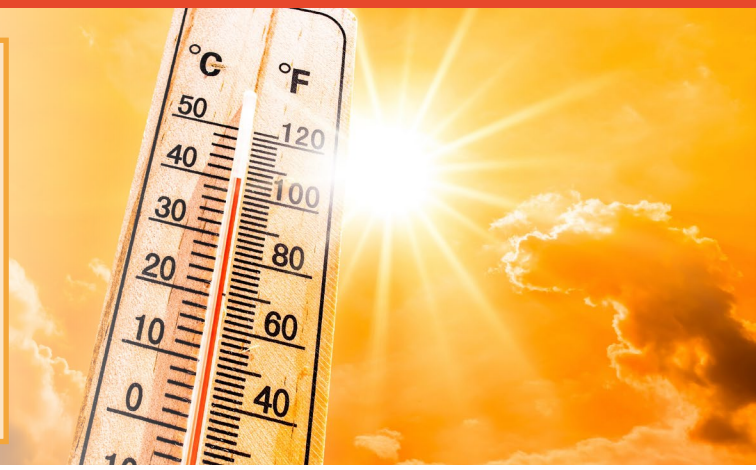
OCTOBER 2025 | VERSION 1

EXTREME HEAT:
Guidance for Schools and Child Care Centres

Extreme heat events are increasing in frequency, severity and length due to our changing climate. This leads to more hot days, which can harm health and well-being. Extreme heat and heat illnesses are especially dangerous for infants and young children who are more sensitive to heat and who can develop heat illness quickly. Schools and child care centres can protect children's and employees' health by preparing for and responding to extreme heat events. This resource provides guidance to help schools and child care centres reduce the health risks associated with heat before and during extreme heat events.



Extreme Heat

Extreme heat (also known as a heat wave) means unusually high temperatures and/or humidity. It can lead to heat illnesses and sometimes death. It can also impact well-being, affecting activities and learning, as well as essential services like healthcare and electricity supplies.

People at Greater Risk from Extreme Heat

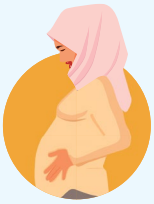
Extreme heat can put everyone at risk of heat illness. However, some people are more affected by the heat than others. People in school communities and child care centres who may be at greater risk include:

Infants, young children and older adults

People living with existing health conditions *(e.g., chronic health conditions, mental illness and physical or cognitive impairment)*

People who exercise in the heat *(indoors or outdoors)*

People who work in the heat *(indoors or outdoors)*



Pregnant people

People living in situations of lower socio-economic status *(e.g., experience lower income, housing insecurity)*

People with limited or no access to cooled indoor spaces

It is important to understand that some people may experience overlapping risk factors. For example, a child with an existing medical condition or disability may be at a greater risk from extreme heat than a child without one. A full list of people who may be at greater risk of health effects from extreme heat can be found here.

⚠ Heat illnesses are preventable!

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Health Effects of Extreme Heat

Heat Illnesses

Heat illnesses include heat stroke (a medical emergency), heat exhaustion, heat fainting, heat edema (swelling of hands, feet, and ankles), heat rash and heat cramps (muscle cramps). They are caused by over-exposure to heat or over-exertion in heat. Heat illnesses are preventable, but if they are not avoided, they can lead to long-term health problems or even death.

Early signs of heat illnesses can quickly become an emergency. Watch children closely during hot weather and act quickly to cool them down or seek medical attention if they show signs of heat illness.

> ⚠ Children may not always show obvious early signs of illness and may just appear more tired or fussy than normal. Watch for emergency signs of heat illness too!

Signs and Symptoms of Heat Illness:

Early Signs of Heat Illness *(Heat Exhaustion, Heat Cramps, Heat Rash)*

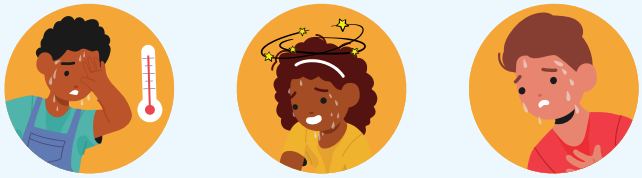
- ☑ Changes in behaviour in children *(e.g., more tired, fussy)*
- ☑ Dizziness or fainting
- ☑ Nausea or vomiting
- ☑ Headache
- ☑ Rapid breathing and heartbeat
- ☑ Extreme thirst
- ☑ Decrease in urination with unusually dark yellow urine
- ☑ Muscle cramps
- ☑ Skin Rash

If someone experiences these symptoms:

- ☑ Move them to a cool space, give them water to drink, loosen clothing and remove any extra layers, cool their bodies with water (e.g., apply wet towel, put ice packs against their body, dampen clothes). Continue these activities until they feel better. If they do not start feeling better or if symptoms increase, call 911.

Emergency Signs of Heat Illness *(Heat Stroke)*

- ☑ High body temperature (39°C/102°F or more)
- ☑ Fainting or decreased consciousness
- ☑ Confusion
- ☑ Lack of coordination
- ☑ Very hot and red skin



If someone experiences these symptoms:

- ☑ Call 911 or seek immediate medical attention.
- ☑ If possible, move them to a cool space. Loosen clothing and remove any extra layers. Quickly begin to cool their body with cool water (e.g., apply wet towel, put ice packs against their body, dampen clothes, cool bath or shower). Continue these activities and watch them until 911 or medical help arrives.

Other Heat Health Impacts

Extreme heat can also worsen existing health conditions (e.g., asthma, diabetes, mental illness). Heat is associated with psychosocial impacts like changes in mood and behaviour, increased aggression, and affected sleep and learning capacity.

Heat may also affect infrastructure at schools, childcare centres, or within the wider community. For example, it may make play equipment dangerously hot and/or could lead to power outages.

Climate Emotions in Youth

Many young people experience climate emotions. This includes a range of intense emotions associated with a changing climate, which may include sadness, fear, despair, distress, helplessness, grief, and anxiety. Terms used to describe climate emotions include climate change anxiety, solastalgia, eco-anxiety, environmental distress and ecological grief. These emotions are understandable and normal reactions to a complex issue like climate change. It can motivate positive action. However, in some cases, climate emotions can be harmful to mental health and well-being.

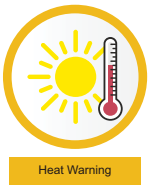
Extreme heat events or other climate-related hazard events may lead to these intense emotions. Efforts should be made to support youth's mental health and well-being. This may include:

- Providing mental health support and programming at school and in partnership with community mental health services (e.g., daily practices to promote mentally healthy schools and classrooms, support groups, counselling, creating safe spaces to talk about feelings, etc.).
- Providing reassurance, positive and hopeful messages (e.g., share learning resources and reach out to youth and their families).
- Teaching about climate change risks and providing opportunities for youth engagement and leadership to address the risks at home, school, and/or in the community.

Extreme Heat Alerts & DRHD's Heat Warning and Information System

Environment and Climate Change Canada issues extreme heat alerts. These alerts mean that health risks are increased due to high heat. In Durham Region a Heat Warning is issued when daytime maximum temperatures are expected to reach 31°C or higher and nighttime minimum temperatures are expected to be 20°C or higher OR humidex values are expected to reach 40°C or higher for at least two consecutive days. Durham Region Health Department (DRHD) will issue an Extended Heat Warning if criteria extends beyond two days. Heat Warning Criteria is illustrated in the table below.

Notification Type	Criteria	Duration
Heat Warning	Daytime temperatures are expected to be 31°C or warmer **and** nighttime minimum temperatures of 20°C or warmer. **OR** Humidex values of 40°C or more are expected.	**2** days
Extended Heat Warning	Daytime temperatures are expected to be 31°C or warmer **and** nighttime minimum temperatures of 20°C or warmer. **OR** Humidex values of 40°C or more are expected.	**3** or more days



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During regular business hours DRHD sends email notifications:

- To provide advance notice, when possible, of a potential heat alert OR
- When a heat warning is issued by Environment and Climate Change Canada to prompt schools and child care centres to prepare to activate their response plans and strategies.

In addition to receiving notifications from DRHD, schools and childcare centres are encouraged to sign up for official weather alerts from Environment and Climate Change Canada to be informed when an alert is issued and when to take additional action to keep children cool. See the resource section for more information.

Hot Indoor Temperatures

When outdoor temperatures rise, so do indoor temperatures. Indoor temperatures above 31°C are dangerous to health. It is best to keep indoor temperatures below 26°C. Below are some ways to keep spaces cool when it is hot outside.

Passive Cooling

- ☑ Place covers on the outside of windows to block sunlight (e.g., window shading, glazing, shutters or cardboard covered in tinfoil).
- ☑ Plant trees on the side of the building where the sun shines during the hottest part of the day and to create shade in outdoor play spaces.
- ☑ Install awnings to create shade around buildings.
- ☑ Consider installing green or white roofs on buildings if possible.

Mechanical Cooling

- ☑ Install energy-efficient mechanical cooling systems (e.g., heat pump and air conditioning) to be used on hot days.
- ☑ If a building has air conditioning, make sure it works before hot weather starts
- ☑ If entire facilities cannot be cooled, consider creating one or more specific cooling rooms with air conditioning where children can cool off for a few hours.
- ☑ Identify where fans can be used to move cool air to different indoor spaces.

When indoor temperatures get too hot, it can be safer to be in cool outdoor spaces such as tree-shaded areas. Tree-shaded areas can be as much as 5°C cooler than surrounding areas. If you do not have mechanical cooling in your space (e.g., air conditioning, heat pump), plan to go somewhere that does (e.g., library) or to cooler outdoor spaces.

Fans cannot effectively lower core body temperature and should not be used as a primary cooling mechanism. Use fans to help blow cool air to where it is needed. Do not direct fans directly toward people when indoor temperatures are very high.

Going Outside in the Heat

The best way to protect children from extreme heat is to spend time in cool or air-conditioned spaces. There is no specific outdoor temperature threshold for avoiding going outside. Sometimes, it is safer to be in cooler outdoor spaces (e.g., tree-shaded spaces and spaces with water features) than in hot indoor environments. Follow the tips on how to stay cool during extreme heat outlined below.

> ⚠ Indoor temperatures below 26°C are best. Indoor spaces above 31°C are dangerous to health. Seek cooler or air-conditioned spaces if indoor temperatures get too hot.

How to Prepare for Extreme Heat Events

The following are recommended options to help protect children from the effects of extreme heat BEFORE a heat event.

- Email enviroalerts@durham.ca to subscribe to the Durham Region Health Department's local alerts for extreme heat, cold weather, and adverse air quality events.
- Know where to get official information on extreme heat alerts. Subscribe to alerts and monitor the weather forecast.
  - Download the WeatherCan app and use www.weather.gc.ca
- Prepare staff to recognize:
  - Dangerous indoor temperatures
  - Signs of heat illness, what to do and when medical attention is needed
- Be aware of children who may be at greater risk from extreme heat.
  - Plan to provide protection during extreme heat events (e.g., support less strenuous activities, spend time in cool or air-conditioned spaces).
  - If you care for a child with medical conditions or medications, ask their parent/guardian to check with a healthcare provider or a pharmacist whether their child is at increased risk of heat-related illness.
- Ensure that children with medical conditions and/or who have prescribed medication (e.g., inhalers for asthma) have a plan in place and access to their medication at schools or childcare centres in accordance with policies.
- Strive to keep indoor temperatures below 26°C. Investigate ways to keep the building cool when it is hot outdoors (see hot indoor temperatures section above). Implement strategies to reduce indoor heat before heat events.
- Identify nearby spaces to visit where children can cool off for a few hours a day during extreme heat events (e.g., a public library, community center, shaded park). Consider when these spaces can be used and transportation plans.
- Be prepared with basic equipment to keep cool and safe during hot weather:
  - Thermometers to monitor indoor temperatures
  - Ice or gel packs to apply to the skin to cool off
  - Towels to wet and place over the skin
  - Bottles for drinking water
  - Sprinklers, and other water activities for fun cooling activities
  - Fans
  - Air conditioning
- Expand your emergency plan to include a section on extreme heat response and consider developing an extreme heat policy and procedure using the public health guidance and resources in this document. Durham Region Health Department is available to provide support at 1-800-841-2729.

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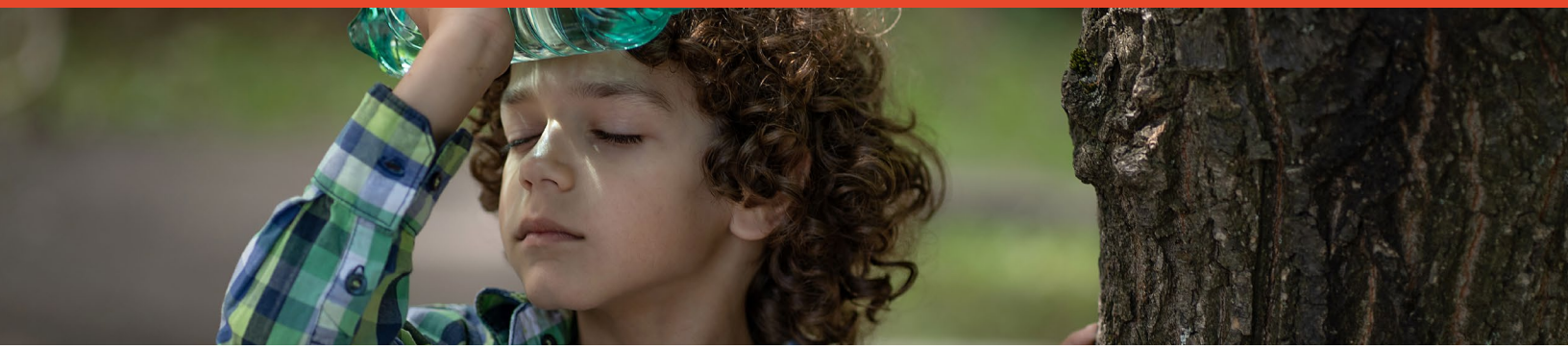

How to Respond During an Extreme Heat Event

- Review the latest heat alert information and weather forecasts from reputable sources (e.g., DRHD, Environment and Climate Change Canada).
- Inform all staff of the heat alert and share the heat resources below. Consider notifying families and sharing resources.
- Activate extreme heat readiness plans or strategies.
- Have staff trained to know and recognize the signs and symptoms of heat illness, and how to respond. If someone experiences symptoms, move them to a cool space, hydrate them, and cool their bodies (e.g., dampen clothes, apply an ice pack to their bodies, fan them). Seek medical attention as appropriate.
- Keep spaces cool:
  - If possible, use air conditioning.
  - Use a fan to circulate air during cooler parts of the day.
  - If the space does not have air conditioning, shut windows and doors to keep cooler air inside during the day and open them in the evening to let cooler air inside.
  - Block the sun by using shades, blinds and awnings during the day.
  - If meals are prepared, try to plan meals that don't need an oven or stove. Consider food options with more water content (e.g., watermelon).
- Keep people cool! Encourage children and staff to:
  - Drink plenty of water before they feel thirsty.
  - Dress for the weather with loose, light-coloured and breathable clothing, a wide-brimmed hat and sunglasses.
  - Reschedule or plan outdoor activities during cooler parts of the day (e.g., mornings) at cooler locations (e.g., tree-shaded park, splash pad).
  - Limit sun exposure when outside. Stay in the shade (e.g., under shade structures, umbrellas, tree shade).
  - When outside avoid intense physical exercise and take breaks from the heat often. Spend time in a cool or air-conditioned space such as a library or other air-conditioned facility, tree-shaded park, swimming facility or splash pad.
  - Play with water to stay cool (e.g., sprinklers, water play programming).
- If you cannot keep the entire facility cool, create cool spaces in a few rooms (e.g., gym, library, staff room) where children and staff can take a break from the heat.
- If it is too hot inside, spend time in a cooler (e.g., tree-shaded area) or air-conditioned space (e.g., library).

Playing with water is a great way to stay cool (e.g. sprinklers, move water play programming outside).

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Extreme Heat and Poor Air Quality/Wildfire Smoke Events

Extreme heat and poor air quality, or wildfire smoke events can occur at the same time. High temperatures and humidity commonly increase air pollutants in the atmosphere. Infants and children tend to be more sensitive to poor air quality/wildfire smoke.

Cooler and cleaner indoor air is the best way to protect against negative health impacts. Ensure that measures are in place to provide cleaner indoor air. Also, ensure indoor temperatures are measured and do not get too hot. If necessary, being outdoors is typically safer than staying in indoor environments that are too hot, even during wildfire smoke events.

Follow Wildfire Smoke Guidance for Schools and Child Care Centres (see related DRHD resources and guidance box below) for addition information on Wildfire Smoke with Extreme Heat.


WILDFIRE SMOKE:
Guidance for Schools and Child Care Centres

Wildfire smoke events are becoming more frequent, severe, and longer lasting as our climate changes. This leads to more days with poor air quality due to wildfire smoke, which can be harmful to health. Schools and child care centres can protect the health of children and staff by preparing for and responding to wildfire smoke events. This resource provides guidance to help schools and child care centres reduce the health risks of wildfire smoke before and during a wildfire smoke event.

What is Wildfire Smoke ?

Wildfire smoke significantly contributes to air pollution. Wildfire smoke is a mixture of small particles, many gases and water vapour. The small particles, also known as fine particulate matter ($PM_{2.5}$), are the greatest health concern as they can travel deep into the lungs when inhaled and cause irritation and inflammation. This can have both short-term and longer-lasting health impacts.

Wildfire smoke can travel large distances and can affect air quality for extended periods of time. This means that wildfires burning hundreds or thousands of kilometres away can affect local air quality. Wildfire smoke conditions can also change quickly, differ across short distances, and can vary considerably hour-by-hour. Air quality may be reduced even if you cannot see or smell wildfire smoke.

Who is Most at Risk from Wildfire Smoke Exposure

During heavy smoke conditions, everyone is at risk regardless of their age or health status. However, **some people are at greater risk of experiencing health problems when exposed to wildfire smoke**. People in school communities and child care centres who may be at greater risk include:

Infants, young children and older adults | People living with chronic health conditions or existing illnesses (e.g., asthma, heart or lung conditions, diabetes, cancer) | People involved in strenuous outdoor exercise | People who work outside | Pregnant people | People living in situations of lower socio-economic status (e.g., lower income, experience housing insecurity etc.) | People who smoke

It is important to understand that some individuals may experience overlapping risk factors. For example, a child with asthma may experience greater risks to wildfire smoke than a child without asthma. It is also important to know that when people breathe more quickly and deeply (e.g., during exercise), they inhale more wildfire smoke. **A full list of people who are most at risk of health effects of wildfire smoke can be** found here.

Durham Health Connection Line | 1-800-841-2729 or 905-668-2020 | durham.ca/health
Dial 311 (within regional limits)

If you require this information in an accessible format, contact 1-800-841-2729.

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Extreme heat is usually more dangerous to health than exposure to poor air quality (even wildfire smoke). Prioritize keeping cool if you must choose.

Climate Action: Reducing the Impacts of Climate Change on Health

Climate action, which includes climate mitigation and adaptation (see definitions below), is needed to reduce and cope with the health impacts of climate change. The actions outlined in this guidance are examples of climate adaptation strategies that can be implemented to reduce the health risks associated with extreme heat. It is important that health considerations are integrated into climate action planning. Schools and child care centres play an important role in implementing climate actions that protect health and that align with national and local climate action planning goals and commitments.

Learn More:

- Climate Atlas of Canada
- Climahealth.info
- United Nations Climate Action

Climate Mitigation: Actions to reduce or prevent the emission of greenhouse gases in the atmosphere. Climate mitigation attempts to limit the magnitude of future climate change.

Climate Adaptation: Actions to prepare for and adjust to the current and projected impacts of climate change. Climate adaptation aims to minimize the risks associated with climate change and maximize the potential benefits.

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Additional DRHD resources and guidance documents are available here to support you in preparing response strategies to manage environmental health hazards (e.g., extreme heat, wildfire smoke).

Extreme Heat Resources

Environment and Climate Change Canada Online: • Weather and Alerts • WeatherCAN App	Online weather and alerts. Environment and Climate Change Canada is the weather source used by governments and Durham Region Health Department.
Health Canada's Extreme Heat Pages & Resources: • Extreme Heat Events (landing page) • Parents: Keep Children Cool! Protect your child from extreme heat • Athletes: You're active in the heat. You're at risk! Protect yourself from extreme heat. • Staying healthy in the heat (video) (infographic) • Combined wildfire smoke and heat	Public-facing information and fact sheets about extreme heat, health effects, and how to prepare for and respond to extreme heat to protect health and wellbeing.
DRHD Webpages: • Extreme Heat and Humidity • Extreme Heat Resources • Local municipal programs • Health Stats (Heat & Cold)	Information regarding extreme heat for the public, community partners and health professionals. Includes public-facing fact sheets and resources.
Mental Health and Wellbeing: • School Mental Health Ontario • Mental health support • About mental health - Canada.ca • Hope for Wellness Helpline for Indigenous Peoples • Kids Help Phone	Resources to support mental health and wellbeing
Educator Resources from Climateatlas.ca	Educator resources, lesson plans and course materials that explore the connections between climate change and the world (including health).