Loss Control Services: *SAFETY TOPIC OF THE MONTH*

M.0915: *Heat Illness Prevention*
Facilitator Outline

Purpose: Monterey Educational Risk Management Authority - Loss Control Services provides these monthly topics to promote safety awareness, injury prevention and regulatory compliance for member districts. These topics may be adapted specifically to the needs of your district by editing and reformatting. If desired, the topic may be expanded with video/DVD, Powerpoint, or other media.

Instructions: Make copies of the handouts and quiz for those attending. As the facilitator for this training – please keep track of attendance in accordance with your district recordkeeping requirements. Thirty minutes should be allocated to allow for review/discussion of the handouts and the quiz – it is possible to condense the topic time to 15 minutes or less if time constraints are severe. You may use the quiz as a pre or post discussion topic; using it as a pre-quiz and then discussing the answers after review of the materials is a good way to assure an interactive session in a minimal amount of time.

Answers to Handout #2: Heat Illness Prevention

1. Which of these factors could combine to contribute to causing heat illness?
   a) high air temperature b) high humidity c) hydration d) a, b, and c ***e) a and b***
2. Which term is related to "personal risk factors" that may contribute to heat illness?
   a) age b) alcohol consumption c) prescribed medication ***d) all of these*** ***e***) a and b
3. The term "shade" means blockage of direct sunlight. ***True*** False
4. Each employee is responsible to provide their own drinking water for outdoor work. True ***False***
   The employer is required to provide drinking water.
5. The employer must allow rest breaks and provide shade to prevent heat illness. ***True*** False
6. Communication to emergency services must be available at the work site. ***True*** False
7. Which of the following are symptoms of heat stroke?
   a) dry hot skin b) heavy sweating c) seizure/convulsion d) all of these ***e) a and c*** f) none of these
8. High humidity makes the air feel warmer than it actually is. ***True*** False
9. Provide the following help to a co-worker experiencing heat illness symptoms:
   a) move to cooler shaded area b) loosen/remove heavy clothing c) provide cool water
   d) Call for emergency help (9-1-1) e) none of these are correct ***f) all of these are correct***
10. Everyone is affected by high air temperatures in the same way due to thermal convection. True ***False***
    People react to high air temperatures differently according to their "personal factors".
11. The "bonus" question adds extra feedback and interactive discussion from the group.

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Handout #1: Heat Illness Prevention

1. Training Objective

Employees, who work in outdoor places of employment or on job tasks in other areas at those times when the environmental risk factors for heat illness are present, are at risk for developing heat illnesses if they do not protect themselves appropriately. The objective of this training is to provide employee awareness regarding heat illness symptoms, ways to prevent illness, and what to do if symptoms occur.

2. District Policy

It is the policy of *Any District/Any School* that any employee participating in job tasks when environmental risk factors for heat illness are present shall comply with the procedures in this document and communicate with staff and co-workers to reduce the risk of heat illness.

3. DEFINITIONS

"Acclimatization" means temporary adaptation of the body to work in the heat that occurs gradually when a person is exposed to it. Acclimatization peaks in most people within four to fourteen days of regular work for about two hours per day in the heat.

"Environmental risk factors for heat illness" means working conditions that create the possibility that heat illness could occur, including air temperature, relative humidity, radiant heat from the sun and other sources, conductive heat sources such as the ground, air movement, workload severity and duration, protective clothing and personal protective (PPE) equipment worn by employees.

The term "heat illness" means a serious medical condition resulting from the body's inability to cope with a particular heat load, and includes heat cramps, heat exhaustion, heat syncope, and heat stroke.

"Personal risk factors for heat illness" means factors such as an individual's age, degree of acclimatization, health, water consumption, alcohol consumption, caffeine consumption, and use of prescription medications that affect the body's water retention or other physiological responses to heat.

"Preventative recovery period" means a period of time to recover from the heat in order to prevent heat illness.

"Shade" means blockage of direct sunlight. Canopies, umbrellas, and other temporary structures or devices may be used to provide shade. One indicator that blockage is sufficient is when objects do not cast a shadow in the area of blocked sunlight. Shade is not adequate when heat in the area of shade defeats the purpose of shade, which is to allow the body to cool. For example, a car sitting in the sun does not provide acceptable shade to a person inside it, unless the car is running with air conditioning.

4. BASIC REQUIREMENTS

The following are basic requirements that apply to all employees while working where environmental risk factors for heat illness are present.

1. All employees shall be identified who are required to work where environmental factors for heat illness are present.

2. Training shall be provided for all potentially impacted employees working where environmental risk factors for heat illness are present and their supervisors. Training information shall include but not be limited to the topics listed in the training section of this written program. All potentially impacted employees and supervisors who supervise these employees must be trained on the risks and prevention of heat illness, including how to recognize symptoms and respond when they appear.

3. Drinking water in the quantity of 1 quart per hour shall be available at all times for each employee for the duration of the entire shift while working outdoors in the heat. Supervisors shall remind employees to drink frequently and this topic will be addressed at tailgate meetings.
4. Employees shall have access to a shaded area to prevent or recover from heat illness symptoms and where they can take their rest breaks. The importance of taking rest breaks and recognizing when a preventative recovery period is needed allowing employees to cool shall be addressed at tailgate meetings.
5. In the event an employee feels discomfort from the heat, a preventative recovery period is needed to allow the employee to cool down and prevent the onset of heat illness.
6. Supervisors and employees shall carry radios or other means of communication to ensure that emergency services can be called. Verification that the radios or other means of communication are functional at the work site shall be carried out prior to each shift.

TIPS FOR PREVENTING HEAT ILLNESS

When the body is unable to cool it self by sweating, several heat-induced illnesses such as heat stress or heat exhaustion and the more severe heat stroke can occur, and may result in death.

A. Factors Leading to Heat Stress
High temperature and humidity; direct sun or heat; limited air movement; physical exertion; poor physical condition; some medicines; and inadequate tolerance for hot workplaces are factors that may create risk of heat illness. The heat index is the "feels like", or apparent, temperature. As relative humidity increases, the air seems warmer than it actually is because the body is less able to cool itself via evaporation of perspiration. As the heat index rises, so do health risks. When the heat index is 90°-105°F, heat exhaustion is possible. When it is above 105°F, it is probable. Heatstroke is possible when the heat index is above 105°F, and very likely when it is 130°F and above. Physical activity and prolonged exposure to the heat increase the risks.

B. Symptoms of Heat Exhaustion
- Headaches, dizziness, lightheadedness or fainting.
- Weakness and moist skin.
- Mood changes such as irritability or confusion.
- Upset stomach or vomiting.

C. Symptoms of Heat Stroke
- Dry, hot skin with no sweating.
- Mental confusion or losing consciousness.
- Seizures or convulsions.

D. Preventing Heat Stress
- Know signs/symptoms of heat-related illnesses; monitor yourself and coworkers.
- Block out direct sun or other heat sources.
- Use cooling fans/air-conditioning; rest regularly.
- Drink lots of water; about 1 cup every 15 minutes.
- Wear lightweight, light colored, loose-fitting clothes.
- Avoid alcohol, caffeinated drinks, or heavy meals.

E. What to Do for Heat-Related Illness
- ✓ Call 911 (or local emergency number) at once. While waiting for help to arrive:
  - ❒ Move the worker to a cool, shaded area.
  - ❒ Loosen or remove heavy clothing.
  - ❒ Provide cool drinking water – do not force an unconscious person to drink.
  - ❒ Fan and mist the person with water.

NOTES:

Handout #2: PRE -QUIZ - *Heat Illness Prevention*

Name: _____ Date: _____

Department _____ Job Title _____

Instructions: Please provide the best answer for each question – the "best" answer may be open to discussion during review of the quiz!

1. Which of these factors could combine to contribute to causing heat illness?
   a) high air temperature b) high humidity c) hydration d) a, b, and c e) a and b

2. Which term is related to "personal risk factors" that may contribute to heat illness?
   a) age b) alcohol consumption c) prescribed medication d) all of these e) a and b

3. The term "shade" means blockage of direct sunlight. True False

4. Each employee is responsible to provide their own drinking water for outdoor work. True False

5. The employer must allow rest breaks and provide shade to prevent heat illness. True False

6. Communication to emergency services must be available at the work site. True False

7. Which of the following are symptoms of heat stroke?
   a) dry hot skin b) heavy sweating c) seizure/convulsion d) all of these e) a and c f) none of these

8. High humidity makes the air feel warmer than it actually is. True False

9. Provide the following help to a co-worker experiencing heat illness symptoms:
   a) move to cooler shaded area b) loosen/remove heavy clothing c) provide cool water
   d) Call for emergency help (9-1-1) e) none of these are correct f) all of these are correct

10. Everyone is affected by high air temperatures in the same way due to thermal convection. True False

11. Bonus Question: Do you have something to add to the discussion regarding your experience with situations involving heat illness prevention? Make notes below:

_____

_____