

3-3 Heat and cold stress

Background

During emergency response, training exercises or other outdoor duties, firefighters may be exposed to extreme heat and cold.

Concerns/hazards

Firefighters may suffer serious injury or death due to heat stress or over-exposure to cold.

Over-exposure to cold may occur when firefighters are exposed to low temperatures, wind and/or moisture for significant periods of time.

Actions for employers

Employers should:

- Develop training programs that assist firefighters and supervisors in recognizing signs of heat and cold stress
- Recognize that heat stress can be increased when working in bunker gear and station wear
- Utilize the JHSC to assist in the selection of the appropriate thermal protective performance and total heat loss of bunker gear and station wear relative to the environments and types of responses they will be required for.
 - For station wear consideration should be given to the type (natural versus synthetic) and composition (percentage) of the materials as well as garment length (short-sleeve versus long-sleeve) and (fire-retardant versus non-retardant)
- Develop operating guidelines to assist firefighters in alleviating heat and cold stress

Heat stress

Personnel should know how to recognize heat stress, which may include:

- Heat stroke
- Heat exhaustion
- Heat cramps

Consider these methods to assist in alleviating and managing heat related stress:

- Fluid intake
- Work rotation, especially to cooler areas in the shade or air-conditioning
- Removing layers of clothing
- Rest
- Reschedule non-emergency activities
- Report heat related stress symptoms to a supervisor

Additional information to help firefighters understand and alleviate heat stress can be found in the Related Section of this document.

Cold stress

Personnel should know how to recognize the signs of cold related stress, which may include:

- Frostbite
- Hypothermia

Consider these methods to manage cold stress:

- Work rotation and rehabilitation where a heat source is available, protected from wind, rain and snow
- Wear multiple layers of loose-fitting clothing
- Protection of hands, feet, face and head
- Report cold related stress symptoms to a supervisor
- Reschedule non-emergency activities

Additional information to help firefighters understand and alleviate cold stress can be found in the Related Section of this document.

Applicable regulations and acts

Read:

- [Occupational Health and Safety Act](#)
 - Clause 25(2)(a) for providing information and instruction to a worker
 - Clause 25(2)(h) for taking every precaution reasonable to protect workers

Related

Read firefighter guidance note [6-12 Rehabilitation during emergency operations](#)

[Heat stress guideline](#)

Read firefighter guidance note [3-6 Polyfluorinated alkyl substances \(PFAS\) awareness](#) guidance note to the related section and

Read the Occupational Health Clinics for Ontario Workers (OHCOW)'s [heat stress awareness guide](#)

Read the Ministry of Labour page about managing heat stress at work to help understand and alleviate heat stress [Managing heat stress at work | ontario.ca](#)

Read the Canadian Centre for Occupational Health and Safety page for information on Cold Environments – Working in the Cold - [CCOHS: Cold Environments - Working in the Cold](#)