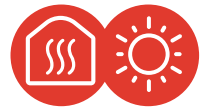


Heat Stress SYMPTOMS



Vulnerability

There are many temporary and permanent conditions that can make a person more vulnerable to heat stress.



WORK EXPERIENCE



AGE / SEX



BODY COMPOSITION



PRE-EXISTING CONDITIONS



DEHYDRATION



FATIGUE



MEDICATIONS



GENETICS

Despite these conditions, workers may be able to cope given adequate knowledge of the signs and symptoms of heat stress and, given the latitude to make the appropriate adjustments to their pace of work.

Some workers may need medical advice about what accommodations would be right for them.

It is often the **young, fit workers** who may think they are invincible who succumb to heat strain.

CONDITION

SYMPTOMS

ACTIONS

Heat Rash

Heat rash, sometimes called prickly heat, sweat rash or miliaria, is a harmless skin rash. It appears in places where sweat collects, such as the armpits, back, under the breasts, chest, groin, elbow creases and back of the knees, and the waist.



RED BUMPY RASH
SEVERE ITCHING

If you experience heat rash:

- **Change** into dry clothes often and avoid hot environments.
- **Rinse** skin with cool water.
- **Wash** regularly to keep skin clean and dry.

Heat Syncope / Fainting

Heat syncope / fainting occurs when a person faints suddenly and loses consciousness because of low blood pressure. Heat causes the blood vessels to expand (dilate), so body fluid moves into the legs by gravity, which causes low blood pressure and may result in fainting.



COOL, MOIST SKIN



WEAK PULSE

If you experience heat syncope/fainting:

- **Get medical attention immediately.**
- **Assess** need for CPR.
- **Move** to a cool area.
- **Loosen** clothing.
- **Make** person lie down.
- **Offer** sips of cool water, if the person is conscious.

Note: Fainting may also be due to other illnesses.

Heat Cramps

Heat cramps are painful, involuntary muscle spasms that usually occur during heavy exercise in hot environments. These spasms may be more intense and more prolonged than typical nocturnal leg cramps. Inadequate fluid intake often contributes to the problem.

Muscles most often affected include the calves, arms, abdomen, and back – although the cramps may involve any muscle group involved in the exercise.



INTENSE MUSCLE SPASMS

If you suspect heat cramps:

- **Rest** briefly and cool down.
- **Drink** water or an electrolyte-containing sports drink.
- **Use** gentle, range-of-motion stretching and massage of the affected muscle group.

CONDITION

SYMPTOMS

ACTIONS

Heat Exhaustion

Heat exhaustion is the body's response to an excessive loss of water and salt, usually through excessive sweating. Heat exhaustion is most likely to affect:

- people with high blood pressure
- those working in a hot environment
- the elderly

Heat exhaustion often comes on suddenly, sometimes after excessive exercise, perspiration and inadequate fluid intake.



LOW-GRADE FEVER
(generally less than 40°C)



NAUSEA

If you suspect heat exhaustion:

- **Move** the person out of the sun and into a shady or an air-conditioned location.
- **Lay** the person down and elevate the feet slightly.
- **Loosen** or **remove** the individual's clothing.
- **Have** the person drink cold water, not iced, or a sports drink containing electrolytes.
- **Cool** the person by spraying him or her with cool water and fanning.
- **Monitor** the person carefully. Heat exhaustion can quickly become heatstroke. If fever*, fainting, confusion or seizures occur.

Call for emergency medical assistance immediately.



HOT, RED, DRY OR SWEATY SKIN



ASHEN APPEARANCE



FAINTING



LOW BLOOD PRESSURE



RAPID HEARTBEAT

*especially greater than 40°C

Heat Stroke

Heat stroke is the **most serious** form of heat injury. It is a condition caused by your body overheating, usually as a result of prolonged exposure to or physical exertion in high temperatures.

Heat stroke can occur if your body temperature rises to 104° F (40° C) or higher.



ELEVATED TEMPERATURE
(generally greater than 40°C)

If you suspect heatstroke:

- **Move** the person out of the sun and into a shady or an air-conditioned space.
- **Cool** the person by covering him or her with damp sheets or by spraying with cool water.
- **Direct** air onto the person with a fan or newspaper.

Call for emergency medical assistance immediately.



LACK OF SWEATING



IRRITABILITY / CONFUSION / UNCONSCIOUSNESS



HOT, RED, DRY OR SWEATY SKIN



FAINTING



CONVULSIONS, SEIZURES



RAPID / SHALLOW BREATHING



HIGH / LOW BLOOD PRESSURE

**** Acclimatization:** The MOL heat stress guideline states that "hot spells in Ontario seldom last long enough for workers to acclimatize". Workers performing "moderate" work (e.g., work with some pushing, lifting) would also not be assumed to be acclimatized by the same criteria, unless there is significant radiant heat associated with the work. Workers performing "heavy" work (e.g., shovelling dry sand), however, could probably be considered acclimatized once into the warm weather season. The acclimatized heavy work WBGT numbers are similar to the moderate unacclimatized. Since the TLV® is based on data derived from 20-year-old males weighing an average of 154 lbs., "real" workers probably burn up more calories than the TLV® light category assumes. Selecting the "moderate" work category will account to some extent for workers who are somewhat dehydrated, older (e.g., over 40), not male, and heavier than 154 lbs.

Determine the current humidex using our online calculator:



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For other infographics in this series, or to learn more about working in the heat, see our Heat Stress Toolkit:



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