



WEEKLY SAFETY MEETING

COLD STRESS

Cold Stress- Environmental cold can affect any worker exposed to cold temperatures and can lead to cold stress. Cold stress occurs by driving down the skin temperature and eventually the internal body temperature. This may lead to serious health problems, including tissue damage and death. A cold environment forces the body to work harder to maintain its temperature. Types of cold stress include trench foot, frostbite, and hypothermia.

Safety Tips for Workers to prevent cold stress:

- + Your employer should ensure that you know the symptoms of cold stress and schedule work for the warmer part of the day
- + Monitor your physical condition and that of your coworkers and dress properly for the cold
- + Stay dry in the cold because moisture or dampness, e.g. from sweating, can increase the rate of heat loss from the body
- + Keep extra clothing (including underwear) handy in case you get wet and need to change and drink warm sweetened fluids (no alcohol)
- + Use proper engineering controls, safe work practices, and personal protective equipment (PPE) provided by your employer
- + Keeping hands warm is a challenge and most winter gloves are too thick to work efficiently, workers can slip on a pair of nitrile gloves underneath your regular pair of work gloves

Wind Chill- It is important for employers to know the wind chill temperature so that they can gauge workers' exposure risk better and plan how to safely do the work. Whenever temperatures drop below normal and wind speed increases, heat can leave your body more rapidly. It is also important to monitor workers' physical condition during tasks, especially new workers who may not be used to working in the cold, or workers returning after spending some time away from work. Wind chill is the temperature your body feels when air temperature and wind speed are combined. For example, when the air temperature is 40°F, and the wind speed is 35 mph, the effect on the exposed skin is as if the air temperature was 28°F.

Frostbite- Frostbite is caused by the freezing of the skin and tissues. The lower the temperature, the more quickly frostbite will occur. Frostbite typically affects the extremities, particularly the feet and hands. 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. Symptoms include reddened skin develops gray/white patches in the fingers, toes, nose, or ear lobes; tingling, aching, a loss of feeling, firm/hard, and blisters may occur in the affected areas. If you suspect frostbite:

- + Get indoors immediately and seek medical attention, do not apply snow/water. Do not break blisters.
- + Remove constrictive clothing and jewelry that could impair circulation
- + Place dry, sterile gauze between toes and fingers to absorb moisture and keep them from sticking together
- + Elevate the affected area to reduce pain and swelling
- + For superficial frostbite, only affecting skin surface not the underlying tissue, you may also place the affected area in water that is 100 to 105 degrees until the tissue softens

Hypothermia- Hypothermia occurs when the body's temperature drops below 95 degrees. Severe shivering, one of the first signs of hypothermia, is beneficial in keeping the body warm. But as hypothermia progresses, shivering gives way to drowsiness or exhaustion, confusion, shallow breathing, irregular heartbeat, slurred speech, loss of coordination and, eventually, unconsciousness and even death. In one of the most bizarre symptoms of hypothermia, "paradoxical undressing," a person actually undresses instead of bundling up. Researchers believe that in the final throes of hypothermia, a person may feel like he or she is overheating, due to a rush of warm blood to the extremities. If you suspect hypothermia:

- + Move the victim inside and remove any wet clothing, then call for medical attention
- + Add blankets, pillows, towels or newspapers beneath and around the victim, give a warm sweetened drink if alert (no alcohol)
- + Cover the victim's head and handle the victim gently to avoid cardiac arrest
- + Keep the victim in a horizontal position and if necessary, give CPR

Trench Foot- Trench foot or immersion foot is caused by prolonged exposure to wet and cold temperatures. It can occur at temperatures as high as 60°F if the feet are constantly wet. Non-freezing injury occurs because wet feet lose heat 25-times faster than dry feet. To prevent heat loss, the body constricts the blood vessels to shut down circulation in the feet. The skin tissue begins to die because of a lack of oxygen and nutrients and due to the buildup of toxic products. Redness of the skin, swelling, numbness, blisters are all symptoms of trench foot. If you suspect immersion foot:

- + Call 911 immediately in an emergency; otherwise seek medical assistance as soon as possible
- + Remove the shoes, or boots, and wet socks and dry the feet



Meeting Date: _____
Supervisor: _____

Trainer: _____
Location: _____

Attendees: (Please print clearly)

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____



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COLD STRESS QUIZ

1. Workers can slip _____ under their work gloves, to maximize efficient work with gloved hands in cold conditions. _____
2. A non-freezing injury caused by wet and cold conditions is:
 - A. Hypothermia
 - B. Frostbite
 - C. Immersion Foot
 - D. Surface Frostbite
 - E. All of the above

3. If you suspect hypothermia, you should keep that individual in a vertical position as long as possible to increase circulation. True or False? _____
4. Which is something you should **NOT** do if you suspect frostbite:
 - A. Get indoors immediately
 - B. Seek medical attention
 - C. Remove constrictive clothing and jewelry that could impair circulation
 - D. Break any blisters open
 - E. All of the above

5. For frostbite, place dry, sterile gauze between toes and fingers to absorb moisture and keep them from sticking together. True or False? _____
6. Sweating in a cold environment is beneficial to the body and can help prevent hypothermia, frostbite and immersion foot. True or False? _____
7. One of the symptom of frostbite is:
 - A. Shivering
 - B. Gray/white patches
 - C. Drowsiness
 - D. Confusion
 - E. Irregular heartbeat

8. Wind chill is the temperature your body feels when _____ and _____ are combined.
 - A. Body temperature and wind speed
 - B. Air temperature and wind speed
 - C. Atmospheric pressure and precipitation
 - D. Heat loss and humidity
 - E. None of the above

9. What should you do if you encounter someone suffering from hypothermia?
 - A. Move the victim inside and remove any wet clothing
 - B. Call for medical attention
 - C. Add blankets, pillows, towels or newspapers beneath and around the victim
 - D. Give a warm sweetened drink if alert (no alcohol)
 - E. All of the above

Printed Name: _____ **Trained by:** _____

Signature: _____ **Trained by Signature:** _____

Date: _____ **Location:** _____