

Heat Stress First Aid for Heat Illness

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.

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	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Muscle cramps, pain, or spasms in the abdomen, arms, or legs 	<ul style="list-style-type: none"> • 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)	<ul style="list-style-type: none"> • Fainting, dizziness, or light-headedness after standing or suddenly rising from a sitting/lying position 	<ul style="list-style-type: none"> • Sit or lie down in a cool place when beginning to feel faint or dizzy • Slowly drink water or clear juice
Heat Exhaustion	<ul style="list-style-type: none"> • Headache • Nausea • Dizziness, weakness • Irritability • Thirst, heavy sweating • Elevated body temperature • Decreased urine output 	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Confusion, altered mental state, slurred speech, loss of consciousness • Hot, dry skin or profuse sweating • Seizures • Very high body temperatures • Fatal if treatment delayed 	<ul style="list-style-type: none"> • 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, <ul style="list-style-type: none"> • 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
Rhabdomyolysis (muscle breakdown)	<ul style="list-style-type: none"> • Muscle pain • Dark urine or reduced urine output • Weakness 	



Supervisors and workers should be thinking about heat hazards. They should also learn about prevention and first aid.

Several heat-related illnesses can affect workers. Some of the symptoms are non-specific. This means that when a worker is performing physical labor in a warm environment, any unusual symptom can be a sign of overheating.

"HYDRATE BEFORE WORK"

- Being hydrated when you start work makes it easier to stay hydrated through the day.
- If you are dehydrated when you start work, you may not be able to drink enough to catch up with your body's need for water.

"HYDRATE DURING WORK"

- Drink before feeling thirsty. By the time you feel thirsty, you are already behind in fluid replacement. Dehydration is a primary contributor to heat exhaustion.
- Your work performance may suffer when you are dehydrated, even if you don't notice.
- When working directly in the heat, drink 1 cup (8 ounces) of water every 15–20 minutes.
- Drinking at shorter intervals is more effective than drinking large amounts infrequently.
- Do not drink more than 48 oz (1½ quarts) per hour! Drinking too much water or other fluids (sports drinks, energy drinks, etc.) can cause a medical emergency because the concentration of salt in the blood becomes too low.

"HYDRATE AFTER WORK"

- Most people need several hours to drink enough fluids to replace what they have lost through sweat. The sooner you get started, the less strain you place on your body from dehydration.
- Hydrating after work is even more important if you work in the heat on a regular basis. Chronic dehydration increases the risk for a number of medical conditions, such as kidney stones.

Employers and workers should become familiar with the heat symptoms. When any of these symptoms is present, promptly provide first aid. Do not try to diagnose which illness is occurring. Diagnosis is often difficult because symptoms of multiple heat-related illnesses can occur together. Time is of the essence. These conditions can worsen quickly and result in fatalities.

WHEN IN DOUBT, COOL THE WORKER &



PROTECTING NEW WORKERS | OSHA has found that:

Almost half of heat-related deaths occur on a worker's very first day on the job (Arbury 2014).

Over 70 percent of heat-related deaths occur during a worker's first week (Tustin 2018).

These tragedies can be avoided if employers take actions to protect new workers.

1. New, temporary, or existing employees who start new work activities:

- in warm or hot environments
- while wearing additional clothing (e.g., chemical protective clothing)
- with increased physical activity

2. Workers returning to work environments with potential exposure to heat hazards after an absence of one week or more for example returning from any kind of extended leave.

3. Workers who work on days when the weather is significantly warmer than on previous days (i.e., heat wave).

In all examples above, the workers may not be used to the heat loads on that day. The above workers are at increased risk of heat-related illness because of physiological (i.e., related to body function and exertion) and/or behavioral factors.

OVERCOMING EXPECTATIONS AND PRESSURES

The first days of a new job or a new work activity can contain unique psychological and behavioral pressures. While every situation is different, some new workers may be at greater risk because they might say:

"I NEED TO PROVE I CAN WORK HARD."

- May result in over-exertion, higher than expected metabolic rate, and overheating.

"I DON'T NEED A BREAK, I DON'T WANT ANYONE TO THINK I AM LAZY ."

- This thought may lead to shortening breaks and not drinking plenty of fluids. New workers may ignore heat-related symptoms, or continue working despite symptoms, because they don't want to be viewed as lazy.

"I DON'T KNOW WHO TO CONTACT."

- Workers experiencing heat-related illness symptoms may not get the help they need.

THESE BEHAVIORAL FACTORS CAN INCREASE NEW WORKERS' RISK OF HEAT-RELATED ILLNESS.





Tool Box Talk | Heat-Related Illnesses and First Aid

This form documents that the training specified above was presented to the listed participants. By signing below, each participant acknowledges receiving this training.

Organization: _____

Trainer: _____ **Trainer's Signature:** _____

Participants:

Name: _____ Signature: _____ Date: _____

Name: _____ Signature: _____ Date: _____

Name: _____ Signature: _____ Date: _____

Name: _____ Signature: _____ Date: _____

Name: _____ Signature: _____ Date: _____

Name: _____ Signature: _____ Date: _____

Name: _____ Signature: _____ Date: _____

Name: _____ Signature: _____ Date: _____

Name: _____ Signature: _____ Date: _____

Name: _____ Signature: _____ Date: _____

Name: _____ Signature: _____ Date: _____

Name: _____ Signature: _____ Date: _____

Name: _____ Signature: _____ Date: _____

Name: _____ Signature: _____ Date: _____