Any person exposed to cold environments may be at risk for cold stress related illnesses and injuries. UNH students, faculty, and staff should be aware of the signs and symptoms of cold stress as well as the methods to prevent cold stress and other winter hazards.

**Factors That Contribute to Cold Stress**

When most people think of cold stress they think of frigid temperatures or blizzard like conditions, however, this does not always have to be the case. There are four factors which can contribute to cold stress: cold temperatures, cold or high wind, dampness, and cold water. Cold temperature alone, or a combination of any of these factors can result in harmful cold stress.

**Planning Ahead to Prevent Cold Stress**

Cold stress is a concern for everyone at UNH during the winter season. Planning ahead, taking necessary precautions, and monitoring the local weather can be the key to staying safe in cold weather.

**Protective Clothing**

Wearing the right clothing is the most important precaution to take in order to avoid the dangerous effects of cold stress. In addition to the amount of clothing you wear, the type of fabric of the clothing also makes a difference. Cotton loses its insulation value when it becomes wet. Wool on the other hand, maintains its insulation even when wet. The following are some protective clothing recommendations when exposed to cold weather:

- Wear multiple layers of clothing: 1) An outer layer to break the wind and provide for some insulation 2) A middle layer of down or wool to absorb sweat and provide insulation even when wet, 3) An inner layer of cotton or synthetic weave to allow ventilation. Do not wear tight clothing, loose clothing allows for better ventilation.
- Special consideration should be given to cover and protect your head, face, feet and hands.
- Wear appropriate footwear that may include insulated boots or other footwear with heavy treads to prevent slipping.
- Should you be active and spend extended time outdoors, keep a change of dry clothes available in case clothes become wet.

**Other Winter Considerations**

- Eat well balanced meals and drink plenty of liquids (avoid caffeine or alcohol). It is easy to become dehydrated even when it is cold.
- Take frequent short breaks in warm dry shelters, out of the wind and cold (get inside immediately if any part of your body begins to feel numb).
- Try to work / travel around campus in pairs to keep an eye on each other and watch for signs of cold stress
- Walk carefully and avoid slick surfaces. Test potentially slippery surfaces with one foot before stepping on them
- If you must walk on the ice, take short steps or shuffle your feet for stability
- Avoid touching exposed metal with bare skin.
# Types of Cold Stress, Symptoms and First Aid

## Hypothermia

A condition in which the body uses up its stored energy and can no longer produce heat.

### Early Symptoms
- Shivering
- Fatigue
- Loss of coordination
- Confusion and disorientation

### Late Symptoms
- No shivering
- Blue skin
- Dilated pupils
- Slowed pulse and breathing
- Loss of consciousness

### First Aid
- Request immediate medical assistance
- Move the victim into a warm room or shelter
- Remove wet clothing
- Warm the center of their body first
- If conscious, provide warm beverages (avoid alcohol and caffeine)
- Keep dry and wrapped in warm blanket
- If no pulse, begin CPR

## Frostbite

An injury to the body that is caused by freezing, which most often affects the nose, ears, chin, cheeks, fingers or toes.

### Symptoms
- Reduced blood flow to hands and feet
- Numbness
- Aching
- Tingling or stinging
- Bluish or pale, waxy skin

### First Aid
- Get into a warm room as soon as possible
- Unless necessary, do not walk on frostbitten feet or toes
- Immerse the affected area in warm (not hot) water, or warm the affected area using body heat. Do not use a fire place, heating pad, or radiator for warming
- Do not massage the frostbitten area, doing so may cause more damage

## Trench Foot

An injury of the feet resulting from prolonged exposure to wet and cold conditions that can occur at temperatures as high as 60°F if the feet are constantly wet.

### Symptoms
- Reddening of the skin
- Numbness
- Leg Cramps
- Tingling Pain
- Blisters or ulcers
- Bleeding under the skin
- Gangrene (foot may turn dark purple, blue, or grey)

### First Aid
- Remove shoes/boots and wet socks
- Dry feet
- Avoid walking on feet as this may cause tissue damage