School District 22
Working in Hot Temperatures

A. Purpose

The purpose of this safe work practice is to provide proper information and practices to mitigate the risk of exposure to high temperatures during work activities. Workers exposed to high temperature may have their health, safety, and productivity affected.

B. Guidelines

The core temperature of the human body, brain, heart, and other vital organs is 37°C. This is the optimum temperature at which the body works. If the body temperature raises 2°C, increased stress can be put on the body causing it to sweat. The sweat evaporates and cools the body. If the person becomes dehydrated by not replacing any fluid lost as sweat, they become dehydrated and unable to sweat. If the body loses its ability to control its core temperature, serious health problems can result.

The best treatment for heat stress is prevention. In most situations, a combination of several preventative measures can provide an effective program for averting heat- related illness. Some possible measures are:

- Adjusting work schedules,
- Alternating work with breaks, and
- Monitoring workers for heat stress symptoms. Maintaining flexible and adequate work/rest schedules is relatively easy and an effective method of reducing heat stress. Workers should be able to take breaks to cool down and should be encouraged to drink water frequently. Coffee or caffeine-containing soft drinks are not advisable since their diuretic effects contributes to dehydration. Break and lunch areas should be cooler than the work area; they should also be monitoring themselves and each other for signs or symptoms of heat-related illness and should understand what to do if they detect them.

C. Heat Related Illnesses

The best form of prevention is to ensure you are starting your shift well nourished, hydrated and rested. Despite best efforts it is extremely difficult to recover from a deficit in hot temperatures regardless of work activity.

Reviewed 2023-01-27
Revised 2023-01-27

Table 1 - Health Problems Resulting from Heat Exposure

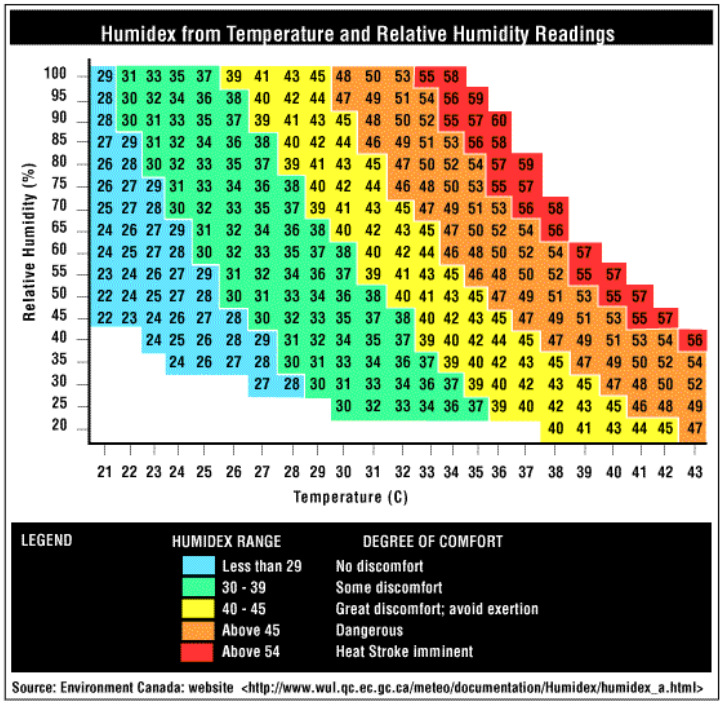
Problem and Symptoms	Treatment	Prevention
Heat rash (prickly heat) Tingling and burning of the skin, red itchy rash. Sweat glands plugged due to prolonged exposure of skin to heat, humidity, and sweat.	• Thorough drying; • Cool showers; • Calamine lotion; and/or • Aloe Vera.	• Keep the skin as dry as possible; • Rest in a cool place; • Shower often; • Change clothes frequently; and • Keep skin clean.
Heat cramps Painful spasms of muscles that do the hardest work (e.g., in the arms, legs, and abdomen).	• Massage the muscle(s), and • Eat salt-containing foods (unless to be avoided for medical reasons).	• Warm up muscles before heavy work; • Take rest breaks; and • Eat a normal, healthy diet.
Fainting Increased flow of blood to the skin to get rid of heat means less blood to the brain.	• Lie down in a cool place; • Drink cool fluids to lower body temperature; and • See a doctor if fainting recurs.	• Drink plenty of fluids at regular intervals, and • Avoid standing still in one position – move around.
Heat Exhaustion Tired, weak, dizzy, clammy skin, slow weak pulse. Pale or flushed skin colour. Higher than normal heart rate (160 to 180 beats/min).	• Lie down with knees raised; • Drink cool, not cold fluids; and • Contact a doctor if conditions do not improve quickly.	• Take four to seven days to adjust (acclimatize) to the heat; • Drink plenty of fluids at regular intervals; and • Take rest breaks in a cool place.

Reviewed 2023-01-27
Revised 2023-01-27

Heat Stroke Person usually stops sweating, body core temperature is high (40-43°C), skin is hot and dry. Person experiences headache, dizziness, confusion, may lose consciousness, or have fits. Fatal if treatment is delayed.	• This is a medical emergency. Person must be taken to hospital as quickly as possible, and • Move worker to a cool or shaded area, remove clothing, wrap in wet sheet, pour on chilled water, and fan vigorously. Avoid overcooling. Treat for shock once temperature is lowered.	• Take four to seven days to adjust (acclimatize) to the heat; • Drink plenty of fluids at regular intervals; • Take rest breaks in a cool place; • Wear clothing appropriate for the conditions; and • Follow a work/rest schedule.

D. Determining Humidex

Humidex is a calculated, unit-less value that measures how hot we feel by taking into account temperature and humidity in the air. Use this chart to find the humidex with your local temperature/humidity. Weather forecast temperatures or humidity can not be used if working indoors.



Reviewed 2023-01-27
Revised 2023-01-27

E. Humidex – Work Rest Schedule

Using the current humidex use the below chart to help determine an appropriate work rest schedule.

Humidex 1		Response	Humidex 2	
Unacclimatized workers doing moderate work OR acclimatized workers doing heavy work			**Unacclimatized workers doing light work OR acclimatized workers doing moderate work**	
Humidex Values	25 – 29	Provide cool water as needed	32 – 35	Humidex Values
	30 – 33	• Post heat stress alert notice • Encourage workers to drink extra water • Record the temperature and relative humidity (RH) hourly	36 – 39	
	34 – 37	• Post heat stress warning notice • Notify workers that they need to stay hydrated, so drink water more frequently • Workers should be trained to recognize symptoms	40 – 42	
	38 – 39	• Work with 15-minute break per hour • Give at least one cup (240mL) of cool (10-15°C) water every 20 minutes • Workers with symptoms should seek medical attention	43 – 44	
	40 – 41	• Work with 30-minute break per hour & take all of the aforementioned precautions	*45 – 46*	
	42 – 44	• Work with 45-minute break per hour & take all of the aforementioned precautions	*47 – 49*	
	45 or above	* ONLY medically supervised work can continue at Humidex above 45*	*50 or above*	

This guidance takes multiple factors into consideration to assist in heat illness prevention, never ignore symptoms you or other workers may be experiencing.

F. Related References

- British Columbia Occupational Health and Safety Regulation
- Canadian Center for Occupational Health and Safety

Reviewed 2023-01-27
Revised 2023-01-27