Heat Safety in the Workplace

It is important to take precautions to avoid heat-related illness in unusually hot conditions when working outdoors or in unconditioned, indoor environments. Though the Occupational Safety and Health Administration (OSHA) does not have a heat stress regulation, employers are responsible for providing workplaces free of known safety hazards. This includes protecting workers from extreme heat.

Departments can take actions to minimize the effects of heat, including:

- Plan for safe work in hot environments;
- Provide employees with water and urge them to stay hydrated; and when outside, provide protections from direct sunlight when possible (e.g., canopies, hats, sunscreen, shade);
- Provide opportunities for employees to gradually increase workloads and take more frequent breaks as they acclimate.
- Plan for emergencies and train employees on prevention; and monitor employees for signs of illness.

The heat index is used to assess the potential combined impacts of air temperature and relative humidity into a single value that indicates the apparent temperature in degrees Fahrenheit, or “how hot the weather will feel.”

The chart below shows the National Weather Service (NWS) Heat Index.
The chart below shows the four risk levels and recommended protective measures.

### Heat index–associated protective measures for worksites

<table>
<thead>
<tr>
<th>Heat index</th>
<th>Risk level</th>
<th>Protective measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 91°F (33°C)</td>
<td>Lower (caution)</td>
<td>Basic health and safety planning</td>
</tr>
<tr>
<td>91°F to 103°F (33°C to 39°C)</td>
<td>Moderate</td>
<td>Implement precautions and heighten awareness</td>
</tr>
<tr>
<td>103°F to 115°F (39°C to 46°C)</td>
<td>High</td>
<td>Additional precautions to protect workers</td>
</tr>
<tr>
<td>Greater than 115°F (46°C)</td>
<td>Very high to extreme</td>
<td>Even more aggressive protective measures</td>
</tr>
</tbody>
</table>

Adapted from OSHA [2012].

Additional information about protective measures mentioned in the above table can be found on OSHA’s website.

Note: The presence of a radiant heat source may decrease the accuracy and usefulness of the above heat index.

**Lower risk level**

**Supervisor/department:** Monitor the heat index on a daily basis and assess the risk level for employees; implement basic health and safety planning to provide general awareness and reminders about the potential for heat stress and preventive measures; ensure that employees are trained on heat stress symptoms and prevention measures; contact health and safety professionals for heat stress training and other assistance with heat stress.

**Employees:** Follow all requirements and guidance by supervisor/department; attend training arranged by supervisor/department; wear light weight/light colored clothing; drink water or other cool fluids regularly and at first sign of thirst; consult with a health care provider about any personal or special risks of heat; report any heat-related symptoms to supervisor/department and seek medical attention, if needed.

**Moderate risk level**

**Supervisor/department:** Follow all measures in the low risk level; contact health and safety professionals to determine if job safety analysis should be performed to change/lessen physical activity, time spent working, or other prevention measures; increase preventive steps in anticipation of warmer temperatures including reminders about staying hydrated, taking breaks and watching for signs of heat-related illness; provide ample time for breaks and access to cool, shaded places to take them; ensure that cool water is always available.

**Employees:** Follow all measures in the lower risk level; take breaks as offered and suggested by supervisor/department.
High risk level

**Supervisor/department:** Follow all measures in the low and moderate risk levels; reduce the workloads and physical demands of employees; provide supplemental cooling, fans or cooling garments; reinforce heat stress causes, symptoms and prevention measures; ensure cool water is always available and locations for breaks have adequate cool air flow; consider providing cooling vests when air-conditioned space is not available for breaks; monitor employees regularly for heat stress symptoms and arrange for medical assistance as needed; flexible scheduling, alternative work site and duties are advised.

**Employees:** Follow all measures in the low and moderate risk levels.

Very high to extreme risk level

**Supervisor/department:** Follow all measures in the low, moderate and high risk levels; contact health and safety professionals for assistance with a detailed risk assessment before assigning work; following risk assessment, prepare for assignment of alternative work site and duties; recognize that work in direct sun on a hot day, or in indoor environments in confined spaces, or in areas with heat generating equipment are a particular risk and need a well-developed plan to ensure the safety of workers.

**Employees:** Follow all measures in the low, moderate and high risk levels.

Additional Resources and Information

Supervisors/departments and workers are encouraged to use the [OSHA-NIOSH Heat Safety Tool App | NIOSH](https://www.cdc.gov/niosh/heat/tool/index.html) as a resource for planning outdoor activities. Any process or job site that is likely to raise the worker’s deep core temperature, often listed as higher than 100.4 degrees Fahrenheit, raises the risk of heat stress. Occupational risk factors for heat illness include strenuous physical activity especially in direct sunlight, lack of worker acclimatization, and wearing clothing that holds in body heat.

Heat dissipation happens naturally through sweating and increased blood flow to the skin. Some workers may be more susceptible to heat-related illness due to personal risk factors. Symptoms of heat-related illness include irritability, dizziness, weakness, nausea, and vomiting. In extreme cases, heat exhaustion or heat stroke may occur.

Health and Safety Professionals:

- Department of Residential Facilities, Susan Gilson
- Facilities Management, Glynnis Bowman
- All others, contact ESSR, Maureen Kotlas

References:
OSHA, Using the Heat Index to Protect Workers

OSHA, Acclimatizing Workers

OSHA, Protective Measures to Take at Each Risk Level

OSHA, Preparing for and Responding to Heat-Related Emergencies

National Weather Service (NWS) Heat Index Forecasts