

## Heat Related Illnesses

### Forms of Heat Related Illness

Heat Cramps: Painful cramps in the arms, legs, or abdominal muscles caused by the onset of dehydration.

- ✓ In the event of heat cramps, stop activity and move to a cooler area.
- ✓ Drink cold water and gently stretch the affected muscles.

Heat Exhaustion: A mild heat related illness that can occur when working in high temperatures coupled with inadequate fluid intake. This illness will cause the body to lose unhealthy amounts of water and salt as sweat.

- ✓ Warning signs include heavy sweating, paleness, muscle cramps, tiredness, weakness, dizziness, headache, nausea/vomiting, and fainting.
- ✓ The victim's skin may feel pale and moist. Their heart rate can increase as well, resulting in high blood pressure.
- ✓ If untreated, heat exhaustion can transition into heat stroke.
- ✓ Drink plenty of liquids such as water and sports beverages to replace electrolytes.
- ✓ In extreme temperatures, frequent breaks and shift changes may be necessary to reduce the likelihood of heat related illness.

Heat Stroke: A serious condition that, if untreated by emergency medical care, could result in death.

- ✓ Warning signs include pale, dry skin, a rapid heart rate, difficulty breathing, disorientation, agitation, confusion, fainting, strange behavior, seizures, and coma induction.
- ✓ Contact Emergency Medical Services and cool the victim by placing ice under the armpits and groin areas.
- ✓ Fan the victim and keep him/her in a cool area until emergency medical assistance arrives.

### Heat Exhaustion

Construction workers may be at heightened risk for heat stress because much of their work is in the summer. Working and performing heavy physical work in the heat can adversely affect the body's ability to cool itself, which in turn causes heat stress. If heat stress is not treated early, more serious conditions, such as heat exhaustion, can develop.

### Signs and Symptoms

- |                            |                        |                           |
|----------------------------|------------------------|---------------------------|
| ✓ Shallow breathing        | Weak, rapid pulse      | ✓ Cool, pale, clammy skin |
| ✓ Headache and nausea      | Fainting and dizziness | ✓ Muscle cramps           |
| ✓ Increased breathing rate | Sweating               | ✓ Weakness and fatigue    |

The above signs and symptoms are similar to those seen in mild shock. Sweating is an important distinction between heat exhaustion and heat stroke; the presence of sweat is an indicator that the employee is suffering from exhaustion and not a potentially deadly stroke. However, if left untreated, heat exhaustion may progress to heat stroke. Workers suffering from heat exhaustion should be transported to medical aid immediately.

Use the buddy system to watch a co-worker for the symptoms mentioned above. If you see these signs/symptoms in an employee, report to the foreman. If a worker vomits, he/she must be immediately removed from the site – no exceptions! The foreman should contact the office and have them transported to a medical facility. **NEVER LET A SICK OR EXHAUSTED EMPLOYEE DRIVE THEMSELVES!** They may become disoriented, confused, and even prone to fainting.

## Treatment

Move the worker to a cool environment. If possible, lay the worker down and remove or loosen any tight-fitting clothing. Fan the worker and sponge him/her with cold water. Stop the cooling process if the employee begins to shiver; this is a sign that he/she is too cold. In most cases, the patient's symptoms will improve sharply within 30 minutes. These patients should still be transported to medical aid for evaluation.

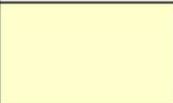
## Prevention

- ✓ Acclimate the body (gradually expose yourself to heat and work).
- ✓ Drink plenty of water – at least one pint (2 cups) every hour.
- ✓ Wear clean, light-colored, loose-fitting clothing made of breathable fabric.
- ✓ Take breaks in a cool or well-ventilated area. Take more breaks during the hottest part of the day or when performing hard physical work. Allow the body to cool down before beginning again.

## Urine Color Test

It is important to periodically check the color of one's urine during the work day. If the water in the body is balanced, the urine will be a pale straw or lemonade color. When fluid loss from the body exceeds water intake, the kidneys will conserve water, which makes the urine much more concentrated with waste products and subsequently darker in color. Utilize the chart below when determining the color of the urine. The goal is to have a rating of "3" or less. (Note: certain medications and vitamins may cause the color of the urine to change. If any of these have been taken, this test is unreliable.)

### Urine Color Test for Dehydration

1		You're doing great. You're probably very well hydrated. Drink water as normal.
2		You're doing OK. You're probably well hydrated. Drink water as normal.
3		You're fine. You could stand to drink a little water. Maybe 2 of the small cups from one of the water coolers, $\frac{1}{4}$ of a bottle, or around 4-5 swallows from a fountain.
4		You're starting to get dehydrated. Drink at least $\frac{1}{2}$ bottle of water now, or a whole bottle if you're outside and/or sweating.
5		You're low, and at an increased risk for heat related illness. Drink a bottle of water now. If you've been in the heat, drink it slowly in a cool or shaded area. Rest for about 15-20 minutes before going back into the heat.
6		You're really low, and at a high risk for heat related illness. Drink 1-2 bottles of water <b>now</b> . If you've been in the heat, drink it slowly in a cool or shaded area. Rest for about 30-45 minutes before going back into the heat.
7		Drink 2 bottles of water <b>right now</b> , and report to Health Services. If your urine is darker than this and/or red or brown, dehydration might not be the problem. See a doctor.

Urine color chart has been adapted from Armstrong, 2000

## Questions to Generate Discussion

- How can you prevent heat exhaustion?
- What are some indications of heat stroke?
- Identify some jobs in your work area that, if precautions are not followed, could lead to an employee suffering from a heat related illness.

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Presented By: \_\_\_\_\_ Date: \_\_\_\_\_

Company Name: \_\_\_\_\_

Job Name: \_\_\_\_\_

Attendees:		

