

## DISCUSSION TOPICS:

Do you know how to  
protect  
yourself and  
other workers?

Have you ever  
experienced a  
cold  
emergency?

## Cold Weather Emergencies

When working outdoors in the winter, they need to be aware of the weather, its effects on the body, proper prevention techniques, and treatment of cold-related disorders. When the body is unable to warm itself, serious cold related illnesses and injuries may occur, and permanent tissue damage and death may result. Cold related illnesses can slowly overcome a person who has been chilled by low temperatures, brisk winds, or wet clothing.

### How to Protect Workers

- Learn the signs and symptoms of cold-induced illnesses/injuries, and what to do to help the worker.
- Select proper clothing for cold, wet, and windy conditions. Layer clothing to adjust to changing environmental temperatures. Layering provides better insulation. Do not wear tight fitting clothing.
  - An inner layer of wool, silk or synthetic to keep moisture away from the body. Synthetic material cannot be worn during electrical work
  - A middle layer of wool or synthetic to provide insulation even when wet.
  - An outer wind and rain protection layer that allows some ventilation to prevent overheating.
- Take frequent short breaks in warm dry shelters to allow the body to warm up.
- Perform work during the warmest part of the day when possible.
- Avoid exhaustion or fatigue because energy is needed to keep muscles warm.
- Use the buddy system (work in pairs).
- Eat warm, high-calorie foods like hot pasta dishes.



**Frost Bite:** Freezing in deep layers of skin and tissue; pale, waxy-white skin color; skin becomes hard and numb; usually affects fingers, hands, toes, feet, ears, and nose.

What Should Be Done:

- Move the person to a warm dry area. Don't leave the person alone.
- Seek medical attention as soon as possible.
- Remove any wet or tight clothing that may cut off blood flow to the affected area.
- DO NOT rub the affected area, because rubbing causes damage to the skin and tissue.
- Gently place the affected area in a warm (105°F) water bath and monitor the water temperature to slowly warm the tissue. Don't pour warm water directly on the affected area because it will warm the tissue too fast causing tissue damage. Warming takes about 25-40 minutes.

**Hypothermia:** Normal body temperature drops to or below 95°F (35°C); fatigue or drowsiness, uncontrolled shivering, cool bluish skin, slurred speech, clumsy movements, irritable, irrational or confused behavior. Hypothermia is a medical emergency. Hypothermia is most likely at very cold temperatures, but it can occur even at cool temperatures (above 40°F), if a person becomes chilled from rain, sweat, or submersion in cold water.

What Should Be Done:

- Call for emergency help Call 911.
- Move the person to a warm, dry area. Don't leave the person alone. Remove any wet clothing and replace with warm, dry clothing or wrap the person in blankets.
- Have the person drink warm, sweet drinks (sugar water or sports-type drinks) if they are alert. Avoid drinks with caffeine (coffee, tea, or hot chocolate) or alcohol.
- Have the person move their arms and legs to create muscle heat. If they are unable to do this, place warm bottles or hot packs in the arm pits, groin, neck, and head areas. DO NOT rub the person's body or place them in warm water bath.

# Cold Weather Emergencies

## How the frost bites

Arctic temperatures with extreme dry air affect skin exposed to the cold:

### Cold attack

- Low humidity desiccates skin; it starts to itch, gets flaky, inflamed.

- Skin lacks fat; natural protection function of upper skin layer is disturbed, rifts occur.

- Frostbite: Vessels contract, tissue threatened by lack of oxygen; cells die off; most affected are nose, ears, toes, fingers.

- Hypothermia: Life threatening; internal body temperature falls below a safe level.

Ears

Nose

Fingers

Toes



### What to do

- **DRINK LOTS OF FLUIDS** (water, tea); eat fresh fruit and vegetables high in vitamin C; this protects mucous membranes.

- **CREAMS** high in fat and vitamin E, aloe vera protect skin (also lips).

- **FROSTBITE TREATMENT**  
Warm up affected areas slowly with lukewarm water; do not rub skin.

- **NUTRITION** Avoid food with cooling effect (bananas, oranges, yogurt, raw vegetables, alcohol).

- **PUT ON RIGHT CLOTHES** (in layers, but not too heavy or tight); breathe through scarf in front of nose, mouth.

When body is cold for a long time, the immune system can be weakened by stress (women more affected than men).

## Trainer

**Trainer Signature**

## Cold Weather Emergencies

## Topic

Date

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