

Heat Stress Safety

This Safety Talk is written using information provided by the Occupational Safety and Health Administration (OSHA), Cornell University, and the Ohio State University Agricultural Extension

Heat stress is a buildup of body heat generated either internally by muscle use or externally by the environment. Heat exhaustion and heat stroke result when the body is overwhelmed by heat. As the heat increases, body temperature and the heart rate rise painlessly. An increase in body temperature of two degrees Fahrenheit can affect mental functioning. A five degree Fahrenheit increase can result in serious illness or death. During hot weather, heat illness may be an underlying cause of other types of injuries, such as heart attacks, falls and equipment accidents. The most serious heat-related illness is heat stroke. The symptoms are confusion, irrational behavior, convulsions, coma, and death. While over 20% of heat stroke victims die regardless of health or age, children seem to be more susceptible to heat strain than adults. In some cases, the side effects of heat stroke can be varying degrees of brain and kidney damage.

SYMPTOMS OF HEAT EXHAUSTION

- Headache, dizziness, or fainting
- Weakness and wet skin
- Irritability or confusion
- Thirst, nausea, or vomiting

SYMPTOMS OF HEAT STROKE

- May be confused, unable to think clearly, pass out, collapse, or have seizures (fits)
- May stop sweating

TO PREVENT HEAT ILLNESS

- Establish a complete heat illness prevention program.
- Provide training about the hazards leading to heat stress and how to prevent them.
- Provide cool water to workers close to the work area. At least one pint of water per hour.
- Modify work schedules and arrange frequent rest periods with water breaks in shaded or air-conditioned areas.
- Gradually increase workloads and allow more frequent breaks for workers new to the heat or those that have been away from work to adapt to working in the heat (acclimatization).
- Have a responsible person to monitor conditions and protect workers at risk of heat stress.
- Consider protective clothing that provides cooling.

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HOW TO PROTECT WORKERS

- Know signs/symptoms of heat illnesses; monitor yourself; use a buddy system.
- Block out direct sun and other heat sources.
- Drink plenty of fluids. Drink often and BEFORE you are thirsty. Drink water every 15 minutes.
- Avoid beverages containing alcohol or caffeine.
- Wear lightweight, light colored, loose-fitting clothes.

WHAT TO DO WHEN A WORKER IS ILL FROM THE HEAT

- Call a supervisor for help. If the supervisor is not available, call 911.
- Have someone stay with the worker until help arrives.
- Move the worker to a cooler/shaded area.
- Remove outer clothing.
- Fan and mist the worker with water; apply ice (ice bags or ice towels).
- Provide cool drinking water, if able to drink.

IF THE WORKER IS NOT ALERT or seems confused, this may be a heat stroke. CALL 911 IMMEDIATELY and apply ice as soon as possible.

Users of this safety talk are advised to determine the suitability of the information as it applies to local situations and work practices and its conformance with applicable laws and regulations.

Resources and References:

OSHA-NIOSH Heat Safety Tool App:

The Heat Safety Tool is a useful resource for planning outdoor work activities based on how hot it feels throughout the day. Featuring real-time heat index and hourly forecasts, specific to your location, as well as occupational safety and health recommendations from OSHA and NIOSH.

<https://www.cdc.gov/niosh/topics/heatstress/heatapp.html> OSHA Heat Safety Webpage
<https://www.osha.gov/SLTC/heatstress/>

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SAFETY TALK



NORTH DAKOTA STATE UNIVERSITY • UPPER GREAT PLAINS TRANSPORTATION INSTITUTE • NORTH DAKOTA LOCAL TECHNICAL ASSISTANCE PROGRAM

HEAT EXHAUSTION



Faint Or Dizzy



Excessive Sweating



Cool, Pale, Clammy Palms

Nausea or Vomiting



Rapid, Weak Pulse

Muscle Cramps



HEAT STROKE



Throbbing Headache

Sweating Stops



Temperature Over 103 deg.

Nausea or Vomiting



Rapid, Strong Pulse

Loss of Consciousness



STAY SAFE

DRINK WATER

TAKE A BREAK

AVOID PEAK TEMPS

WORK IN TEAMS

WEAR SUNSCREEN

TREATMENT OPTIONS

Get to a cooler, air conditioned area
Drink water if fully conscious
take a cool shower
use a cool Compress

CALL 9-1-1 Immediately

Reduce Temperature Until
Emergency Services Arrive

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Safety Talk Sign-in Sheet Topic: Heat Stress Safety

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Crew: _____

Supervisor/Talk Leader: _____

Date: _____

Print Name

Signature

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