SAFETY BULLETIN #6

June 25, 2025

Heat Related Illnesses

Heat Illness



- ★ What is heat illness? The body's natural way to regulate its temperature is to increase the heart rate and sweat. When these aren't sufficient at keeping the body's core temperature from rising, the following illnesses can result:
- ★ Heat Cramps
  - Symptoms: painful, brief muscle cramps; muscles may spasm or jerk involuntarily
  - Medical Response: Hydrate, cool off in shade
- ★ Heat Exhaustion
  - Symptoms: excessive thirst, weakness, headache, lightheadedness, nausea, dizziness
  - Medical Response: stop work and get to a shaded area; consume water or electrolytes; do not leave individual unattended; do not allow individual to resume working for remainder of the day
- ★ Heat Stroke
  - Symptoms: throbbing headache, **lack** of sweating, confusion, slurred speech, dry skin, seizures
  - Medical Response: **Call 911 immediately**; move individual to shaded area; use cool water to lower body temperature by submersion or by continuous soaking with water hose; remove any unnecessary clothing/PPE; fan the individual until medical help arrives

Ways to protect yourself and team members

- ★ Hydrate! In this heat, drink a cup of water every 15-20 min.
- ★ Have a designated cool down location (canopy tent, shade tree, etc) with ample cool water available.
- ★ Take frequent breaks. Division & Project Leads to ensure additional breaks are taken by all team members when the National Weather Service issues heat advisories and excessive heat warnings.
- ★ Wear a hat and loose-fitting, breathable clothing whenever possible.
- ★ Modify work schedules to reduce heat exposure - rotate team members; shift certain tasks, such as welding, to early morning or late afternoon.
- ★ Allow new team members extra breaks over the first several days to acclimate to the heat.

Discussion Point:

- ★ Make a buddy system to help watch for signs of heat illness in teammates. Verbally identify who you are watching out for on your team.
- ★ Review the attached CDC's "First Aid for Heat Illness" document.

Things you need to know:

- Heat illness can strike quickly. Stop working, get cool, and drink fluids.
- When treating severe heat illness, cooling is the first priority.
- Altered mental state can be a sign of heat stroke and requires immediate attention.
- Muscle cramps, pain, or spasms in the abdomen, arms, or legs—alone or with any symptom—should not be ignored.
- Never leave a worker with heat illness alone.



HEAT STRESS
First Aid for Heat Illness

Cooling is key. Know the symptoms and treatment of heat illness.*

Symptoms can occur in any order. You don't need to have all of the symptoms in a category to have heat illness.

	Signs and Symptoms	What to Do
Heat Rash/ Prickly Heat	• Red cluster of pimples or small blisters, usually on neck, upper chest, groin, under breasts, and in elbow creases • Extensive areas of skin that do not sweat on heat exposure, but present a gooseflesh appearance that subsides with cool environments	• When possible, a cooler, less humid work environment is the best treatment • Keep rash area dry • Do not use ointments or creams, as they may impair cooling—warm, moist skin can make the rash worse
Heat Cramps	• Muscle cramps, pain, or spasms in the abdomen, arms, or legs	• Drink fluids every 15 to 20 minutes and eat a snack or sports drink • Avoid salt tablets, but drinks containing electrolytes are OK • Get medical help if the worker has heart problems, is on a low sodium diet, or if cramps do not subside within 1 hour
Heat Syncope (Fainting)	• Fainting, dizziness, or light-headedness after standing or suddenly rising from a sitting/lying position	• Sit or lie down in a cool place when beginning to feel faint or dizzy • Slowly drink water or clear juice
Heat Exhaustion	• Headache • Nausea • Dizziness, weakness • Irritability • Thirst, heavy sweating • Elevated body temperature • Decreased urine output	• Call for medical help or take worker to a health facility for evaluation and treatment • Stay with worker until help arrives • Remove worker from hot area and give liquids to drink • Remove unnecessary clothing, including shoes and socks • Cool worker with water, cold compresses, an ice bath, or fans • Encourage frequent sips of cool water

Exertional Heat Stroke	• Confusion, altered mental state, slurred speech, loss of consciousness
	• Hot, dry skin or profuse sweating
	• Seizures
	• Very high body temperatures
	• Fatal if treatment delayed
		• This is an emergency! Call for emergency care immediately!
		• Move worker to a cool area and remove clothing
		• Immerse worker in a tub of ice water
		• If a tub is not available, place worker in a tarp with ice and water (e.g., tarp-assisted cooling with oscillation†)
		• If cold-water immersion is not possible,
		  • Soak worker with cold water from a hose or shower
		  • Apply cold, wet towels to as much of the skin as possible, and replace towels frequently

Centers for Disease Control and Prevention
National Institute for Occupational Safety and Health

Header photos by ©mycola/iStock

Case Study: Heat Stroke

A 44-year-old male worker died of heat stroke while working on a North Carolina farm. The man had been working in the fields for about a week. On August 1st, the heat index was between 100°F and 110°F. The heat index reports how hot it feels to people outside based on the air temperature and humidity.

Around 3 p.m., the worker complained to the crew leader that he was feeling ill. He drank some water and was driven to the employee housing and left alone. He was found unconscious 45 minutes later. Emergency personnel took the worker to the hospital, where he was pronounced dead. His core body temperature was 108°F.



Photo by ©Thinkstock

Lessons Learned

- Feeling ill while working in the heat is a serious warning sign. Any employee who reports feeling unwell during work in hot conditions could have heat exhaustion, which can quickly progress to heat stroke if not treated.
- Proper first aid for someone with suspected heat exhaustion or heat stroke involves COOLING the body as quickly as possible—not simply drinking water.
- People with severe heat illness do not always recognize the risks they face. If a worker shows signs of heat exhaustion or heat stroke, do not leave him or her alone until he or she receives medical attention.

[*]For more information about heat exposure at work, see NIOSH [2016]. Criteria for a recommended standard: occupational exposure to heat and hot environments. By Jacklitsch B, Williams J, Musolin K, Coca A, Kim J, Turner N. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2016-106, https://www.cdc.gov/niosh/docs/2016-106/.

[†]For more information on tarp-assisted cooling with oscillation, see Luhring KE, Butts CL, Smith CR, Bonacci JA, Ylanan RC, Ganio MS, McDermott BP [2016]. Cooling effectiveness of a modified cold-water immersion method after exercise-induced hyperthermia. J Athl Train *51*(11):946–951

Find NIOSH products and get answers to workplace safety and health questions:
1-800-CDC-INFO (1-800-232-4636) | TTY: 1-888-232-6348
cdc.gov/cdc-info | cdc.gov/niosh
NIOSH monthly newsletter: cdc.gov/niosh/eNews

DHHS (NIOSH) Publication No. 2024-100
DOI: https://doi.org/10.26616/NIOSHPUB2024100
October 2023