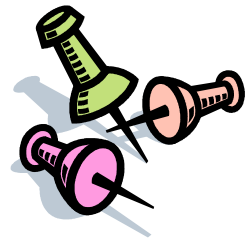




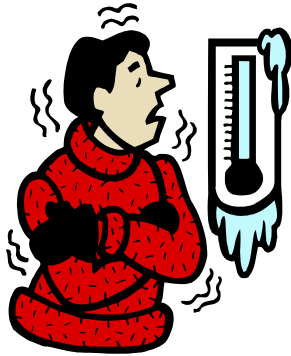
# Safety Note

UNIVERSITY OF CALIFORNIA  
AGRICULTURE AND NATURAL RESOURCES  
ENVIRONMENTAL HEALTH AND SAFETY



Safety Note #54

## COLD STRESS AWARENESS



Serious health problems caused by cold stress include hypothermia and frostbite. Hypothermia is defined as the unintentional lowering of the deep body (core) temperature below 95°F. Frostbite is the injury to skin or tissues due to the freezing or formation of ice crystals in tissue cells. According to information available from the Centers for Disease Control and Prevention, between 1979 and 1998 approximately 700 hypothermia-related fatalities occurred annually in the United States. Frostbite can damage tissue cells to the extent that gangrene may develop and amputation of damaged tissue becomes necessary. By taking several simple precautions, employees can control and/or reduce exposure to conditions that may cause cold stress.

### Cold Stress Symptoms

#### 1. Hypothermia

- Signs of confusion, disorientation, and slowed or slurred speech.
- Low blood pressure or weak pulse and shallow breathing.
- Excessive shivering and cool or cold skin.
- Loss of coordination and difficulty moving or walking.

#### 2. Frostbite

- Tingling, stinging, or aching feelings on exposed skin or extremities.
- Flushed skin on affected area gradually changing to white or grey-white.
- Possible skin blistering.
- Often no pain, but intense cold and numbness may be present.

### Treatments for Cold Stress Disorders

- Always call 911 for hypothermia cases and promptly seek medical help for frostbite.
- If the hypothermia victim is unconscious, check airway. If necessary, start CPR.
- Move hypothermia victim to a warm place and wrap them in a blanket to prevent heat loss.
- Cover frost bite area with clean cloth and begin slowly warming.
- Do not walk on frostbitten toes or feet or massage frostbitten limbs or other areas.

### Precautions to Prevent Cold Stress Disorders

- Always dress appropriately for cold weather.
- During cold and windy weather, wear a wind-resistant coat or jacket.
- Wear a hat, mittens, water-resistant boots and coat, and several layers of clothing.
- Always stay dry and remove/replace wet layers of clothing.
- Be aware that wool, silk, or polypropylene clothing retain body heat better than cotton.
- Work slowly and seek shelter in an indoor heated space whenever exposed skin or extremities begin to feel cold.