



The heat is on: Protecting your workers during the peak of summer

Written by [Brian Wasyliv](#) 22 July 2014

In the middle of summer the weather is at its best and also at its worst. The dangerous impact of spiking summer temperatures is demonstrated by horrifying stories of pets or children perishing in a hot vehicle. Workers are also at risk when heat and humidity reach extreme levels. Employers have a legal duty to take every reasonable precaution to protect their employees from injury resulting from working in hot temperatures.

The basic physiology is not difficult to understand. A hot environment puts stress on the body's ability to cool itself and this stress is increased when it's combined with physical work. Injuries related to heat stress can include heat rash, cramps, fainting, heat exhaustion and even heat stroke. The potential negative impacts of heat stress may be worsened when a worker has some form of pre-existing condition or does not properly hydrate. Even with young and fit employees, the potential impact of working in the hot summer months is too dangerous to ignore. A bakery oven and a very hot day in the summer of 2001 lead to the death of a worker from heat exposure. The employer was fined \$215,000 for failing to take reasonable precautions to implement a heat stress management plan.

The impact of a hot environment will vary depending on a worker's level of acclimation, the intensity of the work, clothing worn, and a host of other factors. It may not be enough to rely on 'common sense' and employers are encouraged to consult reliable and experienced sources to understand the risk that extreme heat poses to workers.

The American Conference of Governmental Industrial Hygienists (ACGIH) recommends thresholds which take into account environmental factors that contribute to the perception of hotness namely, air temperature, humidity and air movement. In some workplace situations, solar load (heat from radiant sources) is also considered. Several Canadian jurisdictions have adopted these thresholds as occupational exposure limits and others use them as guidelines to control heat stress in the workplace.

Employers are encouraged to review of the specific health and safety standards applicable to their jurisdictions. A brief overview follows:

| Jurisdiction | Maximum Heat Exposure | Other Notes |
|-------------------------|--|---|
| Canada-Federal | No specific maximum, but government policy recommends following ACGIH thresholds and humidex ratings as good indicators. | <p>Exceptions for offices, personal food preparation areas, materials handling operators' compartments and first aid rooms.</p> <p>The National Joint Council's <i>Part II – Permanent Structures and Safe Occupancy of the Workplace (Use and Occupancy of Buildings)</i> applies to only federal employees and established that a humidex reading above 40 C, measured inside the building, is unsatisfactory. Employees shall be released from the workplace if relocation is not practicable.</p> |
| Ontario | No specific maximum, but government policy recommends following ACGIH thresholds. | Every reasonable precaution to protect workers must be taken. Specific temperature restrictions exist in the construction industry (for example, 38 C in work chambers and 27 C in air locks). |
| British Columbia | ACGIH thresholds apply and must be followed. | Assessments, plans, protective equipment and cool water must be in place where workers are exposed to "extreme heat". Indoor temperatures must fall within an "acceptable comfort range." |
| Quebec | Ranges from 25 C to 32.2 C depending on nature of work. | Heat stress is measured by Wet Bulb Globe Temperature (WBGT), which measures maximum heat exposure based on |

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| | | the type of work (light, moderate, or heavy) and how frequently a worker rests. |
| Alberta | No specific maximum, but government policy recommends following ACGIH thresholds. | There is a general duty to identify and report existing and potential hazards. |
| Manitoba | ACGIH thresholds apply and must be followed. | Employer must provide information, instruction and training regarding the symptoms and prevention of heat stress. |
| Saskatchewan | <p>No specific maximum, but government policy recommends following ACGIH thresholds.</p> <p>Government policy also recommends the use of ASHRAE Standard 55-1922 for thermal comfort in offices and retail outlets (based on a standard set by the American Society of Heating Refrigerating and Air-Conditioning Engineers).</p> | Employer must maintain thermal conditions reasonable and appropriate for work performed. |

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| Nova Scotia | ACGIH thresholds apply and must be followed. | All maximum exposure values for chemical substances and physical agents are governed by ACGIH thresholds. |
| New Brunswick | The 1997 ACGIH thresholds apply and must be followed. | Temperatures must be frequently monitored. Workers exposed to excessive heat must be instructed on both the symptoms of heat stress and the precautions required to prevent it. |
| Newfoundland and Labrador | ACGIH thresholds apply and must be followed. | Temperature must be frequently monitored and additional precautions taken (for example, provide special clothing and cold drinks) where possible exposure to "extreme heat." |
| Prince Edward Island | ACGIH thresholds apply and must be followed. | Employer must take precaution where risk of injury or illness from heat is possible (for example, develop a plan/procedures, and provide additional equipment or training). |
| Yukon | Ranges from 22 C to 32 C depending on the nature of the work and the thermal index. | Where workers are exposed to hot environments, the employer is required to record the thermal index using WBGT and Wet Globe Temperature (WGT). The employer is also required to instruct workers on recognizing the symptoms of heat stress and provide an adequate supply of water. |

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| Northwest Territories & Nunavut | No specified maximum in the Northwest Territories and Nunavut Safety Acts or General Safety Regulations. However, a Code of Practice developed by the Workers' Safety and Compensation Commission suggests that humidex values, WBGT values, and ACGIH thresholds are good indicators. | The Code of Practice indicates several precautions to be taken to avoid heat stress injury to workers, including: changing the location of work, establishing cool stations, adjusting clothing requirements, providing drinking water, etc. |

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