

Heat Stress

Safety Training

■ How does the body respond to heat?

- The body tries to maintain a constant internal temperature by getting rid of excess heat
- It uses two methods to get rid of heat: (1) increasing blood flow to skin surface and (2) sweating
- Increasing blood flow to the skin surface means less blood flow to the brain and active muscles, which can cause reduced mental alertness & comprehension, fatigue, weakness, loss of strength
- Sweating can cause objects to become slippery, increasing chances of an accident

■ Why do the body's cooling mechanisms sometimes fail?

- High air temperature reduces effectiveness of heat release
- High humidity reduces evaporation of sweat
- Sweating leads to excess loss of fluid
- Sweating leads to excess loss of sodium

■ What factors contribute to heat-related illness?

- *Environmental factors:* Air temperature, humidity, radiant heat sources, air circulation
- *Physical work factors:* (1) type of work, level of physical activity and duration, and (2) clothing color, weight of clothes and breathability
- *Personal factors:* Age, weight/fitness, drug/alcohol use (**alcohol de-hydrates you**), prior heat-related illness (listed below)

■ Recognizing and treating the most common heat disorders

Disorder	Cause	Signs & symptoms	Treatment
Heat stroke	Total breakdown of body's cooling system	High body temp (>103), sweating stops and skin is hot red and dry; headache, dizziness, weakness, rapid pulse	Treat as a <u>medical emergency</u> ; move victim to cool area, <u>do not give liquids</u> <u>Contact a first responder immediately!</u>
Heat exhaustion	Excessive loss of water and salt	Heavy sweating, intense thirst, skin is pale and cool, rapid pulse, fatigue/weakness, nausea & vomiting, headache, blurred vision, fainting	Move to cool area, rest with legs elevated, loosen clothing, drink plenty of fluids
Heat cramps	Excessive loss of water and salt	Painful spasms in arms, legs and abdomen; hot, moist skin	Drink fluids, massage cramped areas, rest
Dehydration	Excessive loss of water and salt	Fatigue, weakness, dry mouth	Drink fluids and replace salt
Heat rash	Clogged sweat glands	Rash of pink pimples, intense itching, tingling	Cleanse area & dry; apply calamine or other lotion.

■ What can be done to prevent heat-related illness?

- Drink plenty of fluids: 5-7 ounces every 20 minutes (water is provided in several locations)
- Give your body time to adjust to the heat: most workers require 3-5 days – so go slow
- Choose proper clothing: Wear light colors if working outside and choose lightweight/breathable material
- Try to perform your most strenuous activities in the early morning/early evening
- Use work/rest cycles when possible to give your body time to recover
- Eat properly:

Check on employees whose job requires them to work in the heat – remember to drink plenty of fluids (water is provided – keep a water bottle in a safe area at your work station) and dress correctly. Take additional rest breaks if needed. Watch out for your co-workers.