



MONTHLY SAFETY AWARENESS DISCUSSION GUIDE

Cold Stress

Introductory Comments

What constitutes cold stress and its effects can vary across different areas of the country. In regions that are not used to winter weather, near freezing temperatures are considered factors for "cold stress."

Cold stress occurs by driving down the skin temperature, and eventually the internal body temperature. When the body is unable to warm itself, serious cold-related illnesses and injuries may occur, and permanent tissue damage and death may result.

Types of cold stress include:

- Trench foot
- Frostbite
- Hypothermia

Instructions:

Use this Safety Toolbox Talk to spark discussion within the employee group. Test knowledge retention with the associated quiz.

Meeting Starter Questions

- What is Cold Stress?
- How can cold stress be prevented?
- What are three types of cold stress?

Critical Safety Points

Cold temperatures force your body to work harder and use more energy to maintain its temperature. Blood flow shifts from outer extremities to your core and that increases the risk of frostbite and hypothermia. Both frostbite and hypothermia can lead to amputation and death.

Trenchfoot

Trench foot is a non-freezing injury of the feet caused by prolonged exposure to wet and cold conditions. It can occur in temperatures as high as 60°F if feet are constantly wet. Injury occurs because wet feet lose heat 25-times faster than dry feet.

Frostbite

Frostbite is caused by the freezing of the skin and tissues. Frostbite can cause permanent damage to the body, and in severe cases can lead to amputation. The risk of frostbite is increased in people with reduced blood circulation and among people who are not dressed properly for extremely cold temperatures.

Hypothermia

Hypothermia occurs when the normal body temperature (98.6°F) drops to less than 95°F. Exposure to cold temperatures causes the body to lose heat faster than it can be produced. Prolonged exposure to cold will eventually use up the body's stored energy. The result is hypothermia, or abnormally low body temperature. 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 immersion in cold water.

How to prevent cold stress related illnesses:

- **Layer Clothing.** Wear an outer layer of wind-breaking material such as nylon, a middle layer of down or wool to absorb sweat and provide insulation, and an inner layer of cotton to allow for ventilation.
- **Protect your extremities.** Wear a hat. Up to 40% of body heat is lost through your head. Make sure boots and gloves are insulated and waterproof.
- **Drink fluids.** Drink plenty of warm liquids, but avoid caffeine. It is easy for the body to become dehydrated in cold weather.

How to spot symptoms and provide care:

- **Frostbite-** Symptoms progress from tingling, stinging, or aching in frostbitten area and are followed by numbness. Skin color turns from red to purple to white and in severe cases will blister. Wrap the area with soft cloths and soak in warm water. Do not rub the area.
- **Mild Hypothermia-** Symptoms include shivering, lack of coordination, slurred speech, and memory loss. Move victim to warm area, remove wet clothing, cover with blankets and give warm liquids.
- **Moderate Hypothermia-** Shivering stops, victim is unable to stand and becomes confused or irrational. Call 911. Then cover all extremities completely and place hot packs on the head, neck, chest, and groin.
- **Severe Hypothermia-** Muscles grow stiff, victim passes out, and eventually, dies. If someone shows signs of severe hypothermia, call 911. Begin CPR if the victim is not breathing and has no pulse.

Employee Name:	Signature:
Division:	Date:
Instructor:	Score:

Cold Stress

Question 1: Your body uses less energy in cold working environments.

☐ TRUE ☐ FALSE

Question 2: Boots and gloves should be insulated and waterproof.

☐ TRUE ☐ FALSE

Question 3: Symptoms of Frostbite progress from tingling, stinging, or aching in frostbitten area and are followed by numbness.

☐ TRUE ☐ FALSE

Question 4: Types of Cold Stress include: Trenchfoot, frostbite, and hypothermia.

☐ TRUE ☐ FALSE

Question 5: Up to 40% of body heat is lost through your head.

☐ TRUE ☐ FALSE

Quiz Answer Key:

1. TRUE
2. TRUE
3. TRUE
4. TRUE
5. TRUE