

Safety Bulletin

June 2023

HEAT STRESS

Please Share with all Facilities Staff

Recently, summer temperatures have been higher and sustained longer than ever before and we need to be prepared to recognize and respond to the risk. Considering the coming forecast when planning work and sharing strategies with our staff, will allow for opportunities to avoid unnecessary exposures.

There are three main causes of heat stress:

THE ENVIRONMENT

Radiant heat from direct or indirect sunlight (i.e. reflection from pavement)
Air temperature hotter than skin temperature (warms a worker up)

High humidity (makes it harder for a worker to cool down)

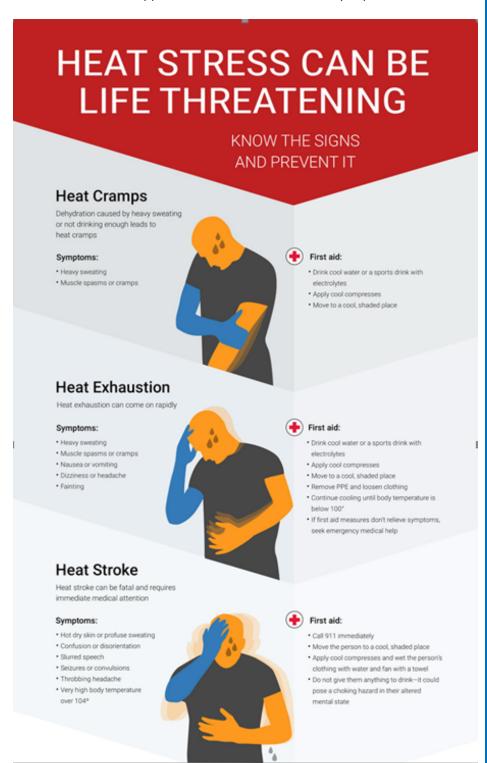
THE WORK

The more active you are, the more heat you will produce

THE WORKER

Conditioning (regular work in hot environments makes workers less prone to heat stress)
Poor health, including obesity, advanced age, and medical conditions (the body responds poorly to overheating)
Not staying hydrated
Excess clothing or inappropriate personal protective equipment (they trap heat and prevent cooling)

As a worker's body heats up it loses fluids and salt through sweat. As workers dehydrate, they are less able to cool themselves down. Workers in a hot environment should be aware of these warning signs of heat stress and steps to take if experienced:





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The following work practice recommendations come into play whenever temperatures exceed 30° with a high humidex or 35° regardless of humidity:

Limit time in the heat and increase recovery time in a cool area.	Reduce the metabolic (physically difficult) demands of the job
Use tools to minimize manual strain.	Observe each other for signs of heat- related illnesses.
Provide adequate amounts of cool, potable water near the work area.	Communicate heat alerts whenever the weather service forecasts a heat wave.
Increasing the frequency and length of rest breaks	Scheduling strenuous jobs to cooler times of the day such as in the early morning.
Cautioning workers to avoid direct sunlight when possible.	Assigning more workers or slowing down the pace of work

This NIOSH work/rest schedule is based on air temperature, with adjustments for direct sunlight and humidity. It may not be applicable to all worksites.

Temperature (°C)	Light Work	Moderate Work	Heavy Work
	Minutes Work/Rest Operating equipment •Inspection work •Walking on flat, level ground •Using light hand tools (wrench, pliers, paint brush)	Minutes Work/Rest Carrying equipment/supplies weighing 20–40 pounds •Using hand tools (shovel, hammer, drills) for short periods	Minutes Work/Rest Climbing •Carrying equipment/supplies weighing 40 pounds or more •Installing utilities •Using hand tools (shovel, fin-hoe, scaling bar) for extended periods
34 Cesius	Normal	Normal	Normal
34.5 Celsius	Normal	Normal	Normal
35 Celsius	Normal	Normal	45/15
35.5 celsius	Normal	Normal	45/15
36 Celsius	Normal	Normal	40/20
36.5 Celsius	Normal	Normal	35/25
37 Celsius	Normal	Normal	35/25
38 Celsius	Normal	45/15	30/30
39.5	Normal	40/20	30/30
39 Celsius	Normal	35/25	25/35
40 Celsius	Normal	30/30	20/40
41 Celsius	Normal	25/35	15/45
42 Celsius	40/20	15/45	Exreme Caution
43 Celsius	30/30	Exreme Caution	Exreme Caution
44 Celsius	15/45	Exreme Caution	Exreme Caution
45 and beyond	Exreme Caution	Exreme Caution	Exreme Caution

From NIOSH Criteria for a Recommended Standard, Occupational Exposure to Heat and Hot Environments, https://www.cdc.gov/niosh/docs/2016-106/pdfs/2016-106.pdf. Assumptions: workers are physically fit, well-rested, fully hydrated, under age 40, and environment has 30% humidity and perceptible

Please share this information and use the recommendations to plan work in the coming summer. Personal health factors can affect heat tolerance and indication of heat stress, anyone feeling symptoms should immediately stop work, hydrate, cool and seek first aid.