Cold stress
Exposure to cold can cause injury and illness to outdoor workers, or people who work in uninsulated/unheated/refrigerated spaces. The risk of cold exposure increases dramatically when wind or water is involved.

Health effects

- **Hypothermia** is an abnormally low body temperature caused by losing body heat faster than it can be produced. This affects the brain, making the victim unable to think clearly or move well. The victim may not recognize that this is happening. Early symptoms include shivering, fatigue, loss of coordination, slurred speech, and confusion/disorientation.

- **Immersion Hypothermia** is a type of hypothermia caused by immersion in water less than 70 F. It develops much more quickly because water conducts heat away from the body 25 times faster than air.

- **Frostbite** occurs when the skin freezes (most commonly the fingers, toes, nose, ears, or chin). This causes permanent damage or destruction of the tissue. Amputation is often required. Symptoms include loss of feeling and color in the affected areas, tingling or stinging, aching, and bluish or pale, waxy skin.

Work practices

- Take frequent breaks in a warm area.
- Schedule work for warmer parts of the day.
- Overexertion makes muscles susceptible to cold and causes sweating, which cools the skin.
- Work in teams so that one worker can watch for danger or get help if needed.

- Drink hot water and sports drinks. Avoid coffee, tea, soda, or alcohol.
- Eat warm, high-calorie foods such as hot pasta.
- Pack an emergency kit with blankets, dry clothes (especially socks), and a thermos of hot liquid.
- Use hot pack in gloves and boots.

Personal Protection

- Wear layers of loose clothing for extra warmth and the ability to shed layers as needed.
- Protect the ears, face, hands and feet
- Boots should be waterproof and insulated.
- Hats keep the entire body warmer.

First Aid

- Hypothermia: Bring victim from the cold. Take off any cold/wet clothing. **Don't apply direct heat or use hot water, heating pad, or lamps.** Apply warm compresses to the head, neck, chest and groin. Give warm non-alcoholic drinks, unless the victim is unconscious. **Don't massage or rub the person.**
- Frostbite: Soak affected area in warm (not hot) water (99-108 F.)
- Get medical treatment for either condition.
Knowledge check

1. Which of the following statements about Hypothermia is true?
   a. It is an abnormally low body temperature caused by exposure to cold air or water.
   b. A victim is often unaware that he/she is being affected.
   c. It occurs much faster if immersion in cold water occurs.
   d. All of these statements are true

2. At what water temperature is immersion hypothermia likely to occur?
   a. 82 degrees or less
   b. 77 degrees or less
   c. 75 degrees or less
   d. 70 degrees or less

3. Which of the following parts of the body are LEAST likely to be affected by frostbite?
   a. Chest
   b. Ears
   c. Chin
   d. Fingers

4. True or false: Alcoholic beverages are excellent for the prevention and treatment of hypothermia?