



At wind chill temperatures below  $-32^{\circ}\text{C}$  there is increasing danger of freezing of exposed flesh within one minute and work in outdoor environments can present a risk if the appropriate precautions are not taken.

### Symptoms to watch for

- ➔ Pain in the extremities
- ➔ Mild shivering
- ➔ Nausea
- ➔ Reduced mental alertness
- ➔ Excessive Fatigue
- ➔ Drowsiness

## RISK FACTORS

- ➔ Air temperature
- ➔ Wind speed
- ➔ Dampness
- ➔ Age (older adults are more susceptible)
- ➔ Circulatory problems
- ➔ Use of certain medications

## DEFINITIONS

**Frostnip** – a mild form of frostbite, irritates the skin, causes redness, cold feeling and numbness. Effects are reversible.

**Frostbite**- condition where skin and underlying fat, bone, muscle are frozen, skin appears white and hard to the touch. The impacted area is numb. Effects can be serious and cause result in amputation.

**Hypothermia** – dangerously low core body temperature (below  $35^{\circ}\text{C}$ ). Symptoms include shivering, confusion, loss of muscle control. Effects can be fatal if shivering stops or person loses consciousness.

**Wind chill** – combined effect of temperature and wind speed is expressed as 'wind chill'

# WORKING IN COLD ENVIRONMENTS

Working in cold environments may affect the body's ability to regulate temperature. This may lead to cold related illnesses such as **severe shivering, frostnip, frostbite, hypothermia** and can be **life-threatening**. Consider the risk factors, symptoms and preventative measures when working in cold environments.

## Considerations for preventing the effects of cold

### Scheduling Work

- ➔ Schedule/re-schedule work on warmer days when possible

### Warming Shelters

- ➔ At wind chill temperatures below  $-7^{\circ}\text{C}$  heated warming shelters should be made available nearby. Define conditions when work will stop and Work/Warm-up Schedules

### Preparing for Work

- ➔ Metal handles/bars should be covered by thermal insulating materials
- ➔ Clearly outline emergency procedures for obtaining first aid or medical care, prior to starting work
- ➔ Bring warm, sweet drinks and soups to keep hydrated and for caloric intake. Limit intake of caffeinated beverages

### During Work

- ➔ Monitor weather conditions during course of work and make changes as necessary (e.g., additional layers of clothing, more frequent warming breaks)
- ➔ Avoid standing or sitting still for long period of time
- ➔ New workers should become accustomed to working in the cold and the personal protective equipment required prior to full-time work
- ➔ Carry out work in areas protected from the wind where possible

### Clothing

- ➔ Dress appropriately and in layers:
- ➔ Inner layer of wool, silk or synthetic to keep moisture away from the body
- ➔ Middle layer of wool or synthetic to provide insulation even when wet
- ➔ Outer wind and rain protection layer that allows some ventilation to prevent overheating
- ➔ Hat
- ➔ Face-mask
- ➔ Insulated gloves
- ➔ Insulated/waterproof boots
- ➔ Avoid tight-fitting clothing
- ➔ Prevent clothing from getting wet (remove layers as needed when moving into shelters or warmer areas)

### FOR MORE INFORMATION CONTACT

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