

Policy and Procedure Manual

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| SECTION: Joint Health & Safety | GUIDELINE #: JHS-019 |
| Date Approved: October 3, 2019 | Cold Stress Prevention and Cold Weather |
| Revision Date: | Review Date: |
| Authority: Joint Health & Safety Committee | |

PURPOSE

The Town of Hanover (the Town) has adopted this guideline to ensure the ongoing health and safety of staff members that are exposed to cold work conditions or in cold weather conditions that may cause adverse effects to health and safety in the performance of their regular job duties for the Town. This guideline is intended to include both indoor and outdoor work where temperature is a concern.

RESPONSIBILITIES

Managers and Supervisors

Department Heads and Supervisors will be responsible for the overall health and safety of staff members under their direction, including appropriate management of cold stress prevention guidelines and procedures. Department Heads and Supervisors will be required to ensure that hazard identification and risk assessments are performed, and that work is safe. Where temperature is a concern, work to be performed will be evaluated to ensure that appropriate safeguards are in place, and ensure that relief measures are available and implemented.

Department Heads and Supervisors will communicate information regarding the signs and symptoms of cold stress. As necessary, Department Heads and/or Supervisors will adjust and adapt work schedules to effectively reduce the risk of injury and/or illness due to heat stress.

Employees

Employees of the Town are required to participate in health and safety training, and adhere to all health and safety policies and safe work procedures, including reporting hazards related to cold weather and/or working conditions, and following measures of prevention.

CONSIDERATIONS

Department Heads and Supervisors will consider the following as indicators which may trigger the implementation of cold stress prevention techniques:

- Low temperature
- Wind velocity / wind chill
- Environment Canada advisories
- Environment Canada weather reports
- Contact with cold objects and/or cold water

WORKING IN ICY CONDITIONS

When working in cold weather conditions where ice presents a health and safety hazard due to potential slips, and falls, the Town will ensure that the Department Head and/or Supervisor on duty maintains responsibility for ensuring that corrective actions are taken to minimize the dangers present. This will be accomplished by:

- Maintaining supplies including salt and sand for use;
- Ensuring that warning signs are posted on Town property and worksites at the start of each winter season, or project as appropriate;
- Maintaining the availability of emergency footwear that can be used if the need arises;
- Ensuring that staff wear appropriate footwear and head protection;

- Ensuring that pedestrian walkways are regularly cleared of snow and ice, and maintained using salt and/or sand;
- Ensuring that plowing and/or shoveling activities are carried out in a safe and timely manner; and
- De-icing, shoveling, salting or sanding all required work areas prior to the start of outdoor work activities.

SIGNS AND SYMPTOMS OF COLD STRESS

The following disorders are associated with exposure to cold temperatures. In the event that any of the following are observed or experienced, the symptoms should be immediately communicated to the supervisor, and appropriate first aid measures will be taken.

| DISORDER | ROOT CAUSE | SIGNS AND SYMPTOMS | TREATMENT |
|-------------|--|--|--|
| Frostnip | <ul style="list-style-type: none"> • Cooling of tissue due to reduced blood flow to the area | <ul style="list-style-type: none"> • Prickling or tingling • Red, white, or yellowish skin • Tissue remains soft and pliable | <ul style="list-style-type: none"> • Warm affected areas using body heat or warm (not hot) water • Move and massage the affected area |
| Frostbite | <ul style="list-style-type: none"> • Freezing of extremities such as fingers, nose, toes, ears, and cheeks • Causes permanent damage | <ul style="list-style-type: none"> • Tingling and/or numbness • Hardening of tissue • Pale/grey extremities • Decreased dexterity • Blisters | <ul style="list-style-type: none"> • Warm affected areas using body heat • Obtain treatment from a medical practitioner |
| Hypothermia | <ul style="list-style-type: none"> • Lowering of body temperature to due excessive loss of body heat | <ul style="list-style-type: none"> • Victim unable to recognize their own signs and symptoms • Shivering • Slurred speech • Confusion or memory loss • Fatigue or drowsiness • Loss of consciousness | <p>HYPOTHERMIA IS A MEDICAL EMERGENCY REQUIRING IMMEDIATE ACTION</p> <ul style="list-style-type: none"> • Contact emergency services (call 911) • Move individual to a warm location, if possible |

Note: It can be difficult for individuals to recognize their own symptoms of frostbite or hypothermia. Working in pairs is recommended, where possible.

PREVENTION AND CONTROLS

The following guidelines should be followed to prevent cold-related disorders:

1. **Engineering Controls**

Engineering controls change the conditions so that the level of cold stress is reduced. They are the most effective, but sometimes the most difficult to achieve in the outdoor environment, and may include:

- Redesign and/or mechanization of the task to reduce the work time in cold environments and employee exposure to cold;
- Shield work areas from drafty or windy conditions;
- Where practical, provide a heated shelter for employees that may experience prolonged exposure to low wind-chill temperatures; and
- Install thermal insulating material on equipment. When in direct contact with skin, metal handles conduct heat away from the body and should be insulated, where practicable, when temperatures drop below -1 degrees Celsius. This reduces the risk of frostbite.

2. **Acclimatization**

Some degree of acclimatization may be possible in cold environments. With enough exposure to cold, the body does undergo some changes that increase comfort and reduce the risk of cold-stress related injuries. People who are physically unfit, older, obese, or taking medications may not acclimatize as readily.

3. **Work Conditions**

Department Heads and/or Supervisors will regularly check the weather conditions that will affect work, and will adapt the schedule(s) and tasks as appropriate. The following options may be considered:

- Perform partial components of a task indoors/sheltered, where feasible;
- Increase task variation and rotation;
- Assign additional relief workers;
- Routine maintenance and repair work in cold exposed environments may be scheduled for warmer days/seasons of the year, where practicable; and
- Activities that minimize blood circulation such as static, cramped positions should be reduced and/or eliminated, where feasible.

4. **Work/Rest Cycles**

It is important to provide adequate recovery time from cold stress exposures. Appropriate rest breaks should be determined based on environmental conditions. Breaks should be taken in a warm environment/location.

The following guidelines for scheduled work and warm-up breaks shall take wind-chill into consideration:

- Work conducted in cold weather between -1 degree Celsius and -20 degrees Celsius will be performed with adherence to regularly scheduled breaks. Warm-up breaks may be taken where necessary.
- Work conducted in cold weather between -21 degrees Celsius and -35 degrees Celsius will be subject to warm-up breaks occurring once per hour, or as necessary.
- Work conducted in cold weather between -35 degrees Celsius and -45 degrees Celsius will be subject to warm-up breaks occurring every 30 minutes, or as necessary.
- Work conducted in cold weather below -45 degrees Celsius will result in the cessation of non-emergency work.

5. **Personal Protective Equipment (PPE) and Clothing**

Town employees required to perform work duties in cold environments will be directed to utilize appropriate PPE to provide maximum protection against the cold, and potential health and safety hazards involved in both the work, and cold stress.

Recommended PPE is as follows:

- Insulated, water-resistant winter footwear that protects against the cold and wet, and provides traction to prevent slips and falls;
- Clothing worn in a number of light, loose layers where the outer layer is wind-proof. Layers can be added and removed according to need;
- Each worker should keep a separate change of clothes available and change clothing;
- Gloves / mitts capable of keeping the hands warm and dry; and
- Hats and ear protection capable of keeping the head, face, ears, and neck warm and dry.

Items to avoid:

- Face protection that restricts vision;
- Scarves or other clothing items which could get caught in machinery; and
- Down-filled garments that could become wet.