

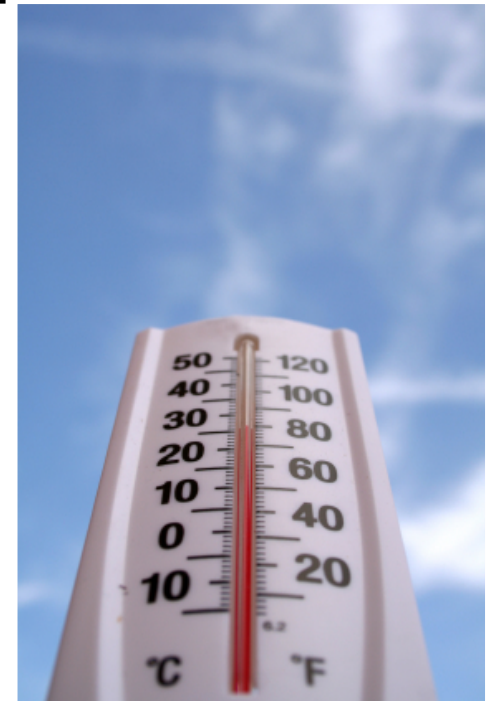
COLD STRESS PREVENTION

DON'T BE A POPSICLE

Understanding Cold Stress

Sometimes workers may be required to work in cold environments:

- ▶ Sometimes for extended periods of time
- ▶ Cold stress is a common problem



Factors Contributing to Cold Stress

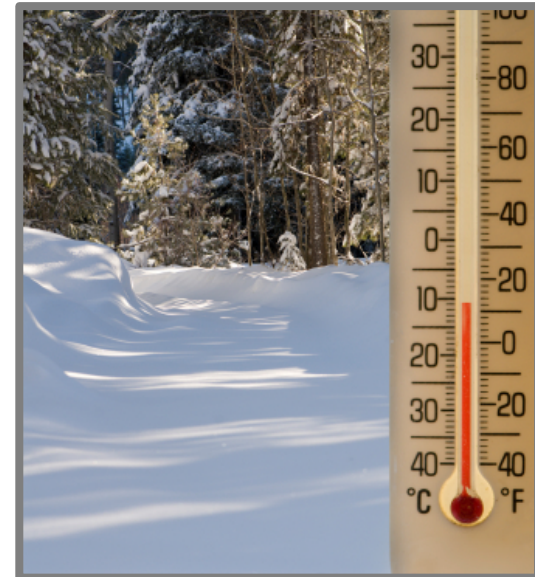
Four factors:

- ▶ Cold air temperatures
- ▶ High velocity air movement
- ▶ Dampness of the air
- ▶ Contact with cold water or surfaces

The Effect of Cold on the Body

The cold will:

- ▶ Force body to work harder to maintain it's temperature
- ▶ Cold air, water, and snow all draw heat from the body



Wind Chill

Wind chill is:

- ▶ Combination of air temperature and wind speed
- ▶ Capable of bringing cold stress in the 50's with rain and wind



The Reaction to Cold Conditions

In a cold environment:

- ▶ The body's energy is used to keep internal temperature
- ▶ Blood flow will shift from extremities and outer skin to the core
- ▶ Increases risk of frostbite and hypothermia, and even trench foot



Most Common Cold Induced Problems

Common cold induced problems:

- ▶ Hypothermia
- ▶ Frostbite
- ▶ Trench foot



Hypothermia

Hypothermia:

- ▶ Means “low heat”
- ▶ Potentially serious health condition
- ▶ Occurs when body heat is lost faster than it can be replaced
- ▶ When core temperature drops below 98.6° F to around 95° F the symptoms begin

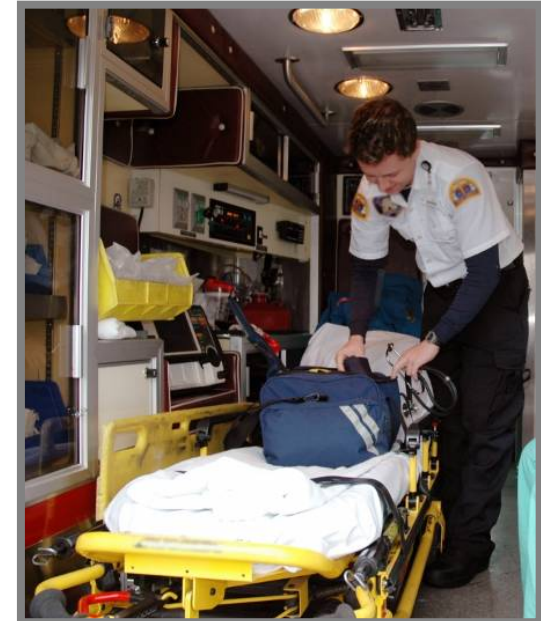
Treatment for Hypothermia

For mild cases:

- ▶ Move to warm area and stay active
- ▶ Remove and replace wet clothes
- ▶ Cover the head
- ▶ Drink warm liquids

For severe cases:

- ▶ Do the same as mild
- ▶ Contact emergency personnel
- ▶ Cover all extremities



Frostbite

Frostbite facts:

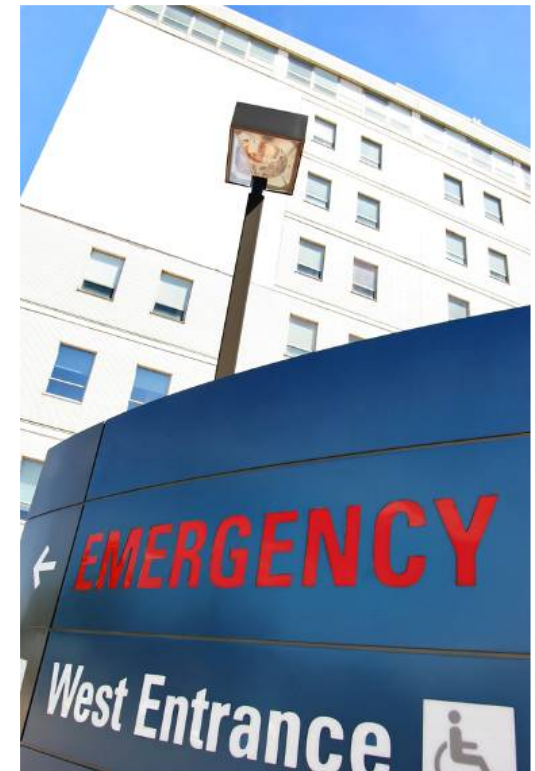
- ▶ Occurs when skin freezes and loses water
- ▶ Amputation may be required in serious cases
- ▶ Wind chill can allow it to occur in above freezing temperatures
- ▶ Affected body part will be cold, tingling, stinging or aching
- ▶ Skin turns red, then purple, then white



Treatment for Frostbite

When treating frostbite:

- ▶ Do not rub the area
- ▶ Wrap the area in a soft cloth
- ▶ Move to a warm area
- ▶ Contact emergency personnel
- ▶ Do not leave worker alone



Trench Foot

Cause and symptoms:

- ▶ Caused by having feet immersed in cold water for long periods of time
- ▶ Symptoms include tingling, itching, burning, or blisters



Treatment for Trench Foot

When treating trench foot:

- ▶ Soak feet in warm water
- ▶ Wrap with dry cloth bandages
- ▶ Drink warm liquids



Preventive Measures

Measures to take:

- ▶ Plan for work in cold weather
- ▶ Wear appropriate clothing
- ▶ Avoid alcohol, certain medications, and smoking to minimize risk



Protective Clothing

Recommended for working in cold environments:

- ▶ Wear at least three layers of clothing
- ▶ Wear a hat
- ▶ Wear insulated boots or footwear
- ▶ Keep a change of dry clothing
- ▶ Do not wear tight clothing



Work Practices

Important preventative measures:

- ▶ Drink plenty of liquids
- ▶ Schedule heavier work during warmer parts of the day
- ▶ Try to work in pairs
- ▶ Avoid fatigue
- ▶ Take frequent breaks
- ▶ Consume warm and high calorie food



Additional Controls

Controls to reduce risk of cold stress:

- ▶ Radiant heaters
- ▶ Shielding work areas from drafts or wind
- ▶ Use of insulating material

