

Heat Wave Protective Measures To Take At Each Risk Level



Actions for Very High to Extreme Risk Conditions: Heat Index Greater Than 115 °F

Very hot and humid conditions put an extra strain on workers and greatly increase the risk of developing heat-related illness. It can develop faster and be more serious and widespread among workers. Even previously acclimatized workers are at risk for heat-related illness without protective measures. The situation is even more serious when hot weather arrives suddenly (e.g., heat wave early in the season), because the body has not had enough time to adjust to the sudden, abnormally high temperature or other extreme conditions.



In addition to the precautions already identified, extra measures are needed to protect workers under this highest risk level.

Re-schedule non-essential work activities and move essential work tasks to a time during the work shift when the heat index is lower. If this is not possible, establish a water drinking schedule, enforce work/rest schedules, and be extra vigilant in monitoring workers for heat-related illness symptoms, including by using physiological monitoring and systems to enable effective communications. This requires a knowledgeable person on site who can assess heat-related safety concerns.

- + Reschedule all non-essential outdoor work for days with reduced heat index. + + +
 - + Move essential outdoor work to the coolest part of the work shift. As able, alter the work shift to allow for earlier start times, split shifts, or evening and night shifts. Prioritize and plan essential work tasks carefully—strenuous work tasks and those requiring the use of heavy or non-breathable clothing or impermeable chemical protective clothing should not be conducted when the heat index is at or above 115 °F. + + +
 - + Stop work if essential control methods are inadequate or unavailable when the risk of heat illness is very high. + + +
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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

For emergency work and essential work that cannot be rescheduled

Alert workers to the heat index for the day and identify all of the precautions 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.

Establish a clear drinking schedule to ensure that workers are drinking enough water throughout the day.

Remind workers to drink small amounts of water often (before they become thirsty). A good rule of thumb at this risk level is to drink about 4 cups of water every hour during the hottest periods. 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.

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.

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.) Consider having medical services on site for an emergency and to conduct physiological monitoring.

Respond to heat-related illness and medical emergencies without delay. 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 on-site who is well-informed about heat-related illness, authorized to determine appropriate work/rest schedules, and can conduct physiological monitoring.

Establish and enforce a work/rest schedule 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.
- + Encourage workers to remove protective equipment that is not needed while they are on rest breaks (e.g., if the rest area is free of hazards, remove hard hat, gloves, high visibility vest, respirator, and protective suit).

Adjust work activities to help reduce worker risk.

- + 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 and those requiring the use of heavy or non-breathable clothing or impermeable chemical protective clothing 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.

Physiologically monitor all workers by establishing a routine to periodically check heart rate, temperature, or other physiological signs that may indicate overexposure. Use monitoring results to adjust work/rest periods. This is especially critical for workers wearing heavy or non-breathable clothing or impermeable chemical protective clothing or using other personal protective equipment.

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). This is especially critical 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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