UNITED STATES
DEPARTMENT OF LABOR

OSHA MENU

WATER. REST. SHADE.

The work can't get done without them.

Protective Measures to Take at Each Risk Level

Actions for High Risk Conditions: Heat Index is 103 degrees F to 115 degrees F

As the heat index rises above 103°F, there is a **high risk** for heat-related illness, so additional measures to protect workers are needed. Increase rest periods and designate a knowledgeable person (well-informed on heat-related illness) at the worksite to determine appropriate work/rest schedules. Reduce work load and pace strenuous work tasks. Remind workers to drink plenty of water every 15 to 20 minutes.

- **Alert workers to the heat index anticipated for the day and identify each precaution in place at the work site to reduce the risk of heat-related illness**. Review heat-related illness signs and symptoms during daily meetings or toolbox talks. Be sure everyone knows procedures for responding to possible heat-related illness.
  - What steps to follow if a worker exhibits signs and symptoms of heat-related illness
  - Who to call for medical help
  - How to give clear directions to the worksite
  - Who will provide first aid until the ambulance arrives
- **Provide plenty of cool drinking water and disposable cups** in convenient, visible locations close to the work area.
- **Actively encourage workers to drink small amounts of water often** (before they become thirsty). They should drink about 4 cups of water every hour while the heat index is 103 to 115°F. Workers will need the greatest amount of water if they must work in direct sunshine, during peak exertion, and during the hottest part of the day. *Under most circumstances extended hourly fluid intake should not exceed 6 cups per hour or 12 quarts per day. To maintain worker hydration, it is particularly important to reduce work rates, reschedule work for a time when the heat index is lower, or enforce work/rest schedules when work must continue during periods of extreme risk for heat-related illness.*
- **Ensure that adequate medical services are available**. Where medical services (e.g., emergency medical services, clinic, hospital) are not available within 3-4 minutes, have appropriately trained personnel and adequate medical supplies on site. The trained personnel should have a valid certificate in first aid training from the American Red Cross or equivalent training. (A first aid certificate is required at maritime and construction worksites.)
- **Respond to heat-related illness and medical emergencies without delay.**

Drinking Water

Water should have a palatable (pleasant and odor-free) taste and water temperature should be 50°F to 60°F, if possible.

Other Drinks

Encourage workers to choose water over soda and other drinks containing caffeine and high sugar content. These drinks may lead to dehydration. Drinks with some flavoring added may be more palatable to workers and thereby improve hydration. Encourage workers to avoid drinking alcohol during hot weather events.

The resources under Educational Resources are useful training tools for daily meetings and toolbox talks.

Contents

Additional Guidance/Resources

- Planning Checklists (PDF)
- Training Workers (PDF)
- Preparing For and Responding to Heat-Related Emergencies (PDF)
- About Work/Rest Schedules (PDF)
- Estimating Work Rates or Loads (PDF)
- Acclimatizing Workers (PDF)
- Monitoring Workers at Risk of Heat-Related Illness (PDF)

All-in-One (PDF)

Heat Index	Risk Level	Protective Measures
Less than 91°F	Lower (Caution)	Basic heat safety and planning
91°F to 103°F	Moderate	Implement precautions and heighten awareness
103°F to 115° F	High	Additional precautions to protect workers
Greater than 115°F	Very High to Extreme	Triggers even more aggressive protective measures

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Workers who show symptoms of heat-related illness need immediate attention. Treating milder symptoms (headache, weakness) early by providing rest in a shaded area and cool water to drink can prevent a more serious medical emergency. Call 911 immediately if a worker loses consciousness or appears confused or uncoordinated. These are signs of possible heat stroke. *Heat stroke is fatal if not treated immediately.*

- **Have a knowledgeable person onsite** who is well-informed about heat-related illness and authorized to modify work activities and the work/rest schedule as needed.
- **Establish and enforce work/rest schedules** to control heat exposure and allow workers to recover. Take into account the level of physical exertion and type of protective equipment being used.
  - Advise workers of the work/rest schedule and make sure supervisors enforce rest breaks.
  - Provide air conditioned or cool, shaded areas close to the work area for breaks and recovery periods.
  - Set up temporary shade when working in open fields or areas without easy access to shade or air conditioning.
- **Adjust work activities** to help reduce worker risk:
  - **Schedule heavy tasks** earlier in the day or at a time during the day when the heat index is lower. Consider adjusting the work shift to allow for earlier start times, or evening and night shifts.
  - Where possible, **set up shade canopies** over work areas in direct sunshine or **move jobs** that can be moved to naturally shaded areas.
  - **Permit only those workers acclimatized to heat to perform the more strenuous tasks**. Rotate physically demanding job tasks among acclimatized workers.
  - **Decrease the physical demands and pace of jobs**. If heavy job tasks cannot be avoided, change work/rest cycles to increase the amount of rest time.
  - **Add extra personnel to physically demanding tasks** so that the shared work load is less intense. This will lower the workers' risk of heat-related illness.
  - **Rotate workers to job tasks that are less strenuous or in cooler/air conditioned setting** for part of the work shift.
- **Acclimatize workers**. Take steps that help all workers become acclimatized to the heat, particularly if the weather turns hot suddenly. Gradually increase workloads and allow more frequent breaks during the first week of work. Closely supervise new employees for the first 14 days, until they are fully acclimatized.
- **Take actions described for the Very High to Extreme Risk Conditions (>115° F) if heat index approaches 115°F OR the work is being conducted in direct sunshine**.
- **Take added precautions** if workers are wearing heavy or non-breathable clothing or impermeable chemical protective clothing. These circumstances put workers at even greater risk of heat-related illness.
  - Reschedule activities for when the heat index is lower. Consider adjusting the work shift to allow for earlier start times, or evening and night shifts.
  - Modify the site **work/rest schedules** to make sure they are protective for workers using protective clothing.
  - Physiologically monitor workers by establishing a routine to periodically check workers for physical signs (e.g., body temperature, heart rate) of possible over exposure to heat.
  - When possible, rotate workers to job tasks that do not require this type of protective clothing for part of the work shift.
  - Encourage workers to remove protective equipment that is not needed while they are on rest breaks (e.g., if the rest area is

Workers are at an increased risk of heat stress from personal protective equipment (PPE), especially from wearing semi-permeable (penetrable) or impermeable clothing (such as Tyvek or rubber), when the outside temperature exceeds 70°F, or while working at high energy levels. These types of clothing materials trap heat close to a worker's body. Workers should be monitored by establishing a routine to periodically check heart rate, temperature, and other physiological signs of overexposure.

OSHA is a Weather-Ready Nation Ambassador committed to working with NOAA and other Ambassadors to strengthen national preparedness for and resilience against extreme weather.

How can OSHA help? Workers have a right to a safe workplace. If you think your job is unsafe or you have questions, contact OSHA at 1-800-321-OSHA (6742). It's confidential. We can help. If you have been punished or discriminated against for using your rights, such as raising health and safety concerns or filing a complaint, you must file a complaint with OSHA within 30 days. No form is required, but you must call or send a letter to OSHA within 30 days of the alleged discrimination. For other valuable worker protection information, such as Workers' Rights, Employer Responsibilities, and other services OSHA offers, visit OSHA's Workers' page.

OSHA also provides help to employers. OSHA's On-site Consultation Program offers free and confidential advice to small and medium-sized businesses in all states across the country, with priority given to high-hazard worksites. For more information or for additional compliance assistance contact OSHA at 1-800-321-OSHA (6742). It's confidential. We can help.

free of hazards, remove hard hat, gloves, high visibility vest, respirator, and protective suit).

- When possible, **provide workers with personal cooling measures** (e.g., water-dampened clothing, cooling vests with pockets that hold cold packs, reflective clothing, or cool mist stations), especially for workers wearing heavy or non-breathable clothing or impermeable chemical protective clothing.
- **Set up a buddy system** to enable workers to look out for signs and symptoms of heat-related illness in each other. Often, a worker will not recognize his own signs and symptoms.
- **Instruct supervisors to watch workers for signs of heat-related illness**. Check routinely (several times per hour) to make sure workers are making use of water and shade and not experiencing heat-related symptoms. Extra vigilance is needed when the heat index reaches very high levels.
- **Maintain effective communication with your crew** at all times (by voice, observation, or electronic communications). Confirm that communication methods are functioning effectively.
- **Encourage workers to wear sunscreen and use other protections from direct sunlight**. Provide shade, hats, and sunscreen, when possible. Sunburn reduces the skin's ability to release excess heat, making the body more susceptible to heat-related illness. Repeated overexposure to sunlight also leads to skin cancer.

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Occupational Safety & Health Administration
200 Constitution Ave., NW,
Washington, DC 20210
800-321-OSHA (6742)
TTY
www.OSHA.gov