

Appendix I

Cold Stress Prevention

Seven Safety Tips to Prevent Hypothermia and Frostbite

Cold stress can be a fatal threat to every worker or researcher. Once exposed to cold or freezing temperature for long periods of time, they risk losing a serious amount of body heat. If not treated immediately this could lead to brain damage and even death.

Here are safety tips to prevent cold stress or cold-induced illnesses or injuries:

1) Train employees for the cold and changing weather.

Training sure is a timeless necessity in the workplace. Workers must be trained not only about cold-induced illnesses and injuries, but also to determine environmental or work site conditions that may cause cold stress. They should be especially trained to recognize the signs and symptoms of cold stress or cold-induced injuries like hypothermia and frostbite.

Signs and Symptoms

Hypothermia

- Cool skin
- Slower, irregular breathing
- Slower heartbeat
- Weak pulse
- Uncontrollable shivering
- Severe shaking
- Rigid muscles
- Drowsiness
- Exhaustion
- Slurred Speech
- Memory lapses

Frostbite

- Paleness of the skin
- Sensation of coldness or pain
- Pain disappears after a while with the freezing of tissues
- Tissues become increasingly whiter and harder

2) Use a buddy system.

Sure, you may want to be left to yourself while working. But believe me, this is not the time to enjoy solitude while accomplishing your tasks outdoors. You don't want to be working one minute and thawing your fingers the next.

So get a partner and work on monitoring each other for signs of cold stress. Don't be stubborn because most of the time, it's just difficult to determine danger signs when you only have yourself to rely on.

3) Adjust your work schedule to the cold or changing weather.

Don't punish yourself too much. Just because you have to work outside and it feels like stepping into a walk-in freezer, it doesn't mean you have to bask in the frigid winds all day.

Schedule work during the warmest part of the day. Break a task into shifts so you can take frequent, short breaks in warm dry shelters.

4) Layer clothing.

At this time of the year, the saying “less is more” surely does not hold true. Well, maybe partly true since wearing less clothes means getting exposed to more cold-stress-related threats.

Remember that it’s better to go for several thin layers of clothing instead of wearing just a couple of thick layers. For clothes next to the skin, choose those with synthetic fabrics to avoid absorption of sweat. An ideal choice is polypropylene. For your outer layer, choose fabrics made of waterproof and wind-resistant material.

5) Wear complete PPE (personal protective equipment).

You know you need it. Wear warm gloves, hats and hoods. In extreme conditions, don a warm woolen hood that covers your neck, head and ears. If you get hot while working, just open your jacket. Don’t remove your hat and gloves. The key is in wearing clothing that can be adjusted to changing conditions.

Avoid wearing tight-fitting footwear as this restricts blood flow. Your shoes or boots should allow you to wear either one thick or two thin pairs of socks.

6) Eat and drink hot or warm foods and liquids.

You might have to say goodbye to hot coffee and chocolate for a while. Drinking caffeinated and alcoholic beverages is not recommended while working in cold weather. Instead, go for warm, sweet beverages like sports drinks and sugar water. Keep in mind that you are also at risk of dehydration under cold weather so make it a habit to drink up.

Good news, though. You can feast on hot pasta dishes, soups and other foods rich in calories. Remember, though, that if you’re sick or under medication, you are more at risk to get cold stress. This is especially true if you have hypertension, diabetes or a cardiovascular disease.

7) Wear eye protection.

Ice or snow + excessive ultraviolet rays = eye injury. Yes, this is one proven equation. Before working outside, check first if you may be exposed to glare or, worse, blowing ice crystals. If conditions point to the affirmative, then go wear the right kind of eye protection.

