

NAME: _____ DATE: _____

LOCATION: _____

DISCUSSION LEADER: _____

Your safety concerns: _____

Today's Topic: Preventing Cold Stress Injuries

Anyone working in a cold environment may be at risk of cold stress. Some workers may be required to work outdoors in cold environments and for extended periods; for example: dock workers, snow clean-up crews, sanitation workers, construction workers, delivery persons, and truck drivers.

How Cold Is Too Cold?

What constitutes extreme cold 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 "extreme cold." A cold environment forces the body to work harder to maintain its temperature. Whenever temperatures drop below normal and wind speed increases, heat can leave your body more rapidly. 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.

Cold stress occurs by driving down the skin temperature and eventually the internal body temperature (core temperature). This may lead to serious health problems, potentially causing tissue damage and even death.

Risk Factors

Some of the risk factors that contribute to cold stress are:

- Wetness/dampness, dressing improperly, and exhaustion
- Predisposing health conditions such as hypertension, hypothyroidism, and diabetes
- Poor physical conditioning

How to Prevent Cold Stress Injuries in the Workplace

Provide engineering controls. For example, radiant heaters may be used to warm workers in outdoor security stations. If possible, shield work areas from drafts or wind to reduce wind chill.

Use safe work practices. For example, it is easy to become dehydrated in cold weather. Drink plenty of warm sweetened liquids. If possible, conduct heavy work during the warmer part of the day. Perform outside work in pairs (buddy system) so that you can monitor each other for signs of cold stress. Take frequent breaks in warm areas. Acclimatize new workers and those returning after time away from work by gradually increasing their workload and allowing more frequent breaks in warm areas as they build up a tolerance for working in the cold environment. Safety measures such as these should be incorporated into the relevant health and safety plan for the workplace.

Dress appropriately. Proper attire is extremely important to preventing cold stress. The type of fabric worn also makes a difference. Cotton loses its insulation value when it becomes wet. Wool, silk, and most synthetics, on the other hand, retain their insulation even when wet. The following are recommendations for working in cold environments:

- Wear at least three layers of loose fitting clothing. Layering provides better insulation. Do not wear tight fitting clothing. Consider an inner layer of wool, silk, or synthetic to keep moisture away from the body. A middle layer of wool or synthetic can provide insulation even when wet. An outer wind and rain protection layer allows some ventilation, helping to prevent overheating.
- Wear a hat or hood to help keep your whole body warmer. Hats reduce the amount of body heat that escapes from your head.
- Use a knit mask to cover the face and mouth (if needed).
- Use insulated gloves to protect the hands (water resistant if necessary).
- Wear insulated and waterproof boots (or other footwear).

What tasks do we perform that expose us to possible cold stress injuries?

How can we lessen our exposure to cold stress injuries?

“Being Prepared Is the Key to Preventing Cold Stress Injuries!”