



ADMINISTRATIVE PROCEDURES

SUBJECT: Hot Weather Procedure and West Nile Virus

The Lambton Kent District School Board strives to ensure a safe and healthy work environment for all staff and students. The Board recognizes that during certain periods of the year temperatures can climb and hot and humid weather can be expected. This can become a concern for occupants in many of our buildings that do not have the benefit of air conditioning or for our staff that are required to work outdoors. The purpose of this procedure is to provide expectations and guidelines to follow during these periods of hot and humid weather.

In addition, the Board also recognizes that West Nile Virus can be a concern in Ontario for workers that are required to work outdoors during periods of increased mosquito activity. This procedure will provide some guidance and education in regards to West Nile Virus.

General Responsibilities:

The Lambton Kent District School Board (LKDSB) is responsible to ensure that there is a process in place to ensure that the health & safety of staff and students is considered during periods of hot and humid weather or where West Nile Virus may be a cause for concern. In addition, the LKDSB shall take every precaution reasonable in the circumstances for the protection of workers and students.

School principals and supervisors will ensure that there is a plan in place for dealing with concerns related to hot and humid weather and that the procedures for West Nile are implemented and used wherever West Nile Virus may be a concern. Principals / Supervisors are responsible to take every precaution reasonable under the circumstances to protect workers and students.

All workers are required to comply with the Occupational Health and Safety Act and the Lambton Kent District School Board's policies and procedures. Workers are required to report any concerns regarding health & safety to their School Principal / Supervisor.

Hot Weather Guidelines

1. Each May, Principals / Supervisors should consider individual building mechanics (i.e. degree of air conditioning, opening windows, fans, etc.) for buildings under their control and determine where heat stress due to hot and humid weather may become a concern. This is especially important in LKDSB buildings that do not have the benefit of air conditioning. Since no one plan can address all issues within all buildings it is important for Principals / Supervisors to have a plan in place for their individual buildings. These guidelines should be used as a guide for setting up the individual work plans. The Health & Safety Department can be consulted for advice when setting up individual work plans.

2. Each May, Principals/ Supervisors who have staff that are required to work outdoors during hot and humid weather (i.e. grounds keeping staff, utility staff, horticultural program staff, etc.) should develop a plan to address any issues where heat stress may become a concern. These guidelines should be used as a guide for setting up the work plan. The Health & Safety Department can be consulted for advice when setting up these work plans.
3. Building Services should ensure that there is a plan in place to address hot and humid weather for staff that are required to work in our buildings during the summer months when the building systems may not be at full operations (i.e. windows closed for extended periods, HVAC systems not fully operating, etc.).
4. Generally plans to deal with hot humid weather should be in place from May 1 to September 30 of each year as per the Ontario Ministry of Labour Heat Stress Guidelines. Plans should be reviewed with the staff members involved in order to ensure that everyone is familiar with the plan and that everyone knows how to prevent heat related illness.
5. Principals / Supervisors should consult the Humidex Based Heat Response Plan, attached as Appendix 1, whenever developing a heat stress plan for staff members where the work they are required to perform involves “moderate” physical activity (i.e. regular pushing, pulling, lifting, etc.). This Humidex Based Heat Response Plan was provided by the Ontario Ministry of Labour and is based on the American Conference of Government Industrial Hygienists (ACGIH) Heat Stress TLV (Threshold Value Limit) which is a document that the Ministry of Labour uses in enforcement. A Heat Stress Awareness Tool has also been attached as Appendix 2 for use in developing building and job specific plans. The Health & Safety Department will maintain a copy of the Humidex Based Heat Response Plan and Awareness Tool (Appendices 1 & 2) in the Health & Safety Section of the staff portal.
6. As per the Humidex Based Response Plan noted in 5, Principals /Supervisors should have the temperature and humidity of the actual workplace measured whenever hot and humid weather is a concern in order to obtain the relative humidity of the workplace. Where hot and humid weather is a concern inside a building, it is important that temperature readings are taken inside of the “actual” building as temperatures inside buildings do not necessarily correspond with outdoor temperatures. Depending on the size and structure of the Building (ie. partially air conditioned, different window structures, sun exposure, etc.) the building may need to be broken into zones. Thermal hygrometers for measuring temperature and humidity can be purchased at most hardware stores. The Health & Safety Department has a limited number that can be signed out by Principals / Supervisors for short periods (i.e. HVAC disruptions, etc.).
7. Principals / Supervisors should assess the demands of jobs where physical activity is required and have control strategies in place for hot/humid days. Where possible, strenuous physical activity should be reduced and in some cases even curtailed. Where it is impossible to reduce or curtail strenuous physical activities, Principals/ Supervisors should attempt to schedule these activities during cooler periods of the day (i.e. early morning

hours as opposed to mid afternoon) and should ensure there are proper breaks and water available. Also, consideration to implementing a buddy system (workers checking on each other) should be put in place wherever staff members are required to complete strenuous activity, especially outdoors, on hot humid days. Consideration should also be given to rotating staff members performing these types of jobs in order to reduce the time any one staff member has to spend performing the strenuous activity during hot weather.

8. Staff members are encouraged to drink plenty of water on hot/humid days especially where their work requires physical activity. It is recommended that everyone drinks about one cup of water every 20 to 30 minutes. Staff members responsible for students should also encourage students to drink plenty of water. Principals/ Supervisors are responsible to ensure that water is available for staff and students. Where a municipal water source (i.e. tap/fountains, etc.) is not available an alternate water supply (i.e. bottled water, etc.) should be made available.
9. All Principals/Supervisors should review each May with staff the chart attached as Appendix 3 on Heat Stress Hazards adopted from the Ontario Ministry of Labour's Guideline for Heat Stress. A copy of the chart should be placed on the Health & Safety Bulletin Board at each individual workplace. In addition the Health & Safety Department will maintain a copy of the entire Ontario Ministry of Labour's Heat Stress Guideline which includes the chart in the Health Safety Section of the Staff Portal.
10. If a staff member believes they are experiencing symptoms of heat stress they should stop work immediately, and remove themselves to a cool area and report their symptoms to their supervisor. If symptoms are severe, immediate medical attention should be obtained.
11. Where there is partial air conditioning in a building (i.e. libraries or specialty classrooms) consideration should be given to rotating staff and students through these areas during periods of hot/humid weather. In addition, in areas where there is no air conditioning and heat is generated (i.e. computer labs, etc.) consideration should be given to minimizing staff and student use of these areas during hot and humid weather.
12. If air conditioning should fail at a building equipped with a HVAC system, Building Services should be immediately notified so they can assess the situation and implement the necessary repairs. Fans may be provided, where appropriate, by Building Services where the system will be out of service for an extended period. Please see bullet 13 in relation to the use of fans.
13. Fans provide air movement which can increase the rate at which sweat evaporates thus cooling the body. However, when relative humidity levels rise above 70%, very little evaporation occurs and increasing air movement has little benefit. If the air is the same temperature as the skin (36 degrees Celsius) or higher, moving air may actually heat up the body especially if the humidity is also high.
14. Principals should encourage staff members and students (through newsletters) to wear light coloured summer clothing whenever hot and humid weather is expected.

15. Tinted protective safety glasses are available from Building Services, for building services staff members who are required to work outdoors where eye protection is required. Other protective measures include a hat, sunglasses and sunscreen when required to work outdoors.

West Nile Virus (WNV)

1. School Principals/Building Supervisors should take steps to ensure all sources of standing water are removed from Board property in order to eliminate mosquito-breeding areas. This includes pails, barrels, tires, tarps, and any other item that allows water to accumulate and become stagnant.
2. Staff members, when possible, should wear long-sleeved shirts, long pants and socks when working out doors during periods where mosquito activity is a concern (i.e. dusk & dawn, etc.)
3. Staff members who are required to perform work outdoors should consider wearing an insect repellent. However, whenever using insect repellent it is imperative the instructions on the label are followed. Wash all treated skin with soap and water after returning indoors. Wash hands before eating, drinking or smoking. Staff members may also want to consider spraying clothing with an insect repellent, as mosquitoes can bite through thin clothing. Wash all treated clothing before wearing it again.
4. When possible Supervisors should avoid scheduling outdoor work when mosquitoes are most active and biting. Many mosquitoes bite most actively at dusk and dawn.
5. Employees should avoid, when possible, weedy, bush and wooded or shaded areas since mosquitoes may be active in those settings even during the day.
6. Staff will report to the Health & Safety Officer and the Building Services Department all discoveries of dead birds on Board property. The advice of the Community Health Services Department will be followed regarding disposal of the bird.

Appendix 1 - Humidex Based Heat Response Plan

Occupational Health and Safety Council
of Ontario

Humidex Based Heat Response Plan

EASY TO USE

The Humidex Heat Stress Plan is an easy and simple way of protecting workers from heat stress. It is based on the 2007 American Conference of Governmental Hygienists (ACGIH) Heat Stress TLV. (This should NOT be used as a substitute for a formal heat stress assessment. The Humidex based plan translates the wet bulb globe temperature found in some specifications, so the plan may not be applicable in all situations.)

Note: The assessment process makes some simplifications, so the plan may not be applicable in all situations. Clothing and shade will reduce heat stress by 1.5 times the amount when using the plan (see steps pp. 5-11 pp.1).

ACCLIMATIZATION

The NIOSH heat stress guide notes that, "In hot and humid conditions, it takes 10-14 days for workers to acclimatize." Workers performing "moderate" work (e.g. work with some pushing, lifting) would also not be assumed to be acclimatized unless they found heat sources regular (for example, in foundries or around ovens). Workers performing "heavy" work (e.g. shoveling dry sand), however, could probably be considered acclimatized after the warm weather season.

HUMIDEX 1 OR 2?

There are two Humidex guidelines to prevent heat stress:

- Humidex 1: for moderate unacclimatized and heavy acclimatized work.
- Humidex 2: for light unacclimatized work and moderate acclimatized work.

For Humidex 1, general heat stress controls are needed and for Humidex 2, general heat stress controls and job-specific controls are needed (below).

Humidex 1	Response	Humidex 2
25-29	Supply water to workers on an "as needed" basis	32-35
30-33	post Heat Stress Alert notice; encourage workers to drink extra water; start recording hourly temperature and relative humidity	36-39
34-37	post Heat Stress Warning notice; notify workers that they need to drink extra water; ensure workers are trained to recognize symptoms	40-42
38-39	work with 15 minutes rest per hour (can continue); provide adequate cool (10-15°C) water; at least 1 cup (240 ml) of water every 20 minutes	43-44
40-41	work with 30 minutes rest per hour (can continue in addition to the provisions listed previously)	45-45*
42-44	if feasible, work with 45 minutes rest per hour (can continue in addition to the provisions listed above)	47-49*
45	only medically supervised work can continue	50*

* At Humidex exposures above 45, heat stress should be managed as per the ACGIH TLV.

Humidex 1, General Controls:

- Providing annual heat stress training
- Encouraging adequate fluid replacement
- Permitting self-termination of exposure
- Encouraging watching out for symptoms
- Monitoring and adjusting expectations for workers coming back to work after an absence

Humidex 2, General controls + Job-Specific Controls:

- Designating controls to reduce physical job demands
- Scheduling of tasks at heat, increased air movement
- Reduction of heat and moisture emissions at the source
- Adjusting exposure times to allow sufficient recovery
- Personal protective equipment that cools the body.

HEALTH EFFECTS

Health Effect	Symptoms	Treatment
Heat Rash	Red bumpy rash with severe itching	Change into dry clothes and avoid hot environments. Prune salt with cool water. Wash regularly to keep skin clean and dry.
Fainting	Sudden fainting after at least two hours of work; cool moist skin; weak pulse	GET MEDICAL ATTENTION: Assess need for CPR. Do not continue working until fully recovered. Call for medical attention. Fainting may also be dealt to other illnesses.
Heat Cramps	Sudden cramping, muscular muscle spasms that frequently last more than 10 minutes to 1 hour. The spasms may be more severe and can produce the typical "burning" pain. Muscles most often affected include the hands, forearms, lower legs, and back.	Stop work and rest in a cool, shaded area. Drink plenty of water. Massage the affected muscles. If cramps do not improve, call for medical attention.
Heat Exhaustion	Sweat and symptoms of heat exhaustion often begin suddenly. Symptoms may include: heavy sweating, weakness, dizziness, headache, nausea, vomiting, muscle cramps, and fainting. The person may feel hot and have a rapid, weak pulse.	If you suspect heat exhaustion: Get the person out of the sun and into a shaded or air-conditioned location. Lay the person down and raise their feet. Provide cool water and fans. If a person does not improve within 30 minutes, call for medical attention. If the person is unconscious, do not give them anything to eat or drink. Call for medical attention.
Heat Stroke	The main sign of heatstroke is a hot and flushed face. Other signs and symptoms include: confusion, irritability, and loss of consciousness. The person may have a rapid, strong pulse and a high body temperature (above 40°C). The person may also have a headache, nausea, and vomiting. The person may also have a dry mouth and a dry skin.	If you suspect heatstroke: Move the person out of the sun and into a shaded or air-conditioned location. Lay the person down and raise their feet. Provide cool water and fans. If a person does not improve within 30 minutes, call for medical attention. If the person is unconscious, do not give them anything to eat or drink. Call for medical attention.

VULNERABILITY TO HEAT STRESS

There are many factors (e.g. age, heart or lung conditions, a previous history of heat stress, etc.) that can make a person more vulnerable to heat. Despite these factors, workers may be able to cope given adequate knowledge of the signs and symptoms of heat stress and given the guidance to make adjustments to their place of work. It is more often the young fit workers, working in their place of work, that are most at risk of heat stress. Heat stress is not a disease, but it can lead to heat-related illness. If you have any questions about what accommodations are right for them, please contact your supervisor.

5 STEPS for dealing with Heat Stress

Step #1: Training

The Humidex plan by itself cannot guarantee that workers will not be affected by heat stress. Workers must learn to recognize the early signs and symptoms of heat stress and know how to prevent them.

Workers should be able to take their place of work, rest, and hydration into account in response to early symptoms (e.g. step 2).

The ideal heat stress response plan would let workers regulate their own pace by "listening to their body" without need for measurements.

Step #2: Select a Measurement Location

Select the workplace into heat stress zones and put a thermal hygrometer in each zone.

Identify a representative location within the zone where measurements can be taken. The location should be a representative of the heat stress conditions that workers will experience. The location should be based on work activities (e.g. a worker who spends most of the day in a hot area should not be measured in a cool area).

Step #3: Measure Workplace Humidex

Formal or informal (usually \$20-\$50) air temperature and relative humidity measurement devices are available. Use the device to determine the corresponding Humidex value and the appropriate heat stress prevention response. Remember to adjust for clothing (step #4) and radiant heat (step #5).

The measurement should be recorded at least hourly if the Humidex is above 30°C (temperature above 25°C).

NEVER IGNORE ANYONE'S SYMPTOMS NO MATTER WHAT THE HUMIDEX IS

Step #4: Adjust for Clothing

For different clothing configurations, estimate the conductor factor (CF) as the value that makes it equivalent to a thin, light shirt. The Humidex plus assumes workers wear summer clothes (light shirt & pants, underwear, socks, and shoes).

For cotton or wool on top of summer clothes one should add 5° Humidex.

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Step #5: Adjusting for Radiant Heat

For outdoor work in direct sunlight between 10 am and 4 pm, add 2.5° (closer according to percentage cloud cover) Humidex.

For indoor or sheltered heat exposures, use common sense to judge if radiant heat is a significant factor. If so, add 1° to 2° Humidex. Heat stress should be managed by monitoring vital signs (see ACGIH TLV, "Signs and symptoms of heat stress" section).

This poster was developed by the Occupational Health and Safety Council of Ontario (OHSCO) Heat Stress Awareness Committee. May 2007.

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Appendix 2 – Heat Stress Tool

HEAT STRESS AWARENESS TOOL

Workplace Temperature
Humidity (%)

80+
70-79
60-69
50-59
40-49

Cut out wedge.

How to find the temperature & humidity:

- Check a workplace thermometer & hygrometer
- If working outside, listen to broadcast reports or visit www.weatheroffice.ec.gc.ca

Heat stress action chart

Conditions/actions listed below apply to **unacclimatized workers**. Never ignore symptoms. Refer to *Heat Stress Awareness Guide* for extra clothing and/or radiant heat conditions.

HUMIDEX	ACTION RECOMMENDED
LOW 30-37	<ul style="list-style-type: none"> • Post heat stress alerts • Drink water
MEDIUM 38-39	<ul style="list-style-type: none"> • Reduce physical activity (e.g., slower pace, more breaks) • Drink a cup of water every 20-30 minutes
MODERATE 40-41	<ul style="list-style-type: none"> • Further reduce physical activity • Drink a cup of water every 15-20 minutes
HIGH 42-44	<ul style="list-style-type: none"> • Severely curtail physical activity • Ensure sufficient rest/recovery time • Drink a cup of water every 10-15 minutes
EXTREME 45+	<ul style="list-style-type: none"> • Hazardous to continue physical activity

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HEAT STRESS AWARENESS TOOL

HEAT STRESS

RECOGNIZE THE SYMPTOMS...
weakness, fatigue, & dizziness

How to use this tool:

1. Measure workplace temperature & humidity.
2. Turn the wheel to display the workplace temperature. Then, find the humidity value on the left axis.
3. Refer to the colour on the instruction chart for recommended action.
4. Refer to the *Heat Stress Awareness Guide* for more detailed information.

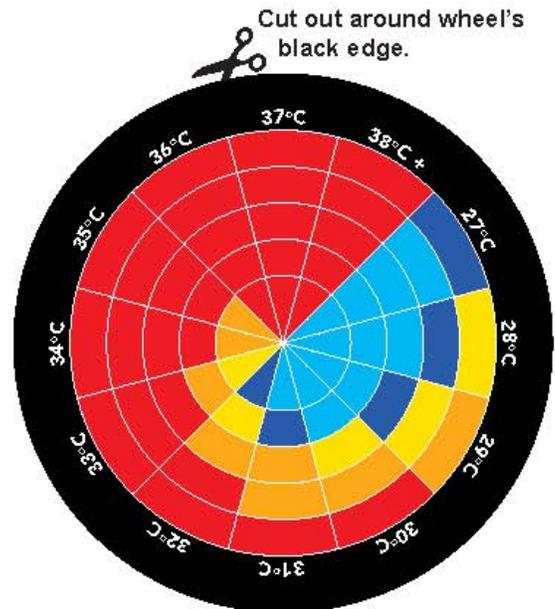
Keep you cool!

Once cutting and folding is complete, insert wheel so that the coloured side shows through the cut-out wedge.

Insert fastener at small black dot below the wedge to hold together, and rotate wheel.

Cut along vertical edges.

Fold on dotted line.



Appendix 3 - Heat-Stress-related disorders – Adopted from the Ontario Ministry of Labour Heat Stress Guidelines

A summary of heat-stress-related disorders, causes, symptoms, treatment and prevention is presented in the table below.

	Cause	Symptoms	Treatment	Prevention
Heat rash	Hot humid environment; plugged sweat glands.	Red bumpy rash with severe itching.	Change into dry clothes and avoid hot environments. Rinse skin with cool water.	Wash regularly to keep skin clean and dry.
Heat cramps	Heavy sweating from strenuous physical activity drains a person's body of fluid and salt, which cannot be replaced just by drinking water. Heat cramps occur from salt imbalance resulting from failure to replace salt lost from heavy sweating.	Painful cramps occur commonly in the most worked muscles (arms, legs or stomach); this can happen suddenly at work or later at home. Heat cramps are serious because they can be a warning of other more dangerous heat-induced illnesses.	Move to a cool area; loosen clothing, gently massage and stretch affected muscles and drink cool salted water (1½ to 2½ mL salt in 1 litre of water) or balanced commercial fluid electrolyte replacement beverage. If the cramps are severe or don't go away after salt and fluid replacement, seek medical aid. Salt tablets are not recommended.	Reduce activity levels and/or heat exposure. Drink fluids regularly. Workers should check on each other to help spot the symptoms that often precede heat stroke.
Fainting	Fluid loss, inadequate water intake and standing still, resulting in decreased blood flow to brain. Usually occurs in unacclimatized persons.	Sudden fainting after at least two hours of work; cool moist skin; weak pulse.	GET MEDICAL ATTENTION. Assess need for cardiopulmonary resuscitation (CPR). Move to a cool area; loosen clothing; have the person lie down; and if the person is conscious, offer sips of cool water. Fainting may also be due to other illnesses.	Reduce activity levels and/or heat exposure. Drink fluids regularly. Move around and avoid standing in one place for too long. Workers should check on each other to help spot the symptoms that often precede heat stroke.

Heat exhaustion	Fluid loss and inadequate salt and water intake causes a person's body's cooling system to start to break down.	Heavy sweating; cool moist skin; body temperature over 38°C; weak pulse; normal or low blood pressure; person is tired and weak, and has nausea and vomiting; is very thirsty; or is panting or breathing rapidly; vision may be blurred.	GET MEDICAL ATTENTION. This condition can lead to heat stroke, which can cause death quickly. Move the person to a cool shaded area; loosen or remove excess clothing; provide cool water to drink; fan and spray with cool water. Do not leave affected person alone.	Reduce activity levels and/or heat exposure. Drink fluids regularly. Workers should check on each other to help spot the symptoms that often precede heat stroke.
Heat stroke	If a person's body has used up all its water and salt reserves, it will stop sweating. This can cause body temperature to rise. Heat stroke may develop suddenly or may follow from heat exhaustion.	High body temperature (over 41°C) and any one of the following: the person is weak, confused, upset or acting strangely; has hot, dry, red skin; a fast pulse; headache or dizziness. In later stages, a person may pass out and have convulsions.	CALL AMBULANCE. This condition can kill a person quickly. Remove excess clothing; fan and spray the person with cool water; offer sips of cool water if the person is conscious.	Reduce activity levels and/or heat exposure. Drink fluids regularly. Workers should check on each other to help spot the symptoms that often precede heat stroke.

Implementation Date: September 10, 2003

Revised: October 1, 2013

Reference: Policy
 Health & Safety Act and Associated Regulations