

## Toolbox Talk

### Cold Injury & Illness Identification, First Aid and Prevention

Cold environments present unique hazards for workers. Overexposure to extreme cold weather can quickly become a dangerous condition causing a variety of health emergencies, including frostbite, hypothermia, and chilblains.

Airport workers can be subject to cold stress in several settings, such as on the ramp surface and working with metal equipment. Cold stress occurs when an individual's skin and core temperature drop. Employers may use this toolbox talk to educate employees about the hazards leading to cold stress illnesses and injuries and how to prevent them.

#### What is Cold Stress?

Cold stress includes several familiar conditions that can lead to illness and injury. These are outlined below with associated responses:

<b>Hypothermia</b>	
Condition when the body has used up stored energy and can no longer produce heat. This condition often occurs after prolonged exposure to cold temperature.	
<b>Symptoms:</b>	<b>Response:</b>
Early/Mild Symptoms Worker is alert, but <ul style="list-style-type: none"> <li>• Fatigued</li> <li>• Shivering</li> <li>• Loses Coordination</li> <li>• Confused/Disoriented</li> </ul> Late Symptoms <ul style="list-style-type: none"> <li>• No shivering</li> <li>• Blue skin</li> <li>• Dilated pupils</li> <li>• Slowed pulse and breathing</li> <li>• Loss of consciousness</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 move the employee into a warm, dry area or shelter.</li> <li>○ Remove wet clothing.</li> <li>○ Warm the center of their body first – chest, neck, head, and groin. Use an electric blanket if available. If not, use dry layers of blankets, clothing, or towels. Place warm bottles or hot packs in armpits, sides of chest, and groin.</li> <li>○ Give warm sweetened drinks if alert.</li> <li>○ After body temperature has increased, keep the employee dry and wrapped in a warm blanket.</li> </ul> </li> </ul>
<b>Frostbite</b>	
Injury to the body that is caused by freezing, most often affecting the nose, ears, cheeks, chin, fingers, and/or toes.	
<b>Symptoms:</b>	<b>Response:</b>
<ul style="list-style-type: none"> <li>• Reduced blood flow to hands and feet</li> <li>• Numbness</li> <li>• Aching</li> <li>• Tingling or stinging</li> <li>• Bluish or pale, waxy skin</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 activity and move the employee into warm, dry area or shelter.</li> <li>○ If feet are affected, do not walk on feet or toes, unless necessary.</li> <li>○ Immerse affected area in warm (not hot) water, or warm affected area using body heat. Do not use heating pads, fireplace, or other external heat source.</li> <li>○ Do not massage the frostbitten area. This may cause more damage.</li> </ul> </li> </ul>

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<b>Chilblains</b> Ulcers formed by damage to small blood vessels in the skin, caused by repeated exposure of skin to temperatures just above freezing to as high as 60 degrees Fahrenheit.	
<b>Symptoms:</b>	<b>Response:</b>
<ul style="list-style-type: none"> <li>• Redness</li> <li>• Itching</li> <li>• Possible blistering</li> <li>• Inflammation</li> <li>• Possible ulceration in severe cases</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>○ Avoid scratching.</li> <li>○ Slowly warm the skin.</li> <li>○ Use over the counter (OTC) topical treatments to relieve itching and swelling.</li> <li>○ Keep blisters and ulcers clean and covered.</li> </ul> </li> </ul>

### Preventing Cold Stress:

#### Educate Employees

- About the hazards leading to cold stress illnesses and injuries and how to prevent them
- How to recognize symptoms
- To immediately report symptoms

#### Safe Work Practices

- Workers can easily become dehydrated in cold environments. Ensure warm (sweetened if possible) liquids are available to workers.
- New employees should acclimatize to the environment, gradually increasing their workload or taking more frequent breaks in warm areas.
- Workers should be able to interrupt their work if they are extremely uncomfortable.
- Set up a buddy system if possible.
- When taking breaks, remove outer layers of clothing to prevent overheating.

#### Dress

- Ensure employees are dressed properly for cold environments. Loose, layered clothing provides better insulation.
  - Inner layer to keep moisture away from body
  - Middle layer to provide insulation
  - Outer layer for wind, rain, and temperature protection that allows some ventilation to prevent overheating
- Have an extra change of clothes such as socks, gloves, and hat in case they become saturated from water/sweat.
- Hat or hood to help reduce heat loss from body. Use a mask to cover face and mouth if necessary.
- Insulated gloves and boots (water resistant if necessary).

Do:	Don't:
<ul style="list-style-type: none"> <li>• Drink warm liquids</li> <li>• Wear loose, layered clothing</li> <li>• Have an extra change of clothes such as socks, gloves, and hat in case they become saturated from water/sweat</li> <li>• Utilize warm, dry areas for breaks</li> <li>• Acclimatize – gradually expose your body to extreme cold environments</li> <li>• Self-monitor for symptoms of cold stress</li> </ul>	<ul style="list-style-type: none"> <li>• Drink ice cold drinks or alcohol</li> <li>• Rub or massage frostbitten areas</li> <li>• Use direct heat to warm frostbitten areas</li> <li>• Wear tight clothing that reduces blood circulation</li> <li>• Walk on frostbitten feet. This could cause more damage.</li> </ul>

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OSHA Cold Stress Guide: <https://www.osha.gov/SLTC/emergencypreparedness/guides/cold.html>

Note: Check with specific State Plans for additional requirements.

**For additional information:**

- OSHA Winter Weather Page: [http://www.osha.gov/dts/weather/winter\\_weather/index.html](http://www.osha.gov/dts/weather/winter_weather/index.html)
- OSHA Cold Stress Quick Card in English (<http://www.osha.gov/Publications/OSHA3156.pdf>) and Spanish (<http://www.osha.gov/Publications/osha3158.pdf>)
- NIOSH Cold Stress Page: <http://www.cdc.gov/niosh/topics/coldstress/>
- NIOSH Fast Facts: Protecting Yourself From Cold Stress: <http://www.cdc.gov/niosh/docs/2010-115/pdfs/2010-115.pdf>
- National Weather Service Winter Safety Page: <http://www.nws.noaa.gov/om/winter/cold.shtml>

**Safety Recommendations:**

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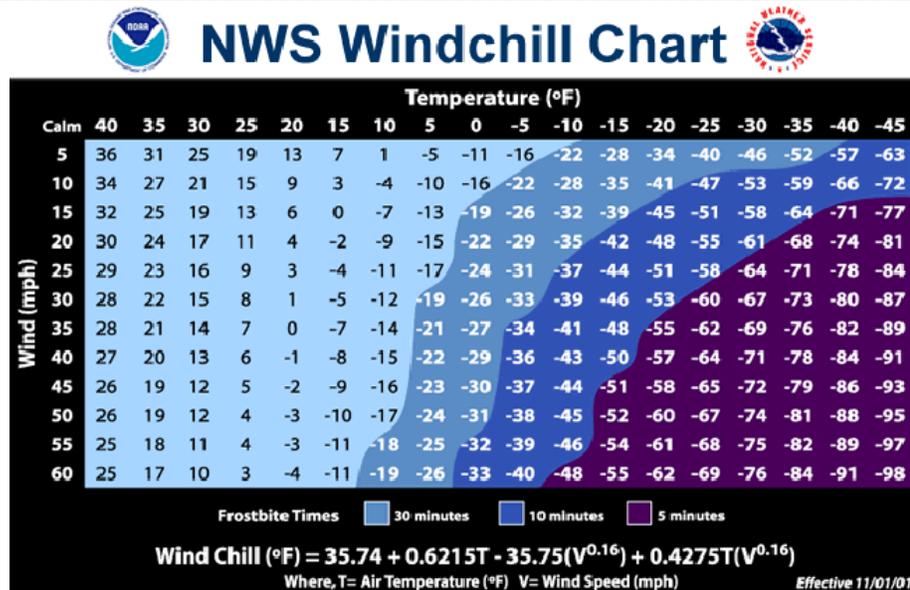
**Job Specific Topics:**

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**Attended By:**

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**Additional Tools:**



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).