

### Toolbox Talk

#### Heat Illness Identification, First Aid and Prevention

Hot summer months pose special hazards for outdoor workers. Labor-intense activities in hot weather can raise body temperatures beyond the level that normally can be cooled by sweating. Heat illness initially may manifest itself as heat rash or heat cramps, but can quickly escalate to heat exhaustion and then heat stroke if simple preventative measures are not followed.

Airport workers can be subject to heat stress in a variety of settings, such as high temperatures on the ramp surface and in the cargo bin of an aircraft (combined with lack of air movement in the bin). Employers should educate employees on how to protect themselves when working in the heat.

#### What are Heat Illnesses?

Symptoms include:	Response:
<p><b>Heat Cramps:</b></p> <ul style="list-style-type: none"> <li>• Muscle cramps</li> <li>• Pain, or spasms in the abdomen, arms or legs</li> <li>• Excessive sweating.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Call airport EMS (or 911 as appropriate) for medical attention.</b></li> <li>• <b>Until first responders arrive, follow these steps:</b> <ul style="list-style-type: none"> <li>○ Stop all activity, and sit in a cool place.</li> <li>○ Drink clear juice or a sports beverage, or drink water with food--avoid salt tablets.</li> <li>○ Cool the employee by sponging with water and providing moving air. Don't cool too much – stop cooling if the employee starts to shiver.</li> <li>○ Do not return to strenuous work for a few hours after the cramps subside.</li> <li>○ Seek further medical attention if you have the following: heart problems, are on a low-sodium diet, or if the cramps do not subside within one hour.</li> </ul> </li> </ul>
<p><b>Heat Exhaustion:</b></p> <ul style="list-style-type: none"> <li>• Fast, shallow breathing</li> <li>• Weak, rapid pulse</li> <li>• Cool, pale clammy skin</li> <li>• Heavy sweating</li> <li>• Weakness, fatigue and dizziness</li> <li>• Headache, nausea/vomiting</li> <li>• Fainting</li> <li>• Muscle cramps</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Call airport EMS (or 911 as appropriate) for medical attention.</b></li> <li>• <b>Until first responders arrive, follow these steps:</b> <ul style="list-style-type: none"> <li>○ Move the employee to a cooler environment. If possible, lay the worker down and loosen tight fitting clothing.</li> <li>○ Cool the employee by sponging with water and providing moving air. Don't cool too much – stop cooling if the employee starts to shiver.</li> <li>○ If the employee is fully alert and not nauseous, provide cool water or other nonalcoholic and caffeine free beverages.</li> </ul> </li> </ul>
<p><b>Heat Stroke:</b></p> <ul style="list-style-type: none"> <li>• Hot, dry, flushed skin</li> <li>• Absence of sweating</li> <li>• Agitation, confusion</li> <li>• Decreased level of consciousness</li> <li>• Throbbing headache</li> <li>• Nausea and vomiting</li> <li>• Seizures</li> <li>• Increased respiratory rate</li> <li>• Irregular pulse rate</li> <li>• Shock</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Call airport EMS (or 911 as appropriate) for medical attention.</b></li> <li>• <b>Until first responders arrive, follow these steps:</b> <ul style="list-style-type: none"> <li>○ Maintain airway, breathing and circulation as required.</li> <li>○ Move the employee to the coolest place available.</li> <li>○ Lay the employee down supine (on the back) unless the employee is actively vomiting or having a seizure. If this is the case, place them ¾ prone or on their side.</li> <li>○ Remove outer clothing and apply cold water to the employee by either dousing or applying wet, cool sheets. Spraying, sponging and fanning may be used also.</li> <li>○ If the employee is alert, provide cool water or other nonalcoholic and caffeine free beverages.</li> </ul> </li> </ul>



## Preventing Heat Illness:

### Educate Employees

- About the hazards leading to heat illnesses and how to prevent them
- How to recognize symptoms
- To immediately report symptoms
- To know how to tell if they are properly hydrated (see hydration chart)
- About proper clothing (e.g. clothing that allows for dissipation of sweat, the difference between cotton and lightweight blends)

### Water

- Provide fresh water, close to the work area
- Remind employees to frequently drink small amounts of water (about 1 cup every 15 – 20 minutes)
- Ensure water is available when working in remote areas

### Rest / Shade

- New employees should gradually increase their workload or take more frequent breaks for the first week
- Take more breaks when performing heavier work in high heat and humidity
- Schedule frequent rest periods with water breaks in shaded or air-conditioned areas

### Monitor

- Weather reports daily
- Work activity. Set up a buddy system when possible
- Workers to ensure they are drinking water, resting in shaded areas
- Symptoms to ensure employees are not showing signs of heat related illness

Do:	Don't:
<ul style="list-style-type: none"> <li>• Drink fluids, even if you are not thirsty</li> <li>• Wear loose clothing</li> <li>• Utilize shade</li> <li>• Move slowly</li> <li>• Take frequent breaks in well ventilated areas</li> <li>• Use a wet paper towel on your face or other hot spots</li> <li>• Avoid overexertion</li> <li>• Acclimatize – gradually expose your body to heat and work</li> <li>• Remind others to drink water</li> </ul>	<ul style="list-style-type: none"> <li>• Drink ice cold drinks</li> <li>• Take salt tablets (unless doctor prescribed)</li> <li>• Skimp on water</li> <li>• Drink caffeine, alcohol or sugared sodas</li> <li>• Exceed 1.5 quarts of fluid in an hour</li> <li>• Don't exceed 12 quarts of fluid in a day</li> </ul>

OSHA Heat Safety Tool: [https://www.osha.gov/SLTC/heatillness/heat\\_index/heat\\_app.html](https://www.osha.gov/SLTC/heatillness/heat_index/heat_app.html)

Note: Check with specific State Plans for additional requirements.

### For additional information:

OSHA Heat Illness Prevention Page: <https://www.osha.gov/SLTC/heatillness/index.html>

CDC NIOSH Extreme Heat Page: <http://www.cdc.gov/niosh/topics/heatstress/>

National Weather Service Heat Safety Page: <http://www.nws.noaa.gov/os/heat/>

**Safety Recommendations:**

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**Job Specific Topics:**

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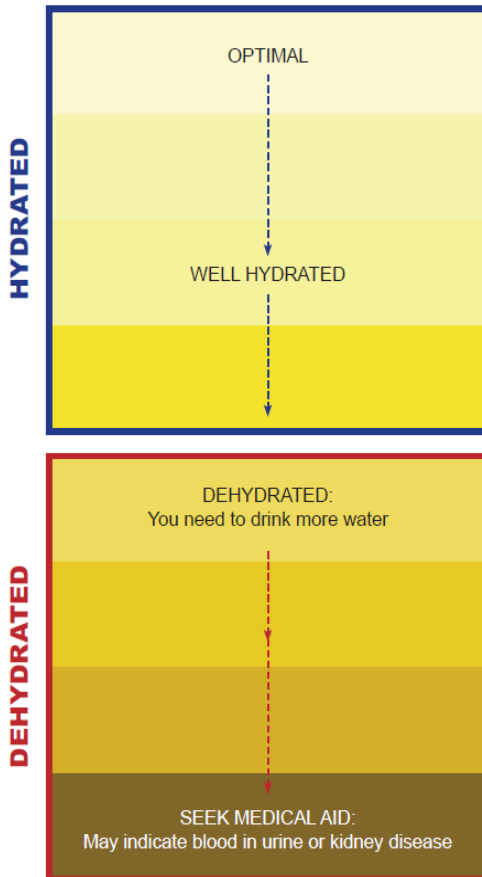
**Attended By:**

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**Additional Tools:**

Checking the color of your urine can determine whether you are well hydrated or not, use the Hydration Chart below to determine this.

**Hydration Chart**



**Water Consumption Table**

Heat Category	WBGT Index, °F	Easy Work	Moderate Work	Hard Work
		Water Intake (Quart/Hour)	Water Intake (Quart/Hour)	Water Intake (Quart/Hour)
1	78° - 81.9°	½	¾	¾
2	82° - 84.9°	½	¾	1
3	85° - 87.9°	¾	¾	1
4	88° - 89.9°	¾	¾	1
5	> 90°	1	1	1

**Heat Index**  
Temperature (°F)

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

Likelihood of Heat Disorders with Prolonged Exposure or Strenuous Activity

- Caution
- Extreme Caution
- Danger
- Extreme Danger

Under the Occupational Safety and Health Act, [employers are responsible](#) for providing a safe and healthy workplace and [workers have rights](#). OSHA can help answer questions or concerns from employers and workers. OSHA's [On-site Consultation Program](#) offers free and confidential advice to small and medium-sized businesses, with priority given to high-hazard worksites. For more information, contact your [regional or area OSHA office](#), call 1-800-321-OSHA (6742), or visit [www.osha.gov](http://www.osha.gov).