



## BEAT THE HEAT: IDENTIFYING AND TREATING HEAT RELATED DISORDERS



### *From the OHS Act:*

- *Sections 25(2) (h) and 27(2) (c): employers and supervisors must take “every reasonable precaution” to protect their employees.*
- *Sections 21(1)(c) and 21(3) of the Health Care and Residential Facilities regulation : “... an enclosed workplace shall be maintained at a temperature that is not likely to cause physical stress due to heat” & that the employer must put into place measures and procedures to ensure that a worker not be exposed to heat stress conditions that are likely to endanger or injure the worker.*

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*This Fast Fact is intended to help employees working in hot environments. It will also help OH&S professionals recognize and manage risk factors associated with heat-related disorders. The goal is to make sure that core body temperature does not rise above 38°C.*

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### **WHAT IS HEAT STRESS?**

Heat stress is the combined heat load on the body to which an employee may be exposed from a number of sources such as:

- High temperature and humidity
- Poor physical condition
- Direct sun or radiant heat sources



- Certain medications
- Limited air movement
- Workplace clothing requirements
- Physical exertion
- Inadequate acclimatization to hot environments

Mild or moderate heat stress may cause discomfort and affect employee performance and safety. However, it is not typically harmful to health. As heat stress levels increase to the human tolerance limit, the risk of heat-related disorders will also increase. As body temperature rises from the normal 38°C, heat related disorders start to occur. Heat related-disorders include heat exhaustion, heat stroke, heat cramps and heat rash, as summarized below.

### WHO IS AT GREATEST RISK?

Outdoor workers, workers doing heavy load work tasks or workers in a hot environment are at a high risk of experiencing heat stress. Examples include:

- Laundry staff
- Dietary staff
- Facilities staff (such as maintenance, housekeeping, and groundskeepers)
- Any staff working with clients/patients/ residents outdoors
- Any staff working in warm or non-air-conditioned environments

### SUMMARY OF HEAT RELATED DISORDERS, IDENTIFICATION, AND TREATMENT

Disorder	Cause	Symptoms	Treatment
Heat Syncope	Giddiness and fainting induced by temporary loss of blood flow to the brain when a person is standing caused by the pooling of blood in the lower extremities.	Giddiness and fainting, cool moist skin, weak pulse	Move to a cool place Have individual lie down
Heat Rash	Occurs in hot, humid environments in the skin remains moist, which in turn can cause the sweat glands to plug and a skin rash to occur.	Tiny bumps surrounded by an area of red skin Prickling, itching or stinging sensation of the skin	Rest in a cool place Allow moisture on skin to dry Do not administer ointments or creams as these will keep the skin moist
Heat Cramps	Due to high temperatures, the individual sweats profusely. To compensate for water loss, the individual drinks large quantities	Painful muscle spasms in arms, abdomen, or legs. Occurs alone or in conjunction with other heat related disorders	Drink clear juices or sports drinks Sit in a cool place and rest



	of water; however, salt loss is not replenished.		Refrain from returning to original activity for a few hours after cramps subside If cramps do not subside within 1 hour, seek medical attention
<b>Heat Exhaustion</b>	Loss of body fluids from excessive sweating in a hot, humid environment where sweating does not allow the body to cool	Continuous sweating Weakness or fatigue Visual disturbances Intense thirst Heart palpitations Muscle cramps Dizziness Nausea and vomiting Headache Loss of consciousness	Emergency assistance and first aid are required IMMEDIATELY as this may lead to heat stroke Move to a cool place where feet and legs can be elevated Remove excess clothing Loosen tight fitting clothing at the neck and waist Drink fluids Take a cool shower or bath Change into lightweight clothing
<b>Heat Stroke</b>	Classic heat stroke occurs in situations where the body's internal temperature regulation system fails. Exertional heat stroke occurs when heavy physical exertion is performed in high temperature environments.	Sweat production stops and skin feels hot and dry to the touch Body temperature greater than 40°C Noisy breathing Headache Confusion Nausea and vomiting Loss of consciousness	Emergency assistance and first aid are required IMMEDIATELY as it can be fatal Move individual to a cool location Immerse individual into a cool bath Use a cool sponge or compress on individual's armpit, neck, and groin Place conscious individual on their back with legs elevated Place unconscious individual in the recovery position (on their side)

## RESOURCES

Ministry of Labour Heat Stress Guideline: [https://www.labour.gov.on.ca/english/hs/pubs/gl\\_heat.php](https://www.labour.gov.on.ca/english/hs/pubs/gl_heat.php)

Heat Stress (OSHA): [https://www.osha.gov/dts/osta/otm/otm\\_iii/otm\\_iii\\_4.html](https://www.osha.gov/dts/osta/otm/otm_iii/otm_iii_4.html)