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, and breathability.
- **Personal factors:** Age, weight/fitness, drug/alcohol use, prior heat-related illness.

Recognizing and treating the most common heat disorders

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

What can be done to prevent heat-related illness?
- Drink plenty of fluids: 5-7 ounces every 20 minutes.
- 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: Save biggest meal until evening.