



Weekly Safety Meeting

Avoiding Cold Stress Injuries

Cold stress, or hypothermia, can affect workers not protected against it. When the body cannot maintain its warmth, serious cold-related illnesses and injuries can occur. This may lead to permanent tissue damage or even death.

It is natural for your body to try to maintain its core temperature (chest and abdomen) of approximately 97.6° F (37° C) by reducing heat loss and increasing heat production. To accomplish this, blood vessels on the skin, arms and legs constrict, which decreases the blood flow to your extremities. This minimizes the blood from cooling and keeps the inner organs warm. Reducing the blood flow to the skin, however, results in a lower skin temperature and increases the risk of frostbite.

Another factor that contributes to cold stress is wind chill, the combined factor of wind speed and air temperature on exposed skin. Extreme wind chill can cause flesh to freeze.

Cold Stress Health Hazards:

Frostbite - is an injury to the body that is caused by freezing. Frostbite causes a loss of feeling and color in the affected areas. It most often affects the nose, ears, cheeks, chin, fingers, or toes. Frostbite can lead to permanent damage or amputation of the affected areas. First aid for frostbite: Get the victim into a warm area immediately. Do not walk on frostbitten toes or feet. This will cause more damage. Use warm water to warm the affected areas up. Hot water can burn the affected area.

Trench foot - also known as immersion foot, is an injury of the feet resulting from prolonged exposure to wet and cold conditions. Trench foot can occur at temperatures as high as 60 degrees F if the feet are constantly wet. Wet feet lose heat 25 times faster than dry feet. To prevent heat loss, the body constricts blood vessels to shut down circulation in the feet. Skin tissue begins to die because of lack of oxygen and nutrients and due to the buildup of toxic products. First aid for trench foot: Remove any wet socks or boots. Dry feet and do not walk on them as this can cause more damage if already affected.

Hypothermia - When exposed to cold temperatures, your body begins to lose heat faster than it can be produced. Prolonged exposure to cold will eventually use up your body's stored energy. The result is hypothermia, or abnormally low body temperature. A body temperature that is too low affects the brain, making the victim unable to think clearly or move well. First aid for hypothermia: Alert a supervisor and get medical help. Move the victim into a warm area. Warm the center of the body first--chest, neck, head, and groin area--using an electric blanket, if available; or use skin-to-skin

contact under loose, dry layers of blankets, clothing, towels, or sheets. If the victim is not breathing begin CPR until the paramedics arrive on scene.

Cold-stress Controls:

Be prepared for cold temperatures and be alert for any signs of cold stress. Employees must recognize the early stages of cold stress in themselves and others. The first warning sign may be pain in the extremities. The onset of shivering should warn you that you need to come out of the cold.

Workers in cold conditions should:

- Be medically fit for the cold exposure.
- Eat a balanced diet that includes increased carbohydrates to burn more fuel and increase your body heat. Carbohydrates burn faster than protein and give you quicker energy.
- Understand the risk imposed by the chill factor and be prepared for the conditions.
- Avoid caffeinated or alcoholic drinks that increase water loss and blood flow to the extremities.
- Have a back-up plan when working in isolated areas or use a buddy system to keep an eye on each other and watch for signs of cold stress.

Clothing should be suited for the cold and your level of physical activity. Here are tips to remember when working in the cold:

- Wear several levels of clothing to capture insulating air between the layers.
- To allow for ventilation, wear cotton or synthetic layers next to the skin.
- Wear waterproof or water-repellant outer clothing when working in wet conditions.
- Protect your head from heat loss. When you do not cover your head, you can lose 40 percent of your body heat. Use hats, hoods or hard-hat liners.
- Keep a change of clothing available in case your work clothes become wet.

Remember:

Cold environmental conditions can affect your body. Be aware of the signs or symptoms caused by hypothermia or frostbite and take appropriate action to correct the situation. If you take action quickly, the effects of cold stress may be controlled and lessened.

ICE AND SNOW MEAN TAKE IT SLOW!!

Safety Meeting Sign-In Sheet

Supervisor:	Subject:
Location:	Date:
Conducted By:	Trainer Signature:

Name (print clearly)	Signature	Comments / Safety Concerns / Training Requests