

**Objective:** To provide an overview of cold stress factors, preventive measures, symptoms, and first aid

Weather can often be unpredictable and extreme. Freezing temperatures can create serious health problems, collectively called **cold stress**.

## **Cold Stress Factors**

- Freezing or near-freezing weather
- Strong winds
- Being wet
- Working for long periods in extreme cold
- Working in poorly-insulated or poorly-heated areas
- Being unaccustomed to freezing weather

## **Preventive Measures**

- Monitor yourself and your coworkers for signs of cold stress.
- Wear appropriate clothing, such as waterproofed and insulated boots, hats, and multiple layers of loose clothing. Particularly protect all extremities.
- Always carry cold weather gear, such as extra socks, gloves, hats, jackets, blankets, water, food, and a thermos of hot liquid.
- Carry a change of clothes and use them if clothes get wet.
- Limit the amount of time spent in cold, wet environments. Move into warm, dry locations during breaks.
- Do not touch cold metal surfaces with bare skin.

## Cold Stress Conditions

### Hypothermia:

- **Description:** A medical emergency in which the body cannot warm itself
- **Causes:** Lengthy exposure to freezing weather
- **Symptoms:** Shivering at the onset or not later, fatigue, confusion, disorientation, blue skin, dilated pupils, slowed pulse and breathing, or loss of consciousness
- **First aid:** Remove wet clothes, keep the victim warm and dry with blankets, and give the victim warm drinks (if conscious). Monitor consciousness, and get medical help.

### Frostbite:

- **Description:** Damage to body tissue, mostly in the extremities
- **Causes:** Lengthy exposure to freezing weather
- **Symptoms:** Skin that is aching, tingling, stinging, bluish, pale, or waxy
- **First aid:** Immerse the skin in warm but not hot water or, if that is not possible, warm very gently with body heat, without rubbing or pressure. Get medical help.

### Trench foot:

- **Description:** Dying skin because the body has cut off circulation to the feet
- **Causes:** Lengthy exposure of feet to wet conditions (with temperatures up to 60°F)
- **Symptoms:** Leg cramps or redness, numbness, swelling, bruising, blisters, ulcers, or gangrene on feet
- **First aid:** Dry feet and do not walk on them. Seek medical help.

### Chilblains:

- **Description:** Damage to capillary beds in the skin
- **Causes:** Repeated, prolonged exposure to temperatures between freezing and 60°F
- **Symptoms:** Redness, inflammation, itching, blistering, ulceration
- **First aid:** Slowly warm the skin, do not scratch, use an anti-itch cream, and cover

blisters and ulcers.