

# COLD-RELATED ILLNESSES

## For Agricultural Workers



Agricultural workers complete tasks in a wide range of environmental conditions. Their exposure to cold and heat can increase their risk for developing certain health conditions, can worsen any existing conditions, and can result in death. Data from 2000-2019 shows that most cold-related deaths resulted from 'moderately cold' temperatures, rather than the extremes. And from 2018-2020, it was found that death rates attributed to excessive cold, or hypothermia, were generally higher in rural areas than urban ones. While the severity of symptoms for cold-related illnesses will vary, knowing the warning signs of cold stress can save lives.

Special populations within the agricultural community may have elevated risk for complications from the cold. During cold weather, the body will use energy to maintain a normal internal body temperature. This results in a shift of blood flow from outer skin and extremities (hands, feet, and legs) to the body's core (chest and abdomen). If this happens, cold-related illnesses and injuries may occur if exposed for long periods of time.

### Prevention

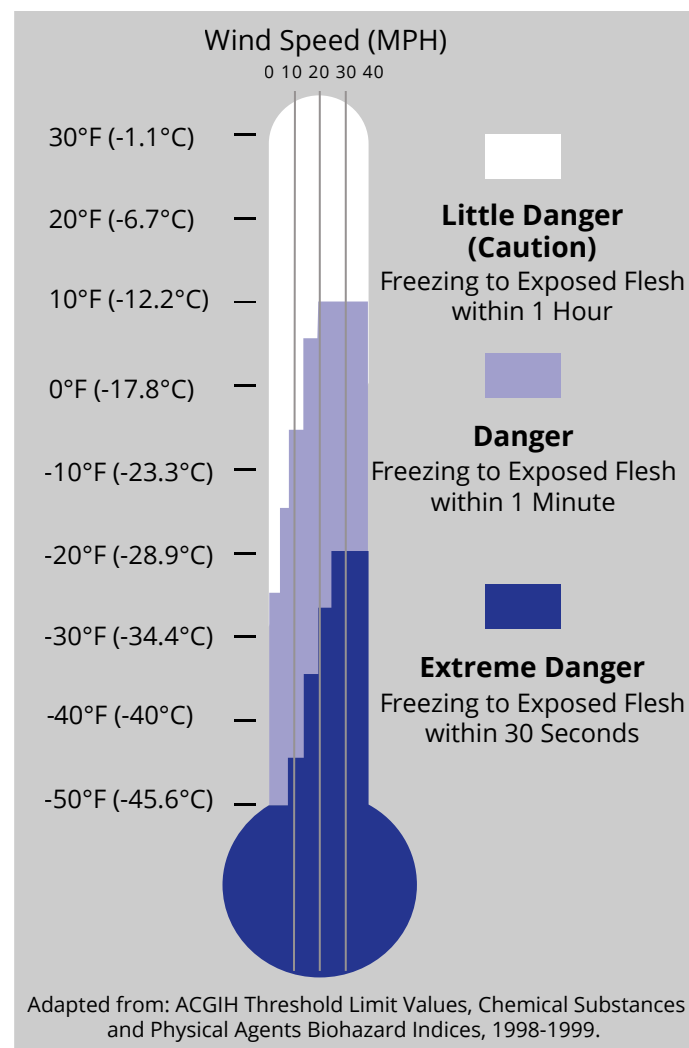
To prevent cold-related illnesses and fatalities:

- Take regular breaks to warm up.
- Stay hydrated by drinking lots of water; warm beverages may help increase body temperature.
- Stay well nourished by snacking on high carbohydrate foods.
- Avoid touching cold metal or wet surfaces with bare skin.
- Avoid wearing wet clothes.
- Carry extra cold weather gear in case work clothing gets wet.
- Wear several layers of loose clothing for better insulation.
- Inner layers should be wool or synthetic, outer layers should be wind and water-resistant.
- Protect your ears, face, hands, and feet.

Source: NIOSH Preventing cold-related illness, injury, and death among workers (2019).



### DANGER GAUGE FOR COLD EXPOSURE



Resource: <https://www.osha.gov/SLTC/heatillness/edresources.html>

## RECOGNITION AND MANAGEMENT OF COLD-RELATED ILLNESSES

Cold-Related Illness	Description	Signs and Symptoms	Immediate Care IN CASE OF EMERGENCY, CONTACT A MEDICAL PROFESSIONAL
<b>Hypothermia</b>	<p>When exposed to cold temperatures, your body begins to lose heat faster than it is produced.</p> <p>Prolonged exposure to cold will eventually use up your body's stored energy. The result is hypothermia, or abnormally low body temperature.</p>	<p>Early Symptoms:</p> <ul style="list-style-type: none"> <li>• Shivering</li> <li>• Fatigue</li> <li>• Loss of coordination</li> <li>• Confusion and disorientation</li> </ul> <p>Late Symptoms:</p> <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>• Alert supervisor and request medical assistance.</li> <li>• Move into a warm room or shelter.</li> <li>• Warm center of body first (chest, neck, and groin), using an electric blanket or skin-to-skin contact.</li> <li>• Provide warm beverages, do not give alcoholic beverages.</li> </ul>
<b>Frostbite</b>	Frostbite is an injury to the body that is caused by freezing. Frostbite causes a loss of feeling and color in the affected areas. It most often affects the nose, ears, cheeks, chin, fingers, or toes.	<ul style="list-style-type: none"> <li>• Reduced blood flow to hands and feet</li> <li>• Numbness</li> <li>• Tingling or stinging</li> <li>• Aching</li> <li>• Bluish or pale, waxy skin</li> </ul>	<ul style="list-style-type: none"> <li>• Get to a warm room as soon as possible.</li> <li>• Do not walk on frostbitten feet or toes.</li> <li>• Immerse affected area in <b>warm</b> water.</li> <li>• Warm affected area using body heat.</li> <li>• Do not rub or massage.</li> </ul>
<b>Trench Foot</b>	Trench foot, also known as immersion foot, is an injury of the feet resulting from prolonged exposure to wet and cold conditions.	<ul style="list-style-type: none"> <li>• Reddening of the skin</li> <li>• Numbness</li> <li>• Leg cramps</li> <li>• Swelling</li> <li>• Tingling pain</li> <li>• Blisters or ulcers</li> <li>• Bleeding under skin</li> <li>• Gangrene (foot may turn dark purple, blue, or gray)</li> </ul>	<ul style="list-style-type: none"> <li>• Remove shoes/boots and wet socks.</li> <li>• Dry your feet.</li> <li>• Avoid walking on feet.</li> </ul>
<b>Chilblains</b>	Chilblains is when cold exposure permanently damages the capillary beds in the skin, causing redness and itching to reappear with further exposure. This typically affects cheeks, ears, fingers, and toes.	<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>• Avoid scratching.</li> <li>• Slowly warm skin.</li> <li>• Use corticosteroid creams to relieve itching and swelling.</li> <li>• Keep blisters and ulcers clean and covered.</li> </ul>