

Cold Weather Casualties and Injuries Chart



In Cold Weather:

- Train soldiers on the proper use of cold weather clothing
- Remember the acronym **C-O-L-D** when wearing clothing in cold weather (**C**: Keep it **Clean**; **O**: avoid **Overdressing**; **L**: wear clothing **Loose** and in layers; **D**: keep clothing **Dry**)
- Maintain adequate hydration and ensure nutritional requirements are met

Chilblain

Cause

- Repeated exposure of bare skin for prolonged periods from 20°-60°F with high humidity (for those not acclimated to cold weather).

Symptoms

- Swollen, red skin (or darkening of the skin in dark-skinned soldiers)
- Tender, hot skin, usually accompanied by itching

First-Aid

- Warm affected area with direct body heat
- Do not massage or rub affected areas
- Do not wet the area or rub it with snow or ice
- Do not expose affected area to open fire, stove, or any other intense heat source

Prevention

- Use contact gloves to handle all equipment; never use bare hands to handle equipment
- Use approved gloves to handle all fuel and POL* products
- In the extreme cold environment, do not remove clothing immediately after heavy exertion (PT); wait until you are in a warmer location
- Never wear cotton clothing in the cold weather environment

Hypothermia

Cause

- Prolonged cold exposure and body-heat loss. May occur at temperatures above freezing, especially when a person is wet

Symptoms

- Shivering may or may not be present
- Drowsiness, mental slowness, lack of coordination. Can progress to unconsciousness, irregular heartbeat, and death

First-Aid

- This is the most serious cold exposure medical emergency and can lead to death! Get the soldier to a medical facility as soon as possible!
- Even if a victim is cold and is not breathing, never assume someone is dead until determined by medical authorities!
- Strip off wet clothing and wrap victim in blankets or a sleeping bag
- Place another person in sleeping bag as an additional heat source
- For the person with unconsciousness and very low heartbeat, minimize handling of the victim so as to not induce a heart attack

Prevention

- Never wear cotton clothing in the cold weather environment
- Anticipate the need for warming areas for soldiers exposed to cold, wet conditions

Frostbite

Cause

- Freezing of tissue, eg.: Fingers, toes, ears, and other facial parts.
- Exposure to bare skin on metal, extremely cool fuel and POL*, wind chill, and tight clothing - particularly boots - can make the problem worse



Symptoms

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

First-Aid

- Frostbite can lead to amputation. Evacuate immediately!
- Start first-aid immediately. Warm affected area with direct body heat
- Do not thaw frozen areas if treatment will be delayed
- Do not massage or rub affected areas
- Do not wet the area or rub it with snow or ice
- Do not expose affected area to open fire, stove, or any other intense heat source

Prevention

- Use contact gloves to handle all equipment; never use bare hands to handle equipment
- Use approved gloves to handle all fuel and POL*
- Never wear cotton clothing in the cold weather environment
- Keep face and ears covered and dry
- Keep socks clean and dry
- Avoid tight socks and boots

Immersion foot (trench foot)

Cause

- Prolonged exposure of feet to wet conditions at 32°-60°F. Inactivity and damp socks and boots (or tightly laced boots that impair circulation) speed onset and severity



Symptoms

- Cold, numb feet may progress to hot with shooting pains
- Swelling, redness, and bleeding

First-Aid

- If you suspect trench foot, get medical help immediately
- Rewarm feet by exposing them to warm air
- Do not allow victim to walk on injury
- Evacuate victim to a medical facility
- Do not massage, rub, moisten, or expose affected area to extreme heat

Prevention

- Keep feet clean and dry; change wet or damp socks as soon as possible
- Wet or damp socks should be dried out as soon as possible to allow them to be re-used
- The inside of Vapor Barrier boots should be wiped dry at least once per day, or more often as feet sweat
- Dry leather boots by stuffing with paper towels

Additional Medical Considerations in the Cold Weather environment:

Dehydration

Cause

- Depletion of body fluids

Symptoms

- Dizziness
- Weakness
- Blurred vision

First-Aid

- Replace lost water. Water should be sipped, not gulped
- Get medical treatment

Prevention

- At a minimum, consume 3-6 quarts of water per day

Snow Blindness

Cause

- Burning of the cornea of the eye by exposure to intense UV rays of the sun in a snow-covered environment

Symptoms

- Pain, red, watery or gritty feeling in the eyes

First-Aid

- Rest and total darkness; bandage eyes with gauze
- Evacuate if no improvement within 24 hours

Prevention

- Use sunglasses with side protection in a snow-covered environment
- If sunglasses are not available, use improvised slit glasses

Carbon Monoxide Poisoning

Cause

- Replacement of oxygen with carbon monoxide in the blood stream caused by burning fuels without proper ventilation

Symptoms

- Headache, confusion, dizziness, excessive yawning
- Cherry red lips and mouth (in light skinned individuals), grayish tint to lips and mouth (in dark skinned individuals)
- Unconsciousness

First-Aid

- Move to fresh air
- CPR if needed
- Administer oxygen if available Evacuate

Prevention

- Use only Army-approved heaters in sleeping areas, and ensure that personnel are properly licensed to operate the heaters
- Never sleep in running vehicles
- Always post a fire guard when operating a heater in sleeping areas

* POL - petroleum, oil, lubricants

See <http://chppm-www.apgea.army.mil/coldinjury> for an electronic version of this document and other resources.