

## **THE THREE STAGES OF HEAT- RELATED ILLNESS (SYMPTOMS, TREATMENT AND PREVENTION)**

### **What is heat-related illness?**

Normally, the body has ways of keeping itself cool, by letting heat escape through the skin, and by evaporating sweat (perspiration). If the body does not cool properly or does not cool enough, the victim may suffer varying levels of heat stress. Anyone can be susceptible although the very young and very old are at greater risk. Heat stress can become serious or even deadly if unattended.

### **What are the stages of a heat-related illness?**

**HEAT CRAMPS:** are the earliest symptoms of the spectrum of heat-related illness.

#### **Symptoms**

- There is usually significant sweating
- Mild headache
- Mild to painful involuntary spasms (cramping) most often in the muscles that have been stressed or the larger muscle groups
- Heat cramps can occur at the time of exertion or hours later

#### **Treatment**

- Heat cramps can usually be treated when and where they occur. The affected individual should stop all activity and find a cool place to rest. The muscle cramps and spasms can be overcome by gently stretching the cramped muscle(s). Individuals should replace their fluid loss by drinking a combination of water, sports drinks, or other electrolyte replacement solutions slowly and in small amounts. Do not guzzle.
- If the cramps cannot be controlled, the affected individual should seek medical care.

**HEAT EXHAUSTION:** Often occurs when people exercise heavily or work in a warm, humid place where body fluids are lost through heavy sweating. Fluid loss causes blood flow to decrease in the vital organs, resulting in a form of shock. With heat exhaustion, sweat does not evaporate as it should, possibly because of high humidity or too many layers of clothing. As a result, the body is not cooled properly.

#### **Symptoms**

- Cool, clammy, pale skin
- Flushed or red skin (often with exertion)
- Severe Headache
- Dizziness and weakness or exhaustion
- Nausea or vomiting
- The skin may or may not feel hot
- Body Temp will still be near normal

#### **Treatment**

- Get the person to a cooler place and have him or her rest in a comfortable position. If the person is fully awake and alert, give a half glass of cool water/ sport drink every 15 minutes. Do not let him or her drink too quickly. Do not give liquids with alcohol or caffeine in them, as they can make conditions worse. Remove or loosen tight clothing and apply cool, wet cloths such as towels or wet sheets, especially to neck, armpits, wrists and upper thigh area (main artery route). Call 9-1-1 or the local emergency number if the person refuses water, vomits or loses consciousness. Remember do not give them anything by mouth if they vomit, seek medical attention.

**HEAT STROKE:** Also known as sunstroke, heat stroke is life-threatening. The victim's temperature control system, which produces sweating to cool the body, stops working. The body temperature can rise so high that brain damage and death may result if the body is not cooled quickly. Signals include hot, red and dry skin; changes in consciousness; rapid, weak pulse; and rapid, shallow breathing. Body temperature can be very high--sometimes as high as 105° F.

### **Symptoms**

- Vomiting
- Confusion
- Decreased alertness level or complete loss of consciousness
- High body temperature (sometimes as high as 105° degrees F)
- Skin may still be moist or the victim may stop sweating and the skin may be red, hot and dry
- Rapid, weak pulse
- Rapid, shallow breathing

### **Treatment**

- This late stage of a heat-related illness is life threatening. Call "911 for help.
- Move the person to a cooler place.
- Quickly cool the body. Wrap wet sheets around the body and fan it. If you have ice packs or cold packs, wrap them in a cloth and place them on each of the victim's wrists and ankles, in the armpits and on the neck to cool the large blood vessels. (Do not use rubbing alcohol because it closes the skin's pores and prevents heat loss.)
- Watch for signals of breathing problems and make sure the airway is clear. Keep the person lying down.

### **Is there any General Care for Heat Emergencies?**

- Cool the Body
- Give Fluids
- Minimize Shock

### **How can I Prevent Heat-Related Illness**

- Respect your own limits on that day and be honest with your coaches, back down.
- Condition daily, it takes two weeks to get acclimated to the heat. Start slow, even walking in the heat with your water bottle.
- Dress for the heat. Wear lightweight, light-colored clothing. Light colors will reflect away some of the sun's energy. It is also a good idea to wear hats.
- Drink enough daily so that your urine is plentiful and pale yellow like lemonade with no odor. Water is best to maintain hydration; sports drinks, which contain sugar and salt, can transport fluid to cells more quickly than water alone and are helpful in a dehydrated situation.
- Drink water often even if you do not feel thirsty. Avoid alcohol and caffeine, which dehydrate the body.
- Before practice, drink at least 16 ounces (2 cups) of fluid one hour in advance and another 8 ounces just before.
- During practice, drink a cup (8 ounces) of fluid every 15 to 20 minutes
- Eat small meals and eat more often. Avoid high intake of foods that are high in protein which increase metabolic heat.
- Exercise during the coolest part of the day, before 10am and after 5pm.
- Take regular breaks when engaged in physical activity on warm days. Take time out to find a cool place.

- When out on runs, take advantage of sprinklers. Wet your head. Don't be afraid of getting really wet. The water will evaporate, thereby helping your body maintain a normal temperature.
- Use Sunscreen!
- Take a bandana, wet it, roll it from one end of the diamond to the other and tie it loosely around you neck when you are exercising or working outside. Can also roll and freeze.
- Recognize when you, or someone else, is showing the symptoms of a heat-related illness, stop activity and find a cool place. Tell a Coach!

Source: American Red Cross (modified language for coaching settings)

