deck. The patron is slurring his speech while explaining that his arm is feeling numb. What sudden illness could this patron be experiencing?**

- A** | Cardiac arrest                      **C** | Seizure  
**B** | Diabetic emergency                **D** | Stroke



# Chapter 10 Review

**9. What does FAST stand for?**

**F** \_\_\_\_\_

**A** \_\_\_\_\_

**S** \_\_\_\_\_

**T** \_\_\_\_\_

**When would you use it?** \_\_\_\_\_

\_\_\_\_\_

**10. What are a lifeguard's objectives while waiting for EMS personnel to arrive?**

1)

2)

3)

4)

5)



## Chapter 10 Review

**11. The following are signs and symptoms of shock, EXCLUDING:**

- A** | Altered level of consciousness                      **C** | Restlessness or irritability  
**B** | Warm or dry skin    **D** | Nausea or vomiting

**12. Fill in the blank. \_\_\_\_\_ is a life-threatening condition that occurs when the body's systems are overwhelmed by heat and stop functioning.**

**List three signs and symptoms of the condition described above:**

1)

2)

3)







# CHECKING A RESPONSIVE PERSON

## Checking a Responsive Person

### Notes:

- When checking an adult or child, explain what you are about to do.
- If a child or an infant becomes extremely upset, conduct the check from toe to head.
- Look for a medical ID tag, necklace or bracelet on the victim's wrist, neck or ankle.
- Do not ask the victim to move any area of the body that causes discomfort or pain, or if you suspect a head, neck or spinal injury.

1

Check the head.

- Look at the scalp, face, ears, eyes, nose and mouth for cuts, bumps, bruises and depressions.
- Note if the victim has any changes in LOC, such as dizziness, or feels light-headed.



2

Check skin appearance and temperature.

- Feel the victim's forehead with the back of your hand and note if the skin is cold or hot.
- Look at the color of the victim's face and lips.
- Look at the victim's skin and note if it is moist or dry; or if it is red, pale, flushed or ashen.

3

Check the neck.

- Ask the victim to move their head from side to side if there is no discomfort and if an injury to the neck is not suspected.
- Note pain, discomfort or inability to move.

4

Check the shoulders.

- Ask the victim to shrug their shoulders.

5

Check the chest and abdomen.

- Ask the victim to take a deep breath and blow air out.
- Listen for difficulty or changes in breathing.
- Ask the victim if they are experiencing pain during breathing.



## CHECKING A RESPONSIVE PERSON

### Checking a Responsive Person *continued*

- 6** Check the arms.
  - Check one arm at a time.
  - Ask the victim to move their hand and fingers and to bend the arm.
- 7** Check the arms.
  - Check one arm at a time.
  - Ask the victim to move their hand and fingers and to bend the arm.
- 8** Provide care for any conditions found.
- 9** Have the victim rest in a comfortable position if they can move all body parts without pain or discomfort and has no other apparent signs or symptoms of injury or illness. Continue to watch for changes in consciousness and breathing.





# CONTROLLING EXTERNAL BLEEDING

## Controlling External Bleeding

**Note:** Always follow standard precautions when providing care. Activate the EAP and summon EMS personnel, if necessary. You can ask the victim to apply direct pressure with the dressing while you put on your gloves, if necessary.

### To control external bleeding:

- 1** Cover the wound with a sterile gauze pad and apply direct pressure until the bleeding stops. If blood soaks through the first gauze pad, put another one on top and apply additional direct pressure (press harder than you did before, if possible). It may take several minutes for the bleeding to stop.
- 2** When the bleeding stops, check for circulation (feeling, warmth and color) beyond the injury.
- 3** Apply a roller bandage. Wrap the bandage around the wound several times to hold the gauze pad(s) in place. Tie or tape the bandage to secure it.
- 4** Check for circulation (feeling, warmth and color) beyond the injury. If there is a change in feeling, warmth or color (indicating that the bandage is too tight), gently loosen it.
- 5** Remove your gloves and wash your hands.



**Notes:** If the bleeding does not stop with the application of direct pressure, call 9-1-1 or the designated emergency number if you have not already, and give care for shock if necessary.

### If the bleeding does not stop:

- Apply additional dressings and bandages on top of the first ones and continue to apply direct pressure.
- Take steps to minimize shock.
- Summon EMS personnel.
- Follow local protocols when considering other methods of bleeding control, such as applying a tourniquet or hemostatic dressings.



# SECONDARY ASSESSMENT—USING SAMPLE TO TAKE A BRIEF HISTORY

## Secondary Assessment—Using SAMPLE to Take a Brief History

### Notes:

- When talking to children, get to eye level with the child, talk slowly and in a friendly manner, use simple words and ask questions a child can easily answer.
- If the child's parents are nearby, ask for consent. If a parent or guardian is not available, consent is implied.

### Take a brief history using SAMPLE:

- 1** Signs and symptoms:
  - What happened?
  - Where do you feel any pain or discomfort? If so, can you describe it?
  - Do you have any numbness or loss of sensation? If so, where?
- 2** Allergies:
  - Do you have any allergies to medications or food? If so, what type of reactions have you experienced when you were exposed?
- 3** Medications:
  - Do you have any medical conditions or are you taking any medications? If so, what conditions do you have or what medications are you taking?
  - Have you taken any medications in the past 12 hours?
- 4** Pertinent past medical history:
  - Have you recently been ill?
  - Do you have any medical conditions?
  - Have you experienced any recent falls, accidents or blows to the head?
  - Have you had surgery, been in a traumatic accident or had a medical emergency?
- 5** Last oral intake:
  - When did you last eat or drink?
  - What did you last eat or drink and how much?
- 6** Events leading up to the incident:
  - What were you doing before the incident occurred?
  - What were you doing when the incident occurred?

