



SAFETY DIRECTOR BULLETIN



COLD STRESS BEST PRACTICES

Cold stress can lead to serious health issues if not recognized and managed effectively. This bulletin provides best practices for preventing cold stress and details the stages of frostbite to help you stay safe during the winter months.

Understanding Cold Stress

Cold stress occurs when the body is unable to maintain its normal temperature due to exposure to cold environments. This can lead to various health problems, including hypothermia, frostbite, and trench foot.

Best Practices for Preventing Cold Stress

- **Acclimatization:** Gradually introduce workers to cold environments to allow their bodies to adjust.
- **Proper Clothing:** Wear multiple layers of loose-fitting, insulating clothing. Ensure that the outer layers are waterproof.
- **Regular Breaks:** Take frequent breaks in warm, dry areas to prevent prolonged exposure to the cold.
- **Hydration:** Drink warm, sweetened fluids (avoid alcohol) to maintain body heat and hydration.
- **Monitoring:** Regularly check for signs of cold stress in yourself and coworkers.

Stages of Frostbite

Frostbite is a severe condition caused by freezing of the skin and underlying tissues. It progresses through several stages:

1. Frostnip (First-degree Frostbite):

- **Symptoms:** Red and cold skin, numbness, and a prickling sensation.
- **Treatment:** Rewarm the affected area using warm (not hot) water for 15-30 minutes. Avoid direct heat sources like stoves or heating pads.

2. Superficial Frostbite (Second-degree Frostbite):

- **Symptoms:** Skin turns pale or blue, ice crystals may form, and the skin feels hard or frozen. Swelling and a warm sensation may occur.
- **Treatment:** Seek medical attention immediately. Rewarm the area as soon as possible, and protect it from further exposure.

3. Deep Frostbite (Third-degree Frostbite):

- **Symptoms:** Skin becomes white, grayish-yellow, or waxy. It feels hard and numb, and blisters may form after rewarming.
- **Treatment:** Immediate medical attention is required. Rewarm the area in warm water (105 °F) for 25-40 minutes. Do not rub the affected area, as this can cause further damage.

Stages of Hypothermia

Hypothermia can be a severe condition caused by the lowering of a person's core body temperature. Left unrecognized and untreated, it can progress through three stages

1. **Mild Hypothermia (Core body temperature of 90 – 95° F)**

Symptoms: shivering, fumbling hands, and possible drowsiness

Treatment: move the person to a warm area and assist with rewarming

2. **Moderate hypothermia (Core body temperature of 82 – 90° F)**

Symptoms: shivering slows, fumbling, impaired consciousness, and a slowed heart rate and breathing rate

Treatment: call 9-1-1, carefully move to a warm area and begin active rewarming

3. **Severe hypothermia (Core body temperature below 82° F)**

Symptoms: shivering stops, garbled speech, trouble thinking clearly, bluish skin color, and muscle stiffness, possible loss of consciousness

Treatment: call 9-1-1. Do not rewarm, but keep victim from getting colder. Rewarming should occur in a hospital. Begin CPR if pulse cannot be felt.

By understanding the causes, symptoms, prevention, and management of cold stress, you can create a safe and healthy environment for yourself and your coworkers. Stay vigilant and take proactive measures to protect against cold stress and frostbite.