

Master Brewers

Safety Toolbox Talk



Protecting Workers from Heat Stress

Overview

Hot environments can exist outside and inside the brewery. After working long hours in heat, the body may have a hard time regulating normal body temperature. When this happens, heat illness may occur and could result in hospitalization and even death.

Different Types of Heat Illness

There are several different types of heat illnesses with different severities.

Heat Stroke is the most severe heat-related illness and may result in death. Heat stroke occurs when the body's temperature-regulating system fails, and body temperature rises to critical levels (higher than 104°F). The signs of heat stroke are confusion, loss of consciousness, and seizures. Workers experiencing heat stroke have a very high body temperature and may stop sweating—which is extremely serious. If a worker shows signs of possible heat stroke, get medical help immediately and call 911. Until medical help arrives, move the worker to a shady, cool area and remove as much clothing as possible. Wet the worker with cool water and circulate the air to speed cooling. Place cold wet cloths, wet towels, or ice all over the body or soak the worker's clothing with cold water.

Heat Exhaustion is the second most serious heat-related illness. Heat exhaustion is when the body temperature elevates to a temperature higher than 100.4°F. The signs and symptoms of heat exhaustion are headache, nausea, dizziness, weakness, irritability, confusion, thirst, and heavy sweating. Workers with heat exhaustion should be removed from the hot area and given liquids to drink. Encourage the worker to take sips of cold water. Cool the worker with cool compresses. Workers with signs or symptoms of heat exhaustion should be taken to a clinic or emergency room for medical evaluation and treatment.

Heat Cramps can also be caused by working in heat. Heat cramps are caused by loss of fluid during sweating, which can promote muscle cramps. Workers with heat cramps should replace fluid loss by drinking water and/or carbohydrate-electrolyte replacement liquids (e.g., sports drinks).

Heat Rash is the most common problem in hot work environments. Heat rash is caused by sweating and looks like a red cluster of pimples or small blisters. Heat rash may appear in different areas of the body such as neck, upper chest, and elbow creases. The rash area should be kept dry. Ointments and creams should not be used on heat rash since anything that makes the skin warm or moist may make the rash worse.

Designing a Heat Illness Prevention Program

A good heat illness prevention program has many key elements, including:

- A person designated to oversee the heat illness prevention program
- Hazard identification
- Access to water and shade
- Acclimatization

- Modified work schedules
- Training
- Monitoring for signs and symptoms
- Emergency planning and response

Hazard Identification

When identifying jobs for heat illness risk, humidity, sun and other thermal exposures, work demands, clothing or PPE, and personal risk factors should all be considered.

Access to Water Is Key to Prevention

The human body can lose up to 28 fl oz of water every hour. Everyone sweats differently, but the availability and consumption of 5–7 oz of water every 10–15 min during hot days will do much to avoid heat-related problems.

Acclimatization

Acclimatization is a physical change that allows the body to build tolerance to working in the heat. It occurs by gradually increasing workloads and exposure and taking frequent breaks for water and rest in the shade. Full acclimatization may take up to 14 days or longer depending on factors related to the individual.

Modified Work Schedules

Altering work schedules may reduce workers' exposure to heat. For instance:

- Reschedule all nonessential outdoor work for days with a reduced heat index—schedule the more physically demanding work during the cooler times of day
- Schedule less physically demanding work during warmer times of the day
- Rotate workers, split shifts, and/or add extra workers—use work/rest cycles as well

Remember to stop work if essential control methods are inadequate or unavailable when the risk of heat-related illness is very high.

Monitoring for Heat Illness Symptoms

Establish a system to monitor and report the signs and symptoms of heat-related illness to improve early detection and action. Using a buddy system will assist supervisors when watching for signs of heat-related illness.

LEARN MORE!

Download Apps: OSHA's Heat Smartphone App or National Weather Service Heat Index

Visit: www.osha.gov/heat or www.cdc.gov/niosh/topics/heatstress

If you have any questions regarding heat stress, please see your supervisor or manager or a member of the Safety Committee.

If you have any questions or comments regarding this Toolbox Talk, please contact a member of the Brewery Safety Committee.