Heat stress/Heat-related illness

Heat stress can occur at any temperature, and can cause a variety of serious, even fatal illnesses. Risk is increased by humidity, lack of ventilation, and workload. Risk factors like diet, age, and history also play a role.

Health effects

- **Heat rash** ("Prickly heat" or "Miliaria") occurs when sweat ducts become clogged so sweat can’t travel to the surface. This causes a rash.
- **Heat cramps** are muscle spasms that result from work in hot, humid environments. They usually result from dehydration and/or inadequate electrolyte intake. They usually affect large or core muscles like the thighs, hamstrings, arms, back, and abdomen.
- **Heat exhaustion** is caused by dehydration or inadequate electrolyte intake while working in hot, humid environments. Symptoms include tiredness, heavy sweating, rapid pulse, thirst, headache, dizziness/light-headedness, or unconsciousness. Heat exhaustion can lead to heat stroke.
- **Heat stroke** ("sunstroke") occurs when the body becomes totally dehydrated. Overheating and shock occurs, often resulting in death. Symptoms include hot, red, dry skin, small pupils, fainting/unconsciousness, nausea or vomiting, disorientation, and an absence of sweating. **This is a life-threatening condition requiring immediate emergency treatment.**

Work practices

- Most heat related illnesses are caused by dehydration and/or inadequate electrolyte replacement. Drink plenty of water and sports drinks. Avoid tea, coffee, soda, and alcohol, as these have *negative* hydration value.
- Take plenty of breaks in a cool, shaded place.
- Schedule heavy work for cooler portions of day.
- Increase the amount of time spent in the heat gradually, over the course of a few days, to get used to the heat more gradually.
- When possible, work in the shade. Use umbrellas, temporary portable sun shelters, or plan your work so that you are always in the shade of a tree, building, or structure.

Personal Protection

- Wear clothing which is lightweight, loose fitting, light colored, and made of breathable fabrics.
- When exposure is inevitable, consider using ice vests or bandanas.
- Wide-brimmed hats will also keep the heat off your head, face and shoulders.

First Aid

- Bring victim to a cool area. If conscious, give cool water or sports drinks.
- If heat stroke is suspected, take steps to cool the body. Cool showers or immersion in cool water is recommended. Lay victim on floor, elevating feet and loosening clothing. Call 9-1-1 immediately.
Knowledge check

1. True or false: Heat stress can occur in cold temperatures, for example while shoveling snow.

2. Rank these heat-related illnesses in order of seriousness, with “1” being minor and “3” being life threatening.
   
   Heat exhaustion and heat cramps __________
   Heat rash __________
   Heat stroke __________

3. Which of the following is a symptom of heat stroke?
   
   a. Skin is hot, dry, and red
   b. Unconsciousness/fainting
   c. Confusion and disorientation
   d. Absence of sweating
   e. All of the above.

4. Which of the following factors is LEAST LIKELY to increase risk to employees who work in heat?
   
   a. Heavy physical workload
   b. Job title
   c. Humidity
   d. Lack of breeze, wind, ventilation
   e. Personal risk factors like medical history, age, diet, etc.