

Cold Weather Injury and Prevention

In cold environments be especially alert for signs and symptoms of cold weather injuries. Prevention, early detection, and immediate evacuation are the leader initiatives through which cold injuries should be managed in the field.

It is important to use cold weather clothing properly, maintain adequate hydration and ensure nutritional requirements to ward off cold weather injuries. When wearing clothing in cold weather, remember the acronym C-O-L-D.

C: Keep it Clean

O: Avoid Overheating

L: Wear clothing Loose and in layers

D: Keep clothing Dry



There are many things you can do to dress properly for the cold:

- ◆ Dress in layers so you can remove or put on clothing according to the temperature.
- ◆ Always wear a warm hat on your head—this is the part of the body that loses heat the fastest. There are also liners you can wear to keep your head warm under a hard hat or other kinds of protective head gear. Consider wearing a knitted face mask to deflect cold and wind chill.
- ◆ Wear waterproof, insulated boots with several layers of socks, preferably cotton ones under wool. They enable your feet to breathe. When your socks or boot liners become wet, remove and replace them.
- ◆ Always wear warm gloves or mitts. Some gloves have liners which, if wet, should be removed and replaced.

In addition to dressing properly for cold conditions, it's important to eat regularly when you are out in the cold, especially foods high in carbohydrates and fats. Your body requires an enormous number of calories to shiver and keep warm. Avoid alcohol, contrary to the popular image of the St. Bernard dog delivering brandy to warm a frozen victim.

Try to keep moving while in the cold; don't be still. This helps to keep your body temperature up and circulation moving. If you think you are experiencing symptoms of hypothermia or frostbite, get to a shelter right away and seek medical help.

When you work or play in the cold, it is a good idea to have a companion. What if you were to become injured or over-exposed to the cold and couldn't seek help yourself?

Cold Weather Injuries

Chilblain

Cause

- Continuous or repeated exposure of skin to cold/wet weather conditions at temperatures below 50 °F for more than 1-5 hours.



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Symptoms

- Swollen, red skin (or darkening of the skin in dark-skinned soldiers) with rash-like appearance.
- Tender, painful skin. Upon rewarming, skin is red, hot, and itchy.

Prevention

- Use contact gloves to handle all equipment; never use bare hands.
- Use approved gloves to handle all fuel and POL (petroleum, oil, lubricants) products.
- In extreme cold environments, do not remove clothing immediately after heavy exertion (PT); wait until you are in a warmer location.
- Avoid cotton clothing, which holds perspiration, in cold-weather environments.

Hypothermia

Cause

- Prolonged cold exposure and core body-heat loss. May even occur at temperatures above freezing, especially when a person's skin or clothing is wet.

Symptoms

- Shivering may be present.
- Drowsiness, mental slowness, lack of coordination; may progress to unconsciousness, irregular or slow heartbeat, and death.

Prevention

- Avoid cotton clothing in cold-weather environments.
- Anticipate the need for warming areas for soldiers exposed to cold conditions.

Frostbite

Cause

- Exposure to below freezing temperatures (<32°F) causing freezing of skin, fingers, toes, ears and facial parts.
- Exposure of skin to metal, super cold fuel and POL (petroleum, oil, lubricants), wind chill, and tight clothing, particularly boots.

Symptoms

- Numbness in affected area.

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- Tingling, blistered, swollen, or tender areas.
- Pale, yellowish, waxy-looking skin (grayish in dark-skinned soldiers).
- Frozen tissue that feels wooden to the touch.

Prevention

- Use contact gloves to handle all equipment; never use bare hands.
- Use approved gloves to handle all fuel and POL (petroleum, oil, lubricants) products.
- Avoid cotton clothing, which holds perspiration in cold-weather environments.
- Keep face and ears covered and dry.
- Keep socks clean and dry.
- Avoid tight socks and boots.

Immersion foot (trench foot)

Cause

- Prolonged (>12 hrs) exposure of tissue, especially the feet, to wet cold and conditions at 32°F to 60°F. Inactivity and damp socks and boots (or tightly laced boots that impair circulation) speed onset and severity.

Symptoms

- Cold, numb feet that may progress to hot with shooting pains.
- Swelling, redness, and bleeding may become pale and blue.

Prevention

- Keep feet clean and dry; change wet or damp socks as soon as possible.
- Wipe the inside of Vapor Barrier boots dry at least once per day, or more often as feet sweat.
- Dry leather boots by stuffing with paper towels.

To access a list of training aids and additional guidance/information on this topic, go to the following website:
<http://phc.amedd.army.mil/topics/discond/cip/Pages/default.aspx>

Some of the information above is an excerpt from the United States Army Public Health Command's website:
<http://phc.amedd.army.mil/topics/discond/cip/Pages/ColdCasualtiesInjuries.aspx>

Information on the U.S. Army Combat Readiness Command Fall/Winter Safety Campaign 2011 is available at:
https://safety.army.mil/multimedia/campaignsinitiatives/falland_wintersafetycampaign2011/tabid/2174/default.aspx

Remember: working or playing in cold weather can be a positive experience if you dress warmly and use common sense about protecting yourself.

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