

## Chapter five

### Environmental Emergencies

#### # Environmental Emergencies

#### Provide first aid for environmental emergencies.

##### 1- Heat-Related Emergencies

In this section we'll cover

- **Heat Cramps**

**Definitions:** Most heat-related emergencies are caused by vigorous exercise. Heat cramps are painful muscle spasms, most often in the calves, arms, stomach muscles, and back.

**Signs:** Signs of heat cramps include muscle cramps, sweating, and headache.

**Actions** Follow these steps for giving first aid for a heat cramps:

Once heat cramp symptoms stop, the person can exercise again. Stretching, icing, and massaging painful muscles may be helpful.

A bag with ice and water and wrapped in a towel may be applied to the sore muscle for up to 20 minutes if the person can tolerate it.

**Important:** Mild heat-related signs are a warning that the person's condition may get worse unless you take action. Symptoms of heat-related emergencies often increase if left untreated.

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- **Heat Exhaustion**

**Definitions:** And Heat exhaustion is a serious condition that often turns into heat stroke. It often occurs when someone exercises in the heat and sweats a lot.

**Signs:** Signs of heat exhaustion include sweating, nausea, dizziness, vomiting, muscle cramps, feeling faint, and fatigue.

**Actions** Follow these steps for heat exhaustion:

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### • Heat Stroke

Definitions: Heat stroke is a very serious condition. It looks similar to heat exhaustion but it is life threatening. You need to act quickly.

Signs: The key signs of heat stroke are confusion, passing out, dizziness, and seizures. Other signs of heat stroke include nausea, vomiting, muscle cramps, feeling faint, and fatigue.

### Actions for Heat Stroke

Important:

- ✓ Begin cooling the person immediately. Every minute counts.
- ✓ If you can't put the person in cool water up to her neck, cool her with a cool water spray.
- ✓ Stop cooling the person once her behavior is normal again. Continued cooling could lead to low body temperature (hypothermia).
- ✓ Only put water on the person's skin.
- ✓ If the person can drink, give her something to drink. Sports drinks are the best.
- ✓ If the person can't drink, wait for someone with more advanced training to arrive and take over.

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## 2- Cold- Related Emergencies

In this section we'll cover

### • Frostbite

**Definition:** A cold injury to part of the body is called frostbite. Frostbite affects parts of the body that are exposed to the cold, such as the fingers, toes, nose, and ears. Frostbite typically occurs outside in cold weather. But it can also occur inside if workers don't have gloves on and handle cold materials, such as gases under pressure.

**Signs:**

- ✓ The skin over the frostbitten area is white, waxy, or grayish-yellow.
- ✓ The frostbitten area is cold and numb.
- ✓ The frostbitten area is hard, and the skin doesn't move when you push it.

### **Actions for Frostbite**

**Important:** If you need to touch the frostbitten area, do so gently. Rubbing it may cause damage.

## **#**

- **Low Body Temperature (Hypothermia)**

Definitions: and Hypothermia occurs when body temperature falls. Hypothermia is a serious condition that can cause death. A person can develop hypothermia even when the temperature is above freezing. Shivering protects the body by producing heat. Shivering stops when the body becomes very cold.

Signs:

- ✓ The skin is cool to the touch.
- ✓ Shivering (shivering stops when the body temperature is very low).
- ✓ The person may become confused or drowsy.
- ✓ Personality may change or the person may behave as if unconcerned about the condition.
- ✓ Muscles become stiff and rigid and the skin becomes ice cold and blue. As the body temperature continues to drop
- ✓ The person stops responding
- ✓ The person's breathing slows
- ✓ It may be hard to tell whether the person is breathing
- ✓ The person may appear to be dead

### **Actions**

Place a person with low body temperature near a heat source and place containers of warm, but not hot, water in contact with the skin. It is important to get the person to medical care as soon as possible.

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### **3- Bites and Stings**

**This section we'll cover:**

- **Animal and Human Bites**

Definitions: Although many bites are minor, some may break the skin. When a bite breaks the skin, the wound can bleed and may become infected from the germs in the biter's mouth. Bites that do not break the skin are not usually serious. Be sure to stay away from an animal that is acting strangely.

Action Follow these steps to give first aid to a person with an animal or human bite:

Important: These animals may carry rabies: cat, dog, skunk, raccoon, fox, bat, or other wild animal.

If a person is in a room with a bat, contact a healthcare provider.

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- **Snakebites**

Definitions: and If a snake bites someone, it is helpful to be able to identify the kind of snake. Sometimes you can identify the snake from its bite mark. If you aren't sure whether a snake is poisonous, assume that it is.

**Signs:**

- ✓ Pain in the bite area that keeps getting worse
- ✓ Swelling of the bite area
- ✓ Nausea, vomiting, sweating, and weakness
- ✓ Actions Follow these steps to give first aid to someone who has been bitten:

**Actions Follow these steps to give first aid to someone who has been bitten:**

**Important:** Some people have heard about other ways to treat a snake bite, such as sucking out the poison. The correct steps for treating a snake bite are in the table.

### **Important Scene Safety and Snakes:**

- ✓ When making sure the scene is safe, be very careful around a wounded snake.
- ✓ Back away and go around the snake.
- ✓ If a snake has been killed or hurt by accident, leave it alone. A snake might bite even when severely hurt or close to death.
- ✓ If the snake needs to be moved, use a long-handled shovel. If you don't need to move it, leave it alone.

### **• Insect, Bee, and Spider Bites and Stings**

**Definitions:** Usually insect and spider bites and stings cause only mild pain, itching, and swelling at the bite. Some insect bites can be serious and even fatal if

- ✓ The person bitten has a severe allergic reaction to the bite or sting
- ✓ Poison (venom) is injected into the person (for example, from a black widow spider or brown recluse spider)
- ✓

**Actions Follow these steps to give first aid to someone with a bite or sting:**

**Important:** Make sure you remove the stinger with something flat and dull that won't squeeze the stinger. Squeezing the venom sac can release more venom (poison).

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### **• Poisonous Spider and Scorpion Bites and Stings**

**Signs:** The following are the signs of poisonous spider and scorpion bites and stings. Some of the signs may vary depending on the type of bite or sting.

- ✓ Severe pain at the site of the bite or sting
- ✓ Muscle cramps

- ✓ Headache
- ✓ Fever
- ✓ Vomiting
- ✓ Breathing problems
- ✓ Seizures
- ✓ Lack of response

**Actions Follow these steps for a spider or scorpion bite or sting:**

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**• Tick**

**Definitions:** Ticks are found on animals and in wooded areas. They attach themselves to exposed body parts. Many ticks are harmless. Some carry serious disease attached to a person, the greater the person's chance of catching a disease.

**Actions for Tick Bites:**

Important: Some people have heard about other ways to remove a tick. The correct way to remove a tick is to follow the actions in the table.

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## **4- Poison Emergencies**

In this section we'll cover the following:

**• Scene Safety for Poison Emergencies**

**Definitions:** If you think someone may have been exposed to a poison, make sure the scene safe before giving first aid. This takes a few more steps than in other first aid situations.

Actions:

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### • Removing Poisons

**Definitions:** Get the poison off the person as quickly as you safely can. Use lots of water to rinse the poisons off.

**Actions:**

**Important:** If only one eye is affected make sure the eye with the poison in it is the lower eye as you rinse. Make sure you do not rinse the poison into the unaffected eye.

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### • Other First Aid for Poison Emergencies

**Definitions:** Worksites should have an MSDS (Material Safety Data Sheet) for each chemical at the worksite. You should know where the MSDS is at your worksite. The MSDS provides a description of how a specific poison can be harmful.

Unfortunately the MSDS usually provides little information about first aid actions. Some of the first aid actions listed in the MSDS or on the label of the poison may be outdated.

You will probably receive additional training on the MSDS during the "Right to Know" training your workplace provides.

**Actions:**

**Important:** If you give CPR to a poisoning injured person, use a mask for giving breaths if possible. This precaution is especially important if the poison is on the lips or mouth. Some dispatchers may connect you to a poison control center. Give only those antidotes that the poison controls center or dispatcher tells you to. The first aid instructions on the poison itself can be helpful but may be incomplete.