

# North Dakota State University

## Working in the Cold

### I. Introduction

This NDSU procedure provides guidelines for those individuals performing their job duties while working in the cold weather environment at all properties of the University. The intent is to establish proper safety procedures and practices, as well as to promote and provide for a safer environment for students, faculty and staff.

### II. Purpose

To provide guidelines to employees to know and understand the safe operating procedures involved with working in cold conditions.

### III. Goals

To reduce the risk of a work related injury by maximizing personal safety while working in cold conditions.

### IV. Procedures

- A. Recognize the following when overexposed to cold conditions
  1. Frostbite:
    - a. Body tissue may freeze when skin is exposed to extreme cold or if touched by a very cold object.
    - b. Nose, ears, cheeks, fingers and toes are at greatest risk.
    - c. Worst cases can cause permanent tissue damage, loss of movement in affected parts, possible unconsciousness and death from heart failure.
    - d. Damage may be greater if the body part is thawed, then refrozen.
  2. Hypothermia:
    - a. Exposure to cold may send body temperatures to dangerously low levels.
    - b. Can occur in above-freezing temperatures when it is windy or you are exhausted or wearing wet clothes.
    - c. Worst cases can lead to unconsciousness and death.
- B. Factors that increase the risks of frostbite and hypothermia include:
  1. Age
  2. Weight
  3. Smoking and drinking
  4. Certain medications, allergies, or poor circulation
  5. Victim's failure to recognize symptoms and take prompt action
- C. Reduce the risk of exposure to extreme cold
  1. Avoid bathing, smoking or drinking alcohol before going into cold conditions.
  2. Wear layers of loose, dry clothes. If possible, wear wool underneath and a waterproof layer on top.
  3. Always cover hands, feet, face, and head in the cold.
  4. Change or get dry immediately if clothes get wet.
  5. Keep moving while working in the cold. Take regular breaks in warm areas.

6. Move to a warm area when you start to feel very cold or numb. Have a warm alcohol-free, caffeine-free drink.

### **Recognize the symptoms**

- A. Frostbite symptoms include:
  1. Feeling extremely cold, then numb with possible tingling, aching or brief pain.
  2. White or grayish yellow glossy skin, which may blister.
  3. Confusion, failing eyesight, and shock as condition progresses.
- B. Hypothermia symptoms include:
  1. Chills, shivering, numbness and sometimes pain in the extremities.
  2. Slurred speech, poor coordination, confusion, and drowsiness.
- C. Respond quickly and correctly to frostbite and hypothermia symptoms
  1. Act immediately when symptoms develop to prevent serious problems
  2. Move to a warm place.
  3. Replace frozen, wet, or tight clothes with warm clothes or blankets.
  4. Have a warm, alcohol-free, caffeine-free drink.
  5. Get medical help after first aid treatment.
- D. First aid actions for frostbite:
  1. Warm the frozen part immediately with blankets or warm (not hot) water.
  2. Avoid touching the frozen part; do not rub or hit it.
  3. Keep the frozen part away from hot stoves, baths, heat lamps, and water bottles.
  4. Do not break blisters.
  5. Exercise the body part once it is warm, but do not walk on frostbitten feet.
- E. First aid actions for hypothermia:
  1. Cover victim with blankets or lie next to them to share body heat.
  2. Keep the frozen part away from hot stoves, baths, heat lamps, and water bottles.
  3. Keep the person awake.
  4. Get emergency help immediately if the person loses consciousness.