TOOLBOXTALK

HEAT ILLNESS PREVENTION

Heat illness occurs when the body gains and produces more heat than it can safely release. Physical work generates heat inside the body, while hot air, direct sunlight, and nearby hot surfaces can add even more. The body primarily cools itself by sweating and releasing heat through the skin, but high humidity, limited air movement, heavy clothing, and PPE can make that cooling less effective. When the body cannot release heat as quickly as it builds, body temperature rises and physical and mental functions can begin to fail. Do not judge heat risk by temperature alone. Humidity, direct sunlight, workload, clothing, PPE, and air movement all affect how much heat stress a worker experiences.

ACCLIMATIZATION

The first days of hot work are especially important because the body needs time to acclimatize. Acclimatization is the body gradually becoming better at cooling itself through repeated heat exposure. Younger workers may adjust within a week or so, while older workers may take longer. New or returning workers should gradually increase their workload and heat exposure.

RECOGNIZE THE CHANGE

Heat illness can affect the brain before the affected worker understands how seriously they are being affected. Early signs can include unusual fatigue, headache, cramps, weakness, dizziness, nausea, heavy sweating, or changes in skin color. As heat illness becomes more serious, watch for confusion, poor judgment, unusual responses or behavior, loss of coordination, stumbling, slurred speech, or a dazed appearance. Do not rely on an affected worker to determine whether they are okay because heat related illness affect judgement and awareness. ***One of the most important warning signs is a worker who suddenly appears drunk or impaired.***

COMMON HEAT ILLNESSES

- **Heat Rash:** Skin irritation that develops when excessive sweating keeps the skin wet.
- **Heat Cramps:** Painful muscle cramps or spasms associated with heavy sweating and loss of water and electrolytes.
- **Heat Syncope:** Dizziness, lightheadedness, or fainting associated with heat exposure, particularly in workers who are not acclimatized.
- **Heat Exhaustion:** Heavy sweating, weakness, dizziness, headache, nausea, thirst, irritability, or unusual fatigue can indicate that the body is struggling to control its temperature.
- **Heat Stroke:** Confusion, irrational behavior, slurred speech, loss of coordination, seizures, collapse, unconsciousness, or very high body temperature indicate a life threatening medical emergency.
- **Rhabdomyolysis:** Heat stress combined with prolonged physical exertion can cause rapid muscle breakdown, sometimes producing severe muscle pain, weakness, or unusually dark urine.

WATER, ELECTROLYTES, REST AND COOLING

Sweating removes more than water. It also removes electrolytes, including sodium, that are necessary for normal muscle, nerve, and body function. Workers should drink water regularly rather than waiting until they become thirsty. During hotter conditions or prolonged heavy sweating, electrolytes also need to be replaced. A good rule of thumb is **two waters for every one electrolyte drink** during these conditions. Drinking excessive amounts of plain water without replacing electrolytes can lower sodium in the blood and cause a serious medical condition.

Hydration alone cannot prevent heat illness. Physical work creates additional body heat, so workload and pace must also be managed. As conditions worsen, increase recovery periods, slow or rotate strenuous work, and schedule heavier tasks during cooler periods. Provide shade or another designated cool area for recovery.

IF SOMEONE SHOWS SIGNS OF HEAT ILLNESS

Stop the work and move the worker immediately to the designated cool or shaded area. Remove unnecessary outer clothing and begin cooling with cool water, wet towels, ice packs, fans, or other available methods. Someone must remain with the worker and continue monitoring the worker's condition.

Do not allow the affected worker to decide whether they are well enough to continue. Confusion, slurred speech, irrational behavior, loss of coordination, seizures, collapse, or unconsciousness should be treated as a medical emergency. Call 911 and begin cooling immediately rather than waiting to see whether the worker improves.

DO

- Designate one person responsible for heat illness prevention each day and identify a backup.
- Establish a designated cool down location before work begins and provide shade or another cool recovery area.
- Keep cool drinking water readily available near the work and provide electrolyte drinks on hotter days or during prolonged heavy sweating.
- Gradually increase heat exposure for workers who are not acclimatized.
- Adjust the work pace and recovery periods as heat, humidity, sunlight, workload, or PPE burden increases.
- Always use a buddy system on hot days so workers can watch each other for physical or behavioral changes.

DON'T

- Do not rely on highly caffeinated, energy, or high sugar drinks for hydration.
- Do not attempt to replace prolonged heavy sweating with large amounts of plain water alone.
- Do not work alone during hot conditions.
- Do not rely on a worker showing signs of heat illness to determine whether they are okay.
- Do not place an affected worker in a hot vehicle expecting the air conditioning to eventually cool them.
- Never leave anyone suffering from possible heat illness alone.

REVIEW QUESTIONS

1. What is acclimatization, and why are the first days of hot work particularly important?

   a) Gradual adaptation to heat

2. What physical or behavioral changes may make someone suffering from heat illness appear drunk or impaired?

   a) Confusion, stumbling, slurred speech

3. Why are both water and electrolytes important during prolonged heavy sweating?

   a) Replace water and electrolytes

4. What should you do if a coworker becomes confused, begins slurring their speech, or loses coordination?

   a) Call 911; cool immediately

Refernces: OSHA Occupational Heat Exposure guidance; NIOSH Heat Stress recommendations.

Talk Given By:	Date:
Company Name:	Location:
Printed Name	Signature

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