Tool Box Talk
Heat-related Illness 2016

The body burns calories and produces heat to keep its temperature at 98.6°F. In a hot environment or during vigorous physical activity, the body will rid itself of excess heat. Two effective ways it does this are sweating and dilation of blood vessels. When sweat evaporates from the skin, you begin to cool off. When blood vessels dilate, blood is brought to the skin surface to release heat. Problems develop when the body's cooling mechanisms do not work properly. For example, when the air temperature exceeds body temperature, the body cannot easily cool itself. If the air is humid, sweat also does not evaporate quickly. Sweat also does not evaporate from a person who works hard or exercises while wrapped in heavy clothing or protective gear. That makes heat-related illness a concern in any weather, anywhere.06

What's the problem?

Heat-related illness takes several forms. **Heat rash** occurs when sweat ducts get clogged. Heat cramps are painful muscle spasms caused by the loss of electrolytes from heavy sweating. If workers develop these conditions, immediately get them out of the heat so they can rest. The next stage of heat-related illness may not be far away. **Heat exhaustion** and **heatstroke** develop from prolonged exposure to heat. When the body loses too much water and salt, **heat exhaustion** sets in. Signs include weakness, dizziness, nausea, headache, heavy sweating and clammy skin. A **heatstroke** victim has a rapid pulse, hot, red skin and has stopped sweating. The victim may show mental confusion, a decrease in alertness and blurred judgment. **Heatstroke** can be extremely serious and lead to brain damage or even **death** if not treated promptly and properly.

Hot tips to cool conditions

You should know how to recognize a victim of heat-related illness. Evaluate the symptoms and then follow these first aid actions:

Heat Cramps

- Severe, sometimes disabling, cramps that typically begin suddenly in the hands, calves, or feet
- Hard, tense muscles

What You Should Do:

- Move to a cooler or air conditioned area.
- Sip water slowly until the cramps go away.

Heat Exhaustion

- Heavy sweating
- Weakness
- Cold, pale, and clammy skin
- Fast, weak pulse
- Nausea or vomiting
- Fainting

What You Should Do:

- Move to a cooler location.
- Lie down and loosen your clothing.
- Apply cool, wet cloths to as much of your body as possible.
- Sip water.
- If you have vomited and it continues, seek medical attention immediately.

Heat Stroke

- High body temperature (above 103°F)*
- Hot, red, dry or moist skin
- Rapid and strong pulse
- Possible unconsciousness

What You Should Do:

- Call 911 immediately — **this is a medical emergency**.
- Move the person to a cooler environment.
- Reduce the person's body temperature with cool cloths or even a bath.
- Do **NOT** give fluids.

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Catch it early

Awareness is vital to prevent heat-related illnesses. Supervisors need to watch for warning signs of heat illness in workers. Workers adapt to the heat, but they should know their limits and supervisors should never push beyond those limits. Workers can take other preventative measures to combat the heat:

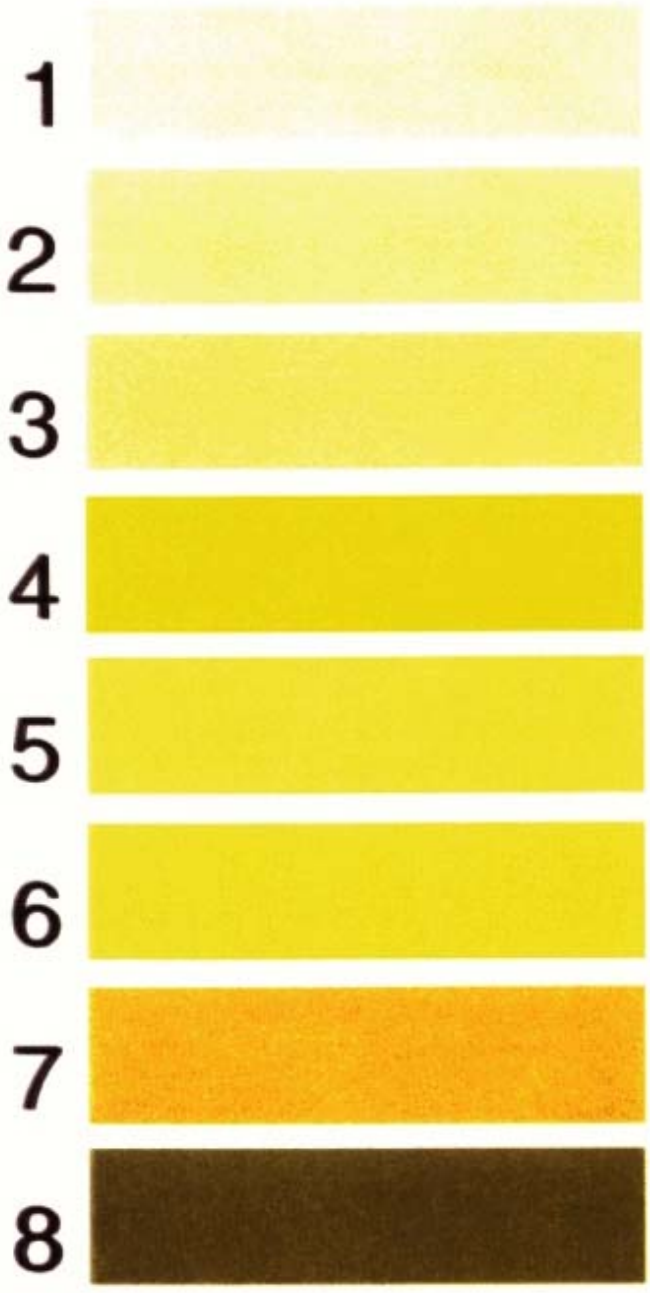
- Eat light. The more calories you take in, the more body heat you produce.
- Drink plenty of fluids before work and throughout the day. Avoid caffeine.
- Wear lightweight clothing. Wide-brimmed hats protect from direct sunlight.

Heat illnesses, especially in the summer, are the consequence of not recognizing the warning signs on the job. Hot conditions don't have to be dangerous if you watch for the warning signs, and get cooperation from workers to prevent heat-related illness.

Air Temperature °F \ Relative Humidity (%)	40	45	50	55	60	65	70	75	80	85	90	95	100
110	136												
108	130	137											
106	124	130	137										
104	119	124	131	137									
102	114	119	124	130	137								
100	109	114	118	124	129	136							
98	105	109	113	117	123	128	134						
96	101	104	108	112	116	121	126	132					
94	97	100	103	106	110	114	119	124	129	135			
92	94	96	99	101	105	108	112	116	121	126	131		
90	91	93	95	97	100	103	106	109	113	117	122	127	132
88	88	89	91	93	95	98	100	103	106	110	113	117	121
86	85	87	88	89	91	93	95	97	100	102	105	108	112
84	83	84	85	86	88	89	90	92	94	96	98	100	103
82	81	82	83	84	84	85	86	88	89	90	91	93	95
80	80	80	81	82	82	82	83	84	84	85	86	86	87

Extreme Danger – Heat Stroke Likely
Danger - Heat Cramps/Exhaustion Likely
Extreme Caution - Heat Cramps/Exhaustion Possible
Caution - Fatigue possible

Am I Hydrated?
Urine Color Chart



This urine color chart is a simple tool your can use to assess if you are drinking enough fluids throughout day to stay hydrated.

If your urine matches the colors numbered **1, 2, or 3 you are hydrated**.

If your urine matches the colors numbered **4 through 8 you are dehydrated** and need to drink for more fluid.

Be Aware! If you are taking single vitamin supplements or a multivitamin supplement, some of the vitamins in the supplements can change the color of your urine for a few hours, making it bright yellow or discolored.