

Heat-Related Illness Training

In the last 20 years, more people have died from extreme heat than from hurricanes, lightning, tornados, floods, and earthquakes combined-last year there were more than 300 heat related deaths. Heat-related illness can occur when combinations of external heat sources (e.g. air temperature and humidity) and metabolic heat production (e.g. muscular activity) overwhelm the body's ability to regulate its temperature. If someone's heart begins to pound, they find it difficult to breath, become lightheaded, confused, weak or faint, heat-related illness should be assumed. They should stop all activity and be provided with a means to quickly cool themselves, and be monitored during recovery.

Heat-related illnesses do not always occur in the same way; a person can go from muscle cramps straight to heat stroke quickly and without experiencing any other signs or symptoms. Also, heat-related illness may progress over several days. This is why it is so important to identify symptoms of heat-related illness promptly and treat them all seriously. While heat exhaustion and heat stroke are considered "severe" heat-related illnesses, heat rash and heat cramps are also serious.

Factors Leading to Heat Stress

- High temperature and humidity
- Direct sun or heat
- Limited air movement
- Physical exertion
- Poor physical condition or certain health conditions
- Some medications
- Inadequate tolerance for hot workplaces

Symptoms of Heat Exhaustion

- Weakness or fatigue
- Dizziness or lightheadedness
- Upset stomach or vomiting
- Fainting
- Headache or blurred vision
- Mood changes (irritability or confusion)

Symptoms of Heat Stroke (leads to death)

- Dry, hot skin with no sweating
- Mental confusion
- Losing consciousness
- Seizures or fits

Preventing Heat Stress

- Know signs/symptoms of heat-related illnesses
- Monitor yourself and coworkers
- Drink lots of water; about a cup every 15 minutes
- Wear lightweight, light colored, loose-fitting clothes
- Avoid alcohol, caffeinated drinks, or heavy meals

What to Do for Heat-Related Illness

- Call 911(or a local emergency number) immediately

While Waiting for Help to Arrive

- Move the worker to a cool, shaded area
- Loosen or remove heavy clothing and PPE
- Provide cool drinking water
- Fan and mist the person with water

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Outdoor Temperature Action Levels

Non-breathing clothes including vapor barrier clothing or PPE such as chemical resistant suits	52 degrees F
Double-layer woven clothes including coveralls, jackets and sweatshirts (Note: also regular rain gear)	77 degrees F
All other clothing	89 degrees F

The action levels require that each employee has a minimum of 1 quart of water per hour available to drink and an area to cool down if necessary.

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	Signs and Symptoms	First Aid and Treatment
Sunburn	<ul style="list-style-type: none"> • red, hot skin • may blister 	<ul style="list-style-type: none"> • move to shade, loosen clothing • apply cool compresses or water
Heat Rash	<ul style="list-style-type: none"> • red, itchy skin • bumpy skin • skin infection 	<ul style="list-style-type: none"> • apply cool water or compresses • keep affected area dry • control itching and infection with prescribed medication
Heat cramps	<ul style="list-style-type: none"> • muscle spasms in legs or abdomen • grasping the affected area • abnormal body position 	<ul style="list-style-type: none"> • move person to a cooler location • stretch or massage muscles for cramps • get medical evaluation if cramps persist • give cool water or electrolyte-containing fluid to drink
Heat exhaustion	<ul style="list-style-type: none"> • headaches • clumsiness • dizziness/lightheadedness/fainting • weakness/exhaustion/fatigue • heavy sweating/clammy/moist skin • irritability/confusion • nausea/vomiting • paleness • high pulse rate 	<ul style="list-style-type: none"> • move person to a cooler place (do not leave alone) • loosen and remove heavy clothing that restricts evaporative cooling • if conscious, provide small amounts of cool water to drink • fan person, spray with cool water, or apply a wet cloth to skin to increase evaporative cooling • lay flat and elevate feet • evaluate mental status (ask who, where, when questions) • call 911 if not feeling better within a few minutes
Heat stroke	<ul style="list-style-type: none"> • any of the above, but more severe • sweating may or may not be present • red or flushed, hot dry skin • bizarre behavior • mental confusion or losing consciousness • panting/rapid breathing • rapid, weak pulse • seizures or fits • can be fatal 	<ul style="list-style-type: none"> • call 911 • move person to a cooler place (do not leave alone) • cool worker rapidly • if conscious, provide small amounts of water to drink • loosen and remove heavy clothing that restricts evaporative cooling • fan person, spray with cool water, or apply a wet cloth to skin to increase evaporative cooling • lay flat and elevate feet • monitor airway and breathing, administer CPR if needed

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