

Summer Weather



Guidelines for Workplace Heat Prevention Outdoor Operations and Indoor Facilities

Overview of Occupational Heat Hazards

High heat load results from combined environmental factors (sun, wind, humidity), metabolic workload, clothing, and PPE. The degree to which a worker is affected depends on personal risk factors (e.g., age, physical fitness, medications). Examples of heat load factors include:

Outdoor Environmental Hazards Examples

- **Solar Radiation:** Direct sunlight compounding ambient air temperatures, up to 15 degrees from shade.
- **High Humidity:** Combines with ambient air temperature to exacerbate “heat risk” because it prevents sweat from evaporating, your body’s primary way of cooling itself.
- **Reflective and Radiant Surfaces:** Asphalt, concrete, heavy equipment, etc.
- **Physical Exertion:** Heavy labor tasks (trenching, loading) compounded by PPE.

Indoor Environment Hazards Examples

- **Stagnant Air:** Poor ventilation, lack of airflow, and high localized humidity.
- **Radiant Heat Vectors:** Furnaces, boilers, pumps, equipment, etc.
- **Unconditioned Spaces:** Attics, upper floors, mechanical rooms, crawlspaces, etc.

Employer Requirements (OSHA / Massachusetts Department of Labor Standards)

Develop and implement a written **Heat Illness Prevention Plan** and initiate it when local **heat index reaches or is forecast to reach 80°F**.

- **Train Employees:** Heat illness, risk factors, self-monitoring, prevention, first aid and emergency response.
- **Train Supervisors:** Topics above, plus emergency medical care, monitoring weather advisories, planning and executing work-rest and acclimatization schedules, providing water and cooling areas, and monitoring worker physical condition.
- **Provide Hydration:** Ensure free access to cool, potable drinking water. Employers must supply enough water to allow for at least 1 quart (32 oz) per hour per person.
- **Establish Cooling Infrastructure:** Provide dedicated spaces (e.g., air-conditioned indoor spaces or municipal vehicles), or shaded outdoor areas (e.g., pop-up awnings). Can also use high-velocity fans indoors and outdoors.
- **Acclimatize Employees Working in High Heat Conditions:** Nearly 3 out of 4 fatalities from heat illness occur in the first week of work! (OSHA). At heat risk threshold of 80°F, gradually build employee heat tolerance. This is mandatory for new hires, employees returning from an absence of a week or more, and all workers during heatwaves.
- **Supervision:** Designate a position on-site to monitor weather & employee conditions.
- **Work-Rest Schedules:** As the heat index rises, adjust schedule to cooler morning hours for intensive manual labor (e.g., digging) and work in direct sun, or transition to indoor work. Increase frequency and duration of rest periods in shaded/cooled environments.

Heat Illness Prevention Plan Implementation Schedule for Municipal Supervisors

Heat Index	Risk Level	Required Actions
80°F – 89°F	Caution	Activate heat plan. Provide 1 quart of water/hour. Ensure shade or cooling is available. Start buddy system.
90°F – 102°F	High	Implement mandatory work-rest schedule. Shift heavy physical labor to morning. Enforce hydration breaks.
103°F+	Extreme	Stop non-essential outdoor work. Maximize rest periods. Continuous supervisor monitoring.

Please see OSHA Heat-Illness Prevention Plan in the Resources section for a comprehensive implementation schedule.

Preventative Measures for Staff

Hydration Protocols — Stay Hydrated

- **Drink Early, Drink Often:** Sip **1 cup (8 oz) of cool water every 15–20 minutes**. Do not wait until thirsty. Heavy sweating may require more. Do **NOT** exceed **6 cups (48 oz) per hour**.
- **Avoid Certain Substances:** Limit excessive caffeine and energy drinks which combined with high Heat Index can stress your heart (CDC). Avoid salt tablets unless prescribed.

Personal Protection and Co-Worker Safety – Implement a Buddy System

- **Clothing:** Wear loose-fitting, breathable, and light-colored clothing.
- **Sun Protection:** Wear sunscreen, a wide-brimmed hat, and UV-blocking safety eyewear.
- **Work in Pairs:** In high-heat environments or unconditioned remote spaces, and when doing heavy labor. Watch for changes in speech, confusion, dizziness, unsteady gait, fatigue. See symptoms on next page.

Heat Illness: Can escalate rapidly and turn fatal if left unmanaged

Heat Exhaustion (Urgent Medical Care Required) -

Can rapidly escalate to fatal heat stroke

- Symptom include: Dizziness, headache, nausea or vomiting, heavy sweating, muscle cramps, weakness, and severe fatigue.
- Immediate Action Steps
 1. Immediately move the person to a shaded, cool, or air-conditioned area.
 2. Loosen or remove unnecessary clothing and footwear; elevate their feet slightly.
 3. Cool by applying wet cloths, ice packs, or a water mist to neck, chest, groin, armpits.
 4. Provide cool water to sip slowly (only if they are fully conscious and alert).
 5. Call for medical care if symptoms do not improve within 30 minutes or worsen.

Heat Stroke (Life-Threatening Emergency) –

the body loses its ability to regulate temperature

- Symptom include: Loss of consciousness, disorientation, confusion, slurred or garbled speech, hallucinations, hot/dry skin or profuse sweating, and seizures. This is a sign that the body can no longer cool itself.
- Immediate Action Steps
 1. CALL 911 immediately. In addition to steps above:
 2. Rapidly cool person using available methods: submerge in an ice/water bath, wrap in wet material, or spray down with a hose.
 3. DO NOT force person to drink liquids if they are confused, altered, or unconscious.
 4. Never leave person unattended. Stay with them until medical care arrives.

Resources:

1. OSHA Heat-Illness Prevention Template: <https://www.osha.gov/sites/default/files/2021-07/Model%20Heat%20Illness%20Prevention%20Plan.pdf>
2. National Weather Service Heat Forecast Tools: <https://www.weather.gov/safety/heat-tools>
3. National Weather Service Hot Weather Decision Support: <https://www.weather.gov/tbw/hotdss>
4. Heat Risk Tool: <https://heat.gov/tools-resources/heatrisk-tool/>

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