COLD RELATED HEALTH ISSUES

FROSTBITE
Frostbite happens when skin tissue freezes, resulting in cell damage. It is caused by cold temperatures and low windchill. Fingers, toes, cheeks, nose, and ears are commonly affected.

<table>
<thead>
<tr>
<th>SYMPTOMS:</th>
<th>FIRST AID TREATMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uncomfortable sensations of coldness</td>
<td>• Move victim to warm area</td>
</tr>
<tr>
<td>Tingling, stinging or aching feeling</td>
<td>• Treat affected areas with warm water (102°-110°F)</td>
</tr>
<tr>
<td>Numbness</td>
<td>• Avoid rubbing frostbitten areas</td>
</tr>
<tr>
<td>The area looks white and is cold to the touch in the beginning, then feels warm and has redness and swelling.</td>
<td>• Do not rewarm affected areas if there is a chance of refreezing</td>
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<tr>
<td></td>
<td>• Get medical assistance as soon as possible</td>
</tr>
</tbody>
</table>

TRENCH FOOT
Trench foot is vascular damage that happens when there is long, continuous exposure to wet and cold environments, or immersion in water/another liquid.

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<th>FIRST AID TREATMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tingling and/or itching sensation</td>
<td>• Move victim to warm area</td>
</tr>
<tr>
<td>Pain</td>
<td>• Treat affected areas with warm water (102°-110°F)</td>
</tr>
<tr>
<td>Swelling</td>
<td>• Get medical assistance as soon as possible</td>
</tr>
<tr>
<td>Blisters</td>
<td>• Bleeding</td>
</tr>
<tr>
<td>Bleeding</td>
<td>• Tissue death/gangrene</td>
</tr>
<tr>
<td></td>
<td>• Treat affected areas with warm water (102°-110°F) or warm packs</td>
</tr>
</tbody>
</table>

GET IN TOUCH

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GENERAL HYPOTHERMIA

General hypothermia is the loss of body heat with prolonged exposure to the cold. This can be accelerated when a person is wet because of sweat or working in a wet environment. Hypothermia is commonly associated with very cold temperatures, but most cases of hypothermia develop in air temperatures between 30° and 50°F.

**INITIAL SYMPTOMS:**
- Uncontrollable shivering
- Feeling of cold
- Confusion
- Carelessness
- Disorientation

**FIRST AID TREATMENT**
- Move victim to warm, dry area
- Remove wet clothing
- Apply warm blankets for insulation
- Offer warm non-alcoholic and caffeine-free drinks
- Get medical assistance as soon as possible

**PREVENTION**

**WORKERS CAN**
- Wear proper protective clothing.
  - Wear at least 3 layers:
    - Outer layer to break the wind
    - Middle layer of wool, down, or synthetic pile to absorb sweat
    - Inner layer of cotton or synthetic weave to allow ventilation
  - Have a change of clothing available
  - Keep their head, hands, and fingers covered with hats and gloves
  - Wear shoes that protect against cold and wet
  - Avoid wearing dirty or greasy clothes
- Recognize symptoms of cold-related health problems
- Learn first aid treatment for cold-related health problems

**EMPLOYERS CAN**
- Provide on-site sources of heat (air jets, radiant heaters, etc.)
- Provided a heated shelter for workers who experience prolonged cold exposure
- Shield work areas from wind
- Use thermal insulating material on handles of equipment when temperatures are below 30°F
- Allow workers to set their own pace and take breaks as needed
- Shift activities indoor when possible

**RESOURCES**

[UMASH Cold Stress Toolkit](https://www.umass.edu/umash/cold)
[NIOSH Cold Stress Resources](https://www.cdc.gov/niosh/topics/coldstress.html)
[OSHA Cold Stress Guide](https://www.osha.gov/dts/osta/otm/otm_cold.html)