

## **JULY 2013 SAFETY MEETING HEAT HAZARDS**

Hot weather can make us uncomfortable, and as the temperature rises, there are hot weather related conditions we should be aware of. Nearly 70 percent of Americans have been involved in some type of summer emergency. Some of the more serious summer emergencies result from the heat.

Because of our work environment, it is important that we understand hyperthermia and heat related illnesses and conditions.

### **What is hyperthermia?**

“Hyperthermia is overheating of the body. The word is made up of “hyper (high) + “thermia” from the Greek word “thermes” (heat). High temperatures put people at risk.”

### **What causes hyperthermia and heat-related illnesses?**

“People suffer heat-related illness when the body’s temperature control system is overloaded. The body normally cools itself by sweating. But under some conditions, sweating just isn’t enough. In such cases, a person’s body temperature rises rapidly. Very high body temperature can damage the brain or other vital organs.

Several factors affect the body’s ability to cool itself during extremely hot weather. When the humidity is high, sweat will not evaporate as quickly, preventing the body from releasing heat quickly. Other conditions that can limit the ability to regulate temperature include old age, obesity, fever, dehydration, heart disease, poor circulation, sunburn, and drug and alcohol use.”

Workers at the greatest risk of heat-related illness include:

- People 65 years of age or older
- People who are overweight
- People who overexert during work or exercise
- People who are ill or on certain medications

“People 65 years of age or older may not compensate for heat stress efficiently, and are less likely to sense and respond to changes in temperature.

Overweight people may be prone to heat sickness because of their tendency to retain more body heat.

Any health condition that causes dehydration makes the body more susceptible to heat-related illness.”

## **Hot weather health emergencies**

“Even short periods of high temperatures can cause serious health problems. Two common problems are heat stroke and heat exhaustion.”

### **Heat Stroke**

“Heat stroke occurs when the body becomes unable to control its temperature. The body’s temperature rises rapidly, the sweating mechanism fails, and the body is unable to cool down. Heat stroke can cause death or permanent disability if emergency treatment is not given.”

### **Symptoms of heat stroke**

“Warning signs of heat stroke vary but may include:

- An extremely high body temperature (above 104°F)
- Red, hot, and moist or dry skin (no sweating)
- Rapid, strong pulse
- Throbbing headache
- Dizziness
- Nausea
- Confusion
- Seizures
- Unconsciousness

### **Treatment for heat stroke**

If you see any of these signs, you may be dealing with a life threatening emergency.

**Have someone call for immediate medical assistance while you begin cooling the victim:**

- Get the victim to a cool indoor or outdoor area.
- Cool the victim rapidly using whatever methods you can.
- Monitor body temperature, and continue cooling efforts until the body temperature drops to 101-102°F or lower.

Sometimes a victim’s muscles will begin to twitch uncontrollably (seizures) as a result of heat stroke. If this happens, keep the victim from injuring himself, but do not place any object in the mouth and do not give fluids. If there is vomiting, make sure the airway remains open by turning the victim on his or her side to prevent choking.

### **Heat Exhaustion**

Heat exhaustion is the body’s response to an excessive loss of water and salt contained in sweat. Those most prone to heat exhaustion are elderly people, people taking high blood pressure medication and people working or exercising in a hot environment.

### **Symptoms of heat exhaustion**

Warning signs of heat exhaustion include:

- Heavy sweating
- Paleness
- Muscle cramps
- Tiredness
- Weakness
- Dizziness
- Headache
- Nausea or vomiting
- Fainting

The skin may be cool and moist. The victim's pulse rate may be fast and weak, and breathing may be fast and shallow. If heat exhaustion is untreated, it may progress to heat stroke.

### **Treatment of heat exhaustion**

Cooling measures that may be effective include:

- Cool, non-alcoholic beverages
- Rest
- Cool shower, bath, or sponge bath
- An air-conditioned environment
- Lightweight clothing

Seek medical attention immediately if symptoms are severe or the victim has heart problems or high blood pressure, or symptoms worsen or last longer than 1 hour.

### **Other heat-related health problems**

#### **Heat Cramps**

Heat cramps usually affect people who sweat significantly during strenuous activity. This sweating depletes the body's salt and moisture. The low salt level in the muscles causes painful cramps. Heat cramps may also be a symptom of heat exhaustion.

#### **Symptoms of heat cramps**

Heat cramps are muscle pains or spasms (usually in the abdomen, arms, or legs) that may occur in association with strenuous activity. If you have heart problems or are on a low sodium diet, get medical attention for heat cramps.

#### **Treatment for heat cramps**

- Stop all activity, and sit quietly in a cool place.
- Drink clear juice or a sports beverage.
- Do not return to strenuous activity for a few hours after the cramps subside because further exertion may lead to heat exhaustion or heat stroke.
- Seek medical attention for heat cramps if they do not subside in 1 hour.

### **Hot weather tips**

To protect your health when temperatures are extremely high, remember to keep cool and use common sense. The following tips are important.

#### **Drink plenty of fluids**

Increase your fluid intake regardless of your activity level. During hot weather, you will need to drink more liquid than your thirst indicates. This is especially true for people 65 years of age and older who often have a decreased ability to respond to external temperature changes. Drinking plenty of liquids during exercise is especially important. However, avoid very cold beverages because they can cause stomach cramps.

#### **Replace salt and minerals**

The easiest and safest way to replace salt and minerals is through your diet. Drink fruit juice or a sports beverage during exercise or any work in the heat. Do not take salt tablets unless directed by your doctor. If you are on a low-salt diet, ask your doctor before changing what you eat or drink, especially before drinking a sports beverage.

#### **Wear appropriate clothing and sunscreen**

Choose lightweight, light-colored, loose-fitting clothing. In the hot sun, a wide brimmed hat will provide shade and keep the head cool. Sunburn affects your body's ability to cool itself and causes a loss of body fluids. A variety of sunscreens are available to reduce the risk of sunburn. Select SPF 15 or higher to protect yourself adequately. Apply sunscreen 30 minutes before going outdoors and reapply according to package directions.

#### **Pace yourself**

If you are unaccustomed to working in a hot environment, start slowly and pick up the pace gradually.

If exertion in the heat makes your heart pound and leaves you gasping for breath, STOP all activity, get into a cool area, or at least in the shade, and rest, especially if you become lightheaded, confused, weak, or faint.

#### **Schedule outdoor activities carefully**

Rest frequently in a shady area. Resting periodically will give your body's thermostat a chance to recover.

#### **Use common sense**

Avoid hot foods and heavy meals as they may add heat to your body. Limit sun exposure during the mid-day hours.

#### **Closing**

These self-help measures are not a substitute for medical care but may help you recognize and respond promptly to warning signs of trouble. Your best defense against heat-related illness is prevention. Staying cool and making simple changes in your fluid intake, activities, and clothing during hot weather can help you remain safe and healthy.”

## **July 2013 Safety Test Heat Hazards**

Name \_\_\_\_\_

Date \_\_\_\_\_

Instructions: Read and answer each of the following questions. When complete, grade the test and review incorrect answers so each employee is “armed” with the correct answers before they leave the training.

(1) Hyperthermia is overheating of the body.

- (A) True
- (B) False

(2) Overweight employees may be more prone to heat related illnesses,

- (A) True
- (B) False

(3) Heat stroke occurs when the body becomes unable to control its' temperature.

- (A) True
- (B) False

(4) Heat exhaustion is the body's response to an excessive loss of water and salt.

- (A) True
- (B) False

(5) An employee's diet will have no effect when working in extreme heat.

- (A) True
- (B) False

**July 2013**  
**Answer Key**

- (1) True
- (2) True
- (3) True
- (4) True
- (5) False