CHILDCARE AND THE ENVIRONMENT

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HEALTHY ENVIRONMENTS FOR CHILDREN

Overview

Children are exposed to potentially hazardous substances everyday where they live, learn and play. Children are particularly vulnerable to some environmental contaminants because they are still growing and developing.

The behaviour and physiology of children and adults differs. By comparison, children breathe, eat and drink more than an adult. Childhood behaviours such as mouthing and crawling can increase exposure to potential contaminants on some toys and on surfaces like floors and walls.

Cleaning, tidying and paying careful attention to various items within a child's environment can help reduce the risk of exposure to environmental contaminants and protect their health.

Children learn and play in a variety of environments –both indoors and outdoors. While it is important to provide a safe indoor environment, the natural environment must also be considered. Extreme weather, outdoor air quality and access to safe water and food are all important environmental issues to consider when providing a healthy environment for children.

FOOD SAFETY

Food safety and the prevention of food borne illness is especially important in a child care setting because young children are considered at higher risk of complications due to illness that can be spread through contaminated food or water. This is due to their under-developed immune system that does not have the ability to fight infections as efficiently as a healthy adult.

Child Care Centres that prepare and handle food on-site are considered "food premises" under the Health Protection and Promotion Act R.S.O. 1990, Chapter H.7 and, as such, must meet the requirements of the Ontario Food Premises Regulation, 562, R.R.O. 1990. This regulation addresses the necessary components to ensure food safety such as, but not limited to: physical equipment and building requirements, food cooking and storage temperatures, sanitation, approved food sources, personnel hygiene, and maintenance.

Make Food Safety a Priority in Your Child Care Centre!

It is strongly recommended that child care centre food handlers and supervisors be properly trained and certified in safe food handling procedures. Speak with your area Public Health Inspector or call *Your Health Connection* at 1-877-721-7520 to receive current information regarding the availability of upcoming Food Handler Training and Certification courses and examinations.

Physical Requirements

The Food Premises Regulation outlines specific building and equipment requirements that are necessary for ensuring food safety. These include:

- Adequate mechanical ventilation where required (washrooms, cooking equipment) hygienically maintained;
- Adequate protection against the entrance of insects, vermin, rodents, dust and fumes;
- A potable water supply that is considered safe for drinking. Water may be from a municipal or private (well) water source; food contact surfaces and non-food contact surfaces must be properly designed, constructed, installed and located;
- All food contact surfaces (e.g. counters, tables, sinks, cutting boards etc.) and non-food surfaces (floors, walls, shelving, back splashes, etc.) must be finished in a manner that is smooth, non-absorbent and easy to clean;
- A three compartment sink to wash, rinse and sanitize multi-service articles (cutlery, plates, bowls, cups and glasses) or a two compartment sink and a commercial mechanical dishwasher;
- At least one separate hand washing basin with the required supplies – hot and cold running water, liquid soap in a dispenser and paper towels This hand basin must be accessible and separate from the 2 or 3 compartment dishwashing sink and must not be used for anything other than hand washing;

- Garbage should be disposed of frequently and in a manner consistent with municipal by-laws. Garbage receptacles should be equipped with a tight fitting lid when not in use, be maintained in a sanitary manner and disinfected daily;
- Provision of proper waste water and sewage disposal in accordance with provincial and municipal laws. Contact your municipal building department for new day nurseries or for any existing centres undergoing renovations and remember to provide your area Public Health Inspector with a copy of your site plan for review.

Important Food Safety Tips

Food from an Inspected Source

All food served to children at day nurseries, should come from an inspected source. An **"inspected source"** is a food premise that is routinely inspected by the local Health Unit (i.e. grocery store, bakery, caterer, restaurant, etc.). Foods that are prepared in the homes of parents and staff should NOT be served to the children. The only exception is made when parents provide food for their own child (i.e. bagged lunches).

If parents and/or staff wish to provide food for special functions (i.e. birthday parties, etc.), the food should come from an inspected source and must be properly packaged (i.e. showing ingredient list, best before date, etc.) and transported using appropriate temperature control methods. A log book should be maintained, recording information such as:

- The type of food brought in;
- Where the food was purchased;
- Name of the person who brought the food;
- The date the food was brought in and served;

Parents and/or staff should never prepare food at home for the children at the centre.

Ideas for Birthday Parties

- Make arrangements to bake simple cakes at the centre by a certified food handler.
- Provide cakes or baked goods from an approved grocery/bakery.

Cold-Holding

Maintain frozen foods at or below -18ºC (0ºF) at all times. Provide an accurate indicating thermometer for each freezer compartment and monitor and record the temperature of these units at least once a day on a temperature log (see resources section for sample log sheet).

Thaw frozen meat, poultry and fish in the refrigerator, under cold running water or in the microwave and cook immediately thereafter. Never thaw hazardous foods like meat, poultry or fish at room temperature.

Keep hazardous foods like meats, poultry, eggs, fish, cheese and other dairy products refrigerated at 4ºC (40ºF) or colder until they are ready to be cooked or served. Store frozen, thawing hazardous foods and raw meats, poultry, fish and eggs below cooked or ready-to-eat foods in the refrigerator.

Provide an accurate indicating thermometer in each refrigerated compartment (i.e. fridge and/or freezer) and have your food handler monitor and record the temperature of these units at the beginning of each day to ensure that they are operating properly (see resources section for sample log sheet).

If refrigeration units require repair, remove all hazardous foods to an alternate cold storage unit in compliance with the Food Premises Regulation until the original unit can be verified (with an accurate thermometer) as being capable of holding foods at the required safe temperatures.

Remember foods that were held at an improper temperature in the danger zone (between 4-60°C) while the fridge was not working will need to be discarded. Food may only be exposed to room temperature for a maximum of two hours.

Food Preparation

Minimize the time that any hazardous foods are left at room temperature during preparation. When preparing large amounts of food, prepare it in smaller “batches”, keeping the remainder cold in the refrigerator or freezer until needed.

Prevent “cross-contamination” from raw foods (e.g. raw meat, poultry, eggs and fish) to cooked or ready-to-eat foods (e.g. deli meats, cheeses and other dairy products, salads or desserts) at all times during storage, preparation, cooking and service.

Prepare raw foods separate from ready-to-eat foods. Use completely separate food contact surfaces (e.g. cutting boards, preparation tables, plates and other utensils), or prepare raw and cooked items at separate times. Ensure surfaces and equipment are thoroughly cleaned, rinsed and sanitized between uses – particularly after working with raw foods! Equipment and surfaces must be sanitized with a chlorine bleach solution, quaternary ammonium product or other product approved by public health. Licensed child care centres should review their food grade disinfectants with their local Public Health Inspector.

Cooking

Cook all foods rapidly to at least their minimum required cooking temperature prior to service. See Table 1 for list of cooking temperatures.

Provide your food handlers with accurate probe thermometers and a supply of temperature log forms so that they can monitor and record the final internal temperature of hazardous food items. If hazardous foods are being hot held prior to service, ensure food temperature is maintained at 60ºC or higher (see resource section for sample food temperature tracking sheets). Probe thermometers must be cleaned and sanitized between each use, and should also be checked for accuracy at least weekly. To easily calibrate a thermometer, use a glass of ice water. Place thermometer in the center of the mixture for one minute, careful not to touch the container, assess the temperature. If the thermometer does not read 0 ºC, adjust

the thermometer to reflect 0 °C. For more information on how to calibrate, and sanitize your thermometer, contact your Public Health Inspector.

(**Table 1**)

All minimum internal temperatures must be reached for at least 15 seconds.		
Poultry (chicken and turkey) Whole	**82° C**	**180° F**
Parts of poultry	**74° C**	**165° F**
Ground poultry	**74° C**	**165° F**
Pork (including ground)	**71° C**	**160° F**
Fish	**70° C**	**158° F**
Ground Beef	**71° C**	**160° F**
Mixtures containing poultry, eggs, meat or fish	**74° C**	**165° F**
All other hazardous foods (e.g. rice, gravy)	**70° C**	**158° F**

Catered Food

If the child care centre receives catered food services, internal food temperatures must be taken when food arrives at the centre and recorded on a log sheet. All hot foods must be at least 60° C (140° F) or hotter and cold foods must be 4° C (40° F) or colder. The temperatures between these are considered the “danger zone” and must be avoided. Food may only be exposed to room temperature for a maximum of two hours. If hazardous food is delivered in the danger zone, it should not be accepted by the child care centre.

Food Service

Once prepared, keep cold foods cold at 4° C (40° F) or less and hot foods hot at 60° C (140°F) or higher until served. Always use clean serving utensils and, to minimize the potential for contamination of foods served, do not allow children to serve themselves or share. Once food has been served to children or staff any leftovers should be discarded.

Milk is a hazardous food item. In accordance with the Ontario Food Premises Regulation, **pasteurized** milk must always be served from its original container (i.e. cartons or bags). If a separate covered container (that is clean and sanitized) is used to serve milk, any leftover milk must be discarded after a single service. Be mindful, that if a carton or bag of milk is used at multiple service times throughout the day, any remaining milk left over from the end of the second service should be discarded.

For more information on food safety, contact your Public Health Inspector or visit our website at www.simcoemuskokahealth.org.

Personal Hygiene

Food handlers play an important role in food safety. Good personal hygiene practices are key in preventing cross contamination of food and preventing food borne illness.

Food handlers must wear clean outer garments and headgear that confines the hair any time they are handling or preparing food. If staff are only involved in the service of prepared food, they are not required to wear headgear.

Food handlers experiencing any enteric symptoms (e.g. nausea and vomiting, diarrhea, stomach cramps or chills) must not work until they have been symptom free for 24 hours.

Staff preparing food at the centre should not be diapering or assisting children with toileting.

Any person with a skin disease “may not perform any work that brings him or her into contact with food unless he/she has obtained the approval of the local Medical Officer of Health (Health Unit) in writing (O.Reg 562 as amended, R.R.0. 1990).”

Good hand hygiene is important for preventing contamination of food. Gloves are not a substitute for handwashing. Gloves can provide a protective barrier against germs that cause infection but offer little protection beyond what is achieved through good handwashing. Gloves are not recommended for food handlers unless there is a cut or open sores on the hands.

The designated handwashing sink must always be supplied with hot and cold running water, liquid soap in a dispenser and paper towels The sink must be accessible at all times for handwashing and should not be used for any other purpose.

Food handlers and staff serving foods must carefully and thoroughly wash their hands:

- Before and after handling any foods or food contact utensils;
- After going to the washroom;
- After eating, drinking, or smoking and after breaks;
- After coughing or sneezing into their hand or blowing their nose;
- After wiping noses or cleaning up any blood, vomitus or other body fluids;
- After participating in outdoor activities;
- After cleaning and sanitizing procedures;
- After handling chemicals;
- After handling raw hazardous food or an allergen and before handling ready to eat foods;
- After handling garbage and cleaning products or equipment;
- After handling classroom pets, pet food and their equipment or litter;
- Any cuts or abrasions should be bandaged and covered by disposable gloves;
- And any other time their hands may have become soiled;
- For more information on Hand Hygiene – see the chapter on Infection Prevention and Control 2-4 to 2-8.

Food Allergens

Allergic reactions happen when the body's immune system reacts to a particular protein or irritant. The reaction may be caused by food, insect stings, and medications. When someone comes in contact with an allergen, symptoms may develop quickly and have the potential to progress rapidly from a mild reaction to a severe one. A person/child experiencing an allergic reaction may have any of the following symptoms:

- Trouble breathing, speaking, or swallowing;
- A drop in blood pressure, rapid heartbeat, and/or loss of consciousness;
- Flushed face, hives or a rash, or red and itchy skin;
- Swelling of the eyes, face, lips, throat and tongue;
- Anxiousness, distress, faintness, paleness, sense of doom, and/or weakness;
- Cramps, diarrhea, and/or vomiting.

In Canada, there are nine priority food allergens (substances which cause allergies):

- peanuts
- tree nuts (almonds, Brazil nuts, cashews, hazelnuts [filberts], macadamia nuts, pecans, pine nuts [pignolias], pistachio nuts, and walnuts)
- sesame seeds
- milk
- eggs
- fish (including shellfish and crustaceans)
- soy
- wheat
- sulphites

Mustard is now a priority allergen in Canada. Trace amounts of these foods can potentially be found in a wide range of food products including snack foods, health foods, baked goods, seasonings, and many other foods. Be sure to review ingredient lists of manufactured food products prior to use.

Food handlers should take the following measures to ensure that food contaminated with an allergen is not inadvertently served to children with an allergy:

- Have food product ingredients list readily available. If unsure about the ingredients, call the manufacturer or do not serve to the children.
- During registration of a child, ask parents to notify the centre of any food allergies.
- ENSURE REGULAR HANDWASHING. NOTE: Alcohol based hand rubs or any other hand sanitizer products DO NOT remove allergens.
- Clean and sanitize all food contact surfaces and utensils to prevent cross contamination.

- Educate staff. Have policies in place on how to recognize and respond to an allergic reaction – immediately call 911 if you suspect a child is having an anaphylactic reaction!

List of Useful Food Safety Resources

Pamphlets

- Food Safety Tips for Packed Lunches
- Handle Food Safely Brochure

Fact Sheets (www.simcoemuskokahealth.org)

- Food Handler Training
- Food Disposal After a Power Outage
- Cupboard Storage Guidelines
- Freezer Storage Guidelines
- Refrigerator Storage Guidelines

Decals (Note: Decals can be ordered through *Your Health Connection* 705-721-7520):

- 3 Sink Dishwashing
- 2 Sink Dishwashing
- Freezer temperature
- Refrigerator temperature
- Hot-holding temperature
- Handwashing
- Danger Zone

Forms (www.simcoemuskokahealth.org)

- Refrigeration Temperature Log
- Hot Holding Food Temperature Log
- Cooling and Reheating Temperature Time Graph
- Dishwasher Sanitization Log
- Freezer Temperature Log

Internet Resources

- Simcoe Muskoka District Health Unit (www.simcoemuskokahealth.org)
- Simcoe Muskoka District Health Unit Inspection Connection (www.simcoemuskokahealth.org)
- E-Laws (www.e-laws.gov.on.ca)

- Canadian Food Inspection Agency (www.inspection.gc.ca)
- FightBac – Partnership for Food Safety Education (www.fightbac.org)
- Health Canada (www.hc-sc.gc.ca/index_e.html)
- Food safety information for children ages 5 & Under

SAFE WATER

All child care centres must have a constant supply of potable water in order to operate safely when serving food, washing hands, drinking and during water play.

Water Systems

Child care centres served by municipal water supply systems have their water monitored, tested and treated on a constant basis in accordance with the Ministry of Environment and Climate Change (MOECC) regulations.

A child care centre that has its own private water supply is classified as a Designated Facility and is required to conform to Ontario Regulation 170 (under the Safe Drinking Water Act). This regulation requires that all private water works operators put in place a system of water testing and treatment that will ensure a potable water supply. The regulation is enforced by the MOECC.

Flushing and Sampling for Lead

In accordance with Ontario Regulation 243/07 administered by the Ministry of Environment and Climate Change, schools, private schools and child care centres must periodically test their drinking water for lead content and report all adverse test results.

For detailed information about your obligations please refer to the Ministry of Environment and Climate Change website at www.ontario.ca/ministry-environment-and-climate-change or call the local office of the MOE at 705-739-6441.

Boil Water Orders/Advisories

Boil Water or Drinking Water orders or advisories can be issued by the medical officer of health or by a Public Health Inspector to any child care centre on a private or municipal water supply. When an order or advisory is issued we will contact your facility. The inspector will provide you with advice and direction about precautions to implement and the actions required in order to remove the order or advisory. A Public Health Inspector will also visit your facility. All child care centres should have in place a response plan in the event that an order or advisory is issued. The plan should include measures to ensure a safe water supply is available to children and staff in the facility. Bottled water and/or an alternative potable municipal supply of water may be required for a period of time. In some circumstances, your centre may have to be closed until potable water is available. Your area Public Health Inspector can provide assistance in developing your contingency plans.

Recreational Water Illnesses

Recreational water illnesses can occur in children from swimming at the local beach, wading pool, swimming pool or even splash pads. These illnesses are caused by germs such as Cryptosporidium, Giardia, pathogenic E. coli, Shigella and others. A child may accidentally swallow water that has been contaminated with fecal matter. Even properly maintained pools can spread illness, as some of these germs are resistant to chlorine. Follow these easy steps to help keep germs out of the water and stay healthy:

- Stay out of the water when you have diarrhea. This is especially important for kids in diapers. You can spread germs in the water and make other people sick.
- Shower before you get in the water. Pool chemicals do not work right away so it's important to wash off any pee, poop, sweat and dirt before you get in the water.
- Don't pee or poop in the water. Take kids on bathroom breaks every hour. Wash your hands with soap and water after using the toilet or changing diapers.
- Don't swallow pool water or lake water and try to avoid getting water in your mouth. Check diapers and change them in a bathroom or diaper changing area—not poolside—to keep germs away from the pool.
- Child care facilities are to only use inspected swimming pools that meet the requirements of the Public Pools Regulation. Private home pools are not to be used by children in your care.

For more information visit the *Centers for Disease Control and Prevention at* www.cdc.gov.

Beach Monitoring

Designated public beaches are sampled weekly for bacteria. When provincial guidelines are exceeded a public health inspector will issue a swim advisory to warn swimmers that there may be an increased risk of infection. Here are some tips to help you predict the quality of the beach water before you swim:

Rain

Rain is the biggest factor to impact beach water quality. Rain washes contaminants into streams, rivers and lakes. While small amounts of rainfall are unlikely to have much impact, the Health Unit advises you to avoid swimming for 24-48 hours after heavy rains.

Wind can quickly build up significant waves. Wave action on any body of water can stir up sand and silt making the water cloudy. If you can't see your feet standing waste deep in water, bacteria levels may be higher.

Waterfowl (gulls, geese etc.)

The feces of waterfowl can have a significant impact on water quality, especially in smaller bodies of water or more confined areas of large lakes.

Wet Sand and Shallow Water

Shallow bodies of water are likely to be warmer than deeper ones during the summer. Warm temperatures are more favourable for bacterial survival or growth. Bacteria levels tend to be higher in wet sand as well. Be sure to use hand sanitizer or wash hands after playing at the water's edge.

Never swallow beach water no matter how clear the water looks!

To learn more about the beach sampling program, please visit:

www.simcoemuskokahealth.org

List of Useful Safe Water Resources

Fact Sheet

- Swimmer's Itch (www.simcoemuskokahealth.org)

Internet Resources

- Simcoe Muskoka District Health Unit (www.simcoemuskokahealth.org)
- Ministry of the Environment and Climate Change
- Centres for Disease Control and Prevention (www.cdc.gov)

RABIES

What is Rabies?

Rabies is a fatal disease caused by a virus that affects warm blooded animals, including humans. Once symptoms appear, rabies is almost always fatal. The virus can be transmitted through an animal's bite, scratch or through contact with its saliva (i.e. if the saliva enters the body through an open cut or sore).

Rabies Prevention

Avoid Wild Animals

In Ontario, the most common animals that carry the rabies virus are bats, raccoons, skunks and foxes. Animals such as cats, dogs and cattle can also get rabies if they are exposed to an animal that is infected with rabies. Warn children to stay away from wild animals such as raccoons, foxes, skunks and bats. These animals could be carrying the virus even though they look healthy.

Avoid animals you do not know

Warn children to stay away from animals they do not know. Just because an animal looks friendly does not mean it is okay to approach it or pet it.

Avoid sick or dead animals

Rabid animals change their behaviour. They may become very aggressive or very passive. Avoid all animals that are acting strange, even your own pet. Do not touch dead animals!

I found a bat! What should I do?

If a bat is found inside the day nursery or in the playground area, approach with caution. If it can be confirmed that the bat has not had any contact with any person (i.e. no bites, scratches) and the bat was not found in room with sleeping child, the bat can be released to the wild. Open a window to the outside and close/secure the door to the room to allow the bat to escape, or contact animal control for support. If the bat can be captured safely, use heavy gloves to protect the hands from any bites or scratches. If the bat cannot be caught safely, contact animal control. If there has been any direct contact, bites, scratches or the bat was found in close proximity to a sleeping child, report this to the public health unit as soon as possible. If the bat has been captured, DO NOT release it to the wild. If there was human exposure with the bat and the bat is still alive, contact animal control to arrange to humanely euthanize the bat prior to contacting the health unit. If a person has had direct contact with the bat and the bat is dead, the health unit will arrange for the (dead) bat to be picked up and submitted for testing.

Report Bites or Scratches from Mammals

Report any animal exposure incident to the health unit. If the animal was a domestic animal, include as much information as you can about the animal, the owner's name, address and phone number. Public Health Inspectors will use this information to contact the owner, check rabies vaccination certificates and decide what other actions are needed. Call Your Health Connection to speak to a Public Health Inspector at 721-7520 x 8811 (1-877-721-7520) when animal exposure incidents occur. *This is particularly important when incidents involve stray, unknown or wild animals*. Rabies post exposure treatment can be administered by a physician but this must be done as soon as possible after any contact with a suspected or confirmed rabid animal so humans can be protected.

Report Sick Animals

If you see a sick animal, contact your local animal control agency. Animal Control Officers can safely handle and transport sick animals. In the event of an urgent or threatening situation, you may need to contact the police.

Vaccinate Animals

- Any cat or dog over 3 months of age must have proof of up-to-date vaccination for protection against rabies. Child care centres should ensure any dog or cat visiting their facility is vaccinated against rabies. Wildlife should not be brought into a day nursery setting. Petting zoos and travelling animal exhibits should be used with caution and care should be taken to prevent transmission of all zoonotic diseases. Additional information related to animals within child care centres can be found within the Guidance Document for the Management of Animals in Child Care Centres, 2016

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List of Useful Rabies Resources

Fact Sheets

- Rabies (http://www.simcoemuskokahealth.org/Topics/Rabies/whatisrabies.aspx)
- Bat Rabies (http://www.simcoemuskokahealth.org/Topics/Rabies/wildlife/batrabies.aspx)

Internet Resources

- Guidance Document for the Management of Animals in Child Care Centres, 2016

  (http://www.health.gov.on.ca/en/pro/programs/publichealth/oph_standards/docs/guidance/mgt_animals_child_care_centres_gd.pdf)
- Rabies: Simcoe Muskoka District Health Unit (www.simcoemuskokahealth.org/Topics/Rabies.aspx)
- Rabies in Ontario (https://www.ontario.ca/page/rabies)

Forms

simcoe muskoka
DISTRICT HEALTH UNIT
Your Health Connection

Rabies and Animal Exposure Incident Report

IMMEDIATELY FAX all animal exposure incidents to the Simcoe Muskoka District Health Unit:

FAX: 705-725-8132

For suspicious animal exposures, and head, face, neck exposures: Phone: 705 721-7520 ext. 8811

For the physician inquiries and release of rabies post-exposure prophylaxis: Phone: 705-721-7520 ext. 8894

AFTER HOURS, WEEKENDS AND HOLIDAYS: 1-888-225-7851

PLEASE PRINT CLEARLY

A REPORT/INTAKE

Date Reported to SMDHU: DD/MMM/YYYY Person Reporting: _____

Treatment Centre/Hospital/Office: _____

B PATIENT/VICTIM INFORMATION

Name: Mr/Ms/Mrs _____ Male☐ Female☐

Parent Guardian Name *(if patient is under 16yrs of age)*: _____

Date of Birth: _____ Phone: Home: _____ Other: _____

Address: *(permanent)* _____
Street #/911# Street Name Apt/Unit# City

(temporary) _____
Street #/911# Street Name Apt/Unit# City

C INCIDENT DETAILS

Date of Incident: DD/MMM/YYYY

Details of Incident: _____

Body area affected: _____ Bite ☐ Scratch ☐ Saliva ☐ Handling ☐ Other: ☐ _____

Skin broken: Yes ☐ No ☐

Family Physician: _____ Phone: _____

D ANIMAL OWNER INFORMATION (or person with custody of animal):

Owner: _____ Phone: Home: _____ Other: _____

Address: *(permanent)* _____
Street #/911# Street Name Apt/Unit# City

(temporary) _____
Street #/911# Street Name Apt/Unit# City

Animal Species: Dog ☐ Cat ☐ Bat ☐ Other ☐ _____

Breed and Full Description: _____

Where is animal located now? _____

This personal information is collected under the authority of the Health and Protection and Promotion Act (1990) Reg. 557 Sec. 2. It will be used to conduct investigations and for the purposes of monitoring and surveillance of rabies activity. For further details concerning this collection, contact the SMDHU Privacy Officer at 705-721-7520 or 1-877-721-7520.

Revised Apr 2016

INDOOR AIR QUALITY

Children can spend a lot of their time indoors. Contaminants can be tracked indoors or originate from sources within the child care centre. Many substances end up in indoor air and settle as dust on various surfaces. Levels of these contaminants can be higher indoors compared to outdoors since the areas inside are much smaller compared to those outside. To help reduce a child's exposure to potential contaminants while they are indoors consider the following recommendations:

- Wet mop or vacuum instead of dry dusting
- Dispose of vacuum cleaner bags and dryer lint safely
- Wash hands using plain soap and water to remove contaminants; reduce the use of antimicrobial soaps when possible
- Reduce unnecessary "scents". Eliminate the use of perfumes or products such as deodorizers or air "fresheners"
- Remove outdoor shoes at the door
- Avoid the use of aerosol sprays, when possible
- Maintain and clean heating, ventilation and air-conditioning systems
- Ensure mould issues are addressed
- Use cleaning and sanitizing products that are most effective for the task and are the most environmentally friendly
- Test for radon and take measures to reduce levels as necessary

Reduce Chemical Emissions

Volatile Organic Compounds (VOCs)

VOCs are chemical compounds emitted from various solids and liquids in a gaseous form which can affect the environment and our health.

- Volatile organic compounds (VOCs) can be released into the air following the use of cleaners, paints, glues or air fresheners. It is important to reduce or eliminate products or materials where VOCs can be released. Choose low VOC, non-toxic or environmentally friendly items.
- Chemicals can also be released following renovation projects such as painting or the replacement of carpets within a childcare center. Paints and new carpets can "off-gas." Proper ventilation will help remove harmful VOCs that could be present. If considering a renovation project within your facility, make environmentally friendly choices. Area rugs can be a great alternative to installed carpet.

- Adequate ventilation is important for providing clean air for children to breathe. This is important during renovation activities, while using cleaning products or following arts and

crafts. When appropriate, opening windows to allow air to circulate throughout your facility can help limit the amount of contaminants present.

Fragrances

Many scented products can cause health problems for those suffering from allergies or asthma. For sensitive individuals, they may experience:

- Wheezing, shortness of breath
- Headaches, migraines
- Dizziness, lightheadedness
- Nausea
- Asthmatic episodes

To help reduce the risk to children or sensitive adults consider:

- Development of a scent or fragrance free policy
- Avoid air fresheners, scented household cleaners
- Provide information to parents about fragrance free products

According to Health Canada's labeling regulations, "fragrance free" or "unscented" means that there have been no fragrances added to the cosmetic product, or that a masking agent has been added in order to hide the scents from the other ingredients in the cosmetic.

Radon

Radon is a radioactive gas that occurs naturally in our environments. It is produced when uranium breaks down in bedrock and soil. Long-term exposure to radon can increase your risk of lung cancer and is the second leading cause of lung cancer after smoking.

Radon can enter a building through cracks or crevices in the foundation. Although the risk of exposure outdoors is low, indoor radon can build up to harmful levels. The amount of radon inside a building can depend on:

- Amount of uranium in the ground
- Level of ventilation in the building
- The number of entry points in the building

You cannot see, smell or taste radon and the only way to know if it is present is to test for it using an air sampler. Test kits are available in home improvement and hardware stores. Health Canada recommends using a long-term test (minimum three months) between September and April.

For more information visit www.simcoemuskokahealth.org.

Mould

Mould is a common term for fungi that grow on damp building materials or food. It can be found everywhere and will spread when spores are released into the air. Mould can cause discolouration of surfaces and materials. Mould can be any colour.

Many activities or events could contribute to mould growth:

- Spills that are not cleaned up
- Leaky pipes
- Excess condensation (i.e. from cooking, laundry machines) – ensure fans or other exhaust devices are working properly
- Increased humidity – Relative humidity (RH) is a measure of the amount of water vapour or moisture present in your air. As a rule of thumb RH in indoor air should be no more than 30-50%.

Not all moulds cause illness however, when spores are released in the air they can be breathed in and may trigger breathing or respiratory problems. Most often you may see eye, nose and throat irritation. Mould can also trigger asthmatic episodes.

The presence of mould indicates a moisture problem. Sometimes mould cannot be seen but a “musty” smell will be present. It is important to find out where the problem originates and repair it. If mould is present – remove it.

For more information visit www.simcoemuskokahealth.org

List of Useful Indoor Air Quality Resources

Fact Sheets (www.simcoemuskokahealth.org)

- Cleaning up after a flood
- Mould
- Environmental Health for Kids- Clean
- Radon

Internet Resources

- Canada Mortgage and Housing Corporation (www.cmhc-schl.gc.ca)
- Health Canada: Environmental and Workplace Health -VOCs (www.hc-sc.gc.ca)
- Health Canada: Mould and Your Health (www.hc-sc.gc.ca)
- Testing Your Home for Radon (www.healthycanadians.gc.ca)
- Canadian Partnership for Children's Health & Environment – Reduce Radon (http://www.healthyenvironmentforkids.ca/)

OUTDOOR AIR QUALITY

Children often enjoy spending time outdoors. There are times when the air we breathe may be impacted by air pollution. Children and newborns are more vulnerable to the effects of air pollution because:

- A child's immune and respiratory symptoms are less developed.
- Children breathe in more air than adults and they breathe faster than adults especially during strenuous activity and play.
- Children tend to breathe through their mouths and by-pass the natural filtering system in the nose. This allows large amounts of polluted air to get directly into their lungs.
- Children spend more time outside.

Air Quality and Health Index

On June 24, 2015, the Air Quality Health Index (AQHI) replaced the Air Quality Index (AQI). The AQHI is a scale which informs us on how our air quality may or may not impact outdoor activities and also takes into consideration the impact air quality has on our health. It measures hourly concentrations of three pollutants: ground level ozone (O_3), fine particulate matter ($PM_{2.5}$) and nitrogen dioxide (NO_2). These three pollutants are common indicators of how good our air quality is.

- The AQHI is reported on a scale of 1-10. The higher the number, the poorer the air quality is. An AQHI of 7 or greater lets us know that the air quality can negatively impact the health of those most vulnerable and modification to outdoor activities should be considered.
- The health risk is reported with an associated index reading (i.e. low, moderate, high or very high). Each health risk category provides customized health messaging to allow you to adjust any outdoor activities.
- AQHI reading are available hourly and provide forecasts for the current day, evening and following day.
- An AQHI Canada App is available for download which will allow you to keep informed on air quality conditions – allowing you to plan outdoor activities and manage your exposure to outdoor air. (http://open.alberta.ca/interact/aqhi-canada)

Health Messages and Levels

It is important to consider the quality of the air before organizing outdoor physical activity. The AQHI is an important tool available to assist with this. Below you will find a table to help you decide when outdoor activities should be rescheduled or modified:

Health Risk	AQHI	Health Messages	
		At Risk Population*^	General Population
Low	1-3	Enjoy usual activities.	Ideal air quality for activities.
Moderate	4-6	Consider reducing or rescheduling strenuous activities if you are experiencing symptoms.	No need to modify activities unless you experience coughing/throat irritation.
High	7-10	Reduce/reschedule strenuous activities. Children and the elderly should take it easy.	Consider reducing/rescheduling strenuous activities if you experience coughing/throat irritation.
Very High	10+	Avoid strenuous activities. Children and the elderly should avoid physical exertion.	Reduce/reschedule strenuous activities, especially if you experience symptoms (coughing/throat irritation).

(Adapted from: www.airqualityontario.com/science/aqhi_description.php)
*Those with breathing or heart problems are at increased risk. It is important to speak to your physician or follow recommendations that have been provided to you.
^Refer to *outdoor* activities.

When a high risk AQHI value is expected to last 1-2 hours a Special Air Quality Statement (SAQS) will be issued by Environment and Climate Change Canada (ECCC) and the Ministry of the Environment and Climate Change (MOECC, 2010). When conditions are expected to last for at least three hours, then a Smog and Health Advisory (SAHA) will be issued by ECCC and the MOECC.

Smog

The word smog is a combination of the words smoke and fog. Smog is the most visible form of air pollution. It is a brownish-yellow hazy cloud caused when heat and sunlight react with various pollutants emitted from industry, cars, pesticides and oil based home products. Smog is a year-round problem but most smog watches and alerts occur on hot days usually between May and September.

In addition to the vulnerabilities listed above, children are more likely than adults to experience respiratory effects of smog such as wheezing, coughing and shortness of breath because:

- Smog increases a child's risk of getting sick. Children are more susceptible to infections than adults, smog reduces the respiratory system's ability to fight infection and remove foreign particles.
- Smog can make the symptoms of childhood asthma and allergies worse.
- Studies show that children’s exposure to air pollution can lead to decreased lung function as an adult.

During days where air quality is poor (AQHI is greater than or equal to 7) and a SAQS or SAHA has been issued:

- Avoid strenuous exercise and limit outdoor activity where possible
- Reschedule or plan outdoor activities for early in the morning or late in the day when pollutant levels are lower
- Stay away from high traffic areas to reduce exposure to vehicle exhaust
- Keep well hydrated by drinking lots of clear fluids
- Seek medical attention for those experiencing symptoms such as a tight chest, coughing, wheezing or shortness of breath, weakness or fatigue

Vehicle Idling

Unnecessary idling of vehicles contributes to poor air quality, climate change and can harm your health. A vehicle's exhaust contains particulate matter, VOCs, nitrogen oxides, carbon monoxide and carbon dioxide. These are all considered pollutants and affect the air we breathe. Children are susceptible to the negative effects of idling as their lungs are still developing and breathe in air at a faster rate than adults. The pollutants created from unnecessary idling can lead to:

- Lung infections and irritation, asthma, bronchitis, emphysema
- Some forms of heart disease
- Increased risk of cancers
- Reduced ability of the blood to carry oxygen in the body

Reducing unnecessary idling will cut pollutants; improve air quality and our health. Ways you can reduce or eliminate *individual* idling behaviours are:

- Use a block heater. You don't need to plug the block heater in all night. Set it on a timer for two hours before you drive away.
- On cold days warm up your car by driving it. Computer-controlled and fuel-injected engines are designed to warm up quickly as you drive.
- Turn the car off if you are going to be idle for more than 60 seconds. Turning your car on and off is not hard on your engine and doesn't use more gas.
- Avoid using a drive-thru. Park, turn off your car and walk inside. It's better for the environment and your body.
- Avoid using remote control car starters.
- On warm days open your windows to stay cool. It's better than running the air conditioner, wasting fuel and polluting the air we breathe.

In addition to those noted above, things you can do at your child care center that can help reduce the contaminants from vehicle exhaust in the air children breathe are:

- Move outdoor play areas away from parking areas, drop off and pick up zones
- During drop off and pick up times, close windows that may be near these areas
- Create an idle control program or policy. This will help educate parents, caregivers and staff about the importance of reducing idling and change behaviours.

A number of municipalities within Simcoe-Muskoka have idling by-laws in place. To see if your municipality has an idle reduction by-law or for more information on how you can implement a program or policy at your child care center contact *Your Health Connection* at 705-721-7520 or visit www.simcoemuskokahealth.org.

List of Useful Outdoor Air Quality Resources

Fact Sheets

- Smog (www.simcoemuskokahealth.org)
- Extreme Heat (www.simcoemuskokahealth.org)
- Idling (www.simcoemuskokahealth.org)

Internet Resources

- Simcoe Muskoka District Health Unit (www.simcoemuskokahealth.org) – Environment: Air We Breathe
- Air Quality Ontario (www.airqualityontario.com)
- Air Quality Health Index (http://www.airqualityontario.com/science/aqhi_description.php)
- Natural Resources Canada (http://oee.nrcan.gc.ca)– Welcome to the Idle-Free Zone
- Ministry of the Environment and Climate Change – Air Quality Health Index (www.airhealth.ca)

LEARNING AND PLAY

Potentially hazardous substances can be found in some toys, craft supplies and play equipment. For more information on potential environmental hazards pertaining to toys or arts and craft items see *Infection Prevention and Control* section within this resource.

Outdoor conditions such as poor air quality, extreme heat or cold may also pose a health concern to children. See *Outdoor Air Quality* and *Extreme Weather* sections for more information.

To help protect children during learning and play:

- Wash children's hands after playing on or around pressure treated wood structures
- Treat play equipment made of CCA treated wood (pressure treated wood structures built prior to 2004) with a sealant every one to two years.
- Avoid old, donated or inexpensive toys or other objects that may contain lead
- Choose machine-washable cloth toys, and toys with lead free paint
- Select non-toxic craft supplies and materials
- Avoid products that bear hazard symbols
- Use liquid, gel and paste art materials rather than powders and sprays, however check that the art materials are free of toxics such as lead
- Use water-based art and craft materials rather than solvent-based products
- Check Health Canada's Consumer Product Safety website regularly for product recalls on all toys, play equipment, furniture and accessories; subscribe to the e-mail list (cpsn-subscribe-request@list.hc-sc.gc.ca) to be alerted of consumer advisories, warnings and recalls.
- Check local weather forecasts for extreme weather alerts (heat or cold warnings), AQHI levels and or SAHAs/SAQs.
- When playing outside on hot days, ensure children are protected. Refer to the *Sun Safe Environment* section of this resource for more information.
- Protect children from mosquito bites.

List of Useful Learning and Play Resources

Internet Resources

- Advancing Environmental Health in Child Care Settings (www.healthyenvironmentforkids.ca)
- Is Your Child Safe? Play Time (http://www.hc-sc.gc.ca/cps-spc/pubs/cons/child-enfant/play-jeu-eng.php)
- Environmental Health for Kids - Safe
- Parents To Be - Simcoe Muskoka District Health Unit (www.simcoemuskokahealth.org)
- Canadian Partnership for Children's Health & Environment (www.healthyenvironmentforkids.ca)
- Health Canada- Product Safety Program (www.hc-sc.gc.ca)

PLASTICS

Plastics have become common in our everyday lives. Chemicals are typically added to plastics to give them certain qualities: to make them soft or hard; to give colour; or fire resistance. Some of these chemicals may be harmful to our health.

Three types of plastics that should be avoided when possible are:

polyvinyl chloride (PVC, vinyl)

polystyrene (PS)

polycarbonate (PC)

Note:
#7 contains BPA, however #7 is also used for bio-based plastics (labelled PLA). PLA plastic containers do not contain BPA.

Strategies to Choosing Plastics

General

- Plastics, #5, #1, #2 and #4 are better choices
- Allow vinyl products to air outside for three days before using it indoors and ensure children do not mouth or chew on it.

Toys

- When buying toys, look for PVC- or phthalate-free toys. Avoid toys with “vinyl” or “PVC” on the label, or those with a strong chemical smell.
- Be aware that most inflatable toys (such as those for pool and bath) are made of vinyl.

Food

- When serving hot food, consider using glass, lead-free ceramic, stainless steel or bamboo
- Discard any plastic dishes that are scratched or worn
- Carry water in a stainless steel bottle without a plastic lining, or is labelled BPA-free.
- In the microwave, cook or warm food in glass or lead free ceramic. Avoid plastic containers or plastic wrap (even if they say microwave safe).
- Store food in glass, lead-free ceramic or stainless steel containers.
- When heating liquids, (such as expressed breastmilk or breast milk substitutes) use non-plastic containers and then when the liquid has cooled to lukewarm, transfer it to a sterile BPA free feeding containers.

BPA Free

Polycarbonate plastics such as unbreakable plastic, food storage containers, water bottles, cups and baby bottles can contain BPA. BPA has been deemed a health hazard by Health Canada and must be avoided. BPA-free products are readily available.

For more information refer to:
http://www.simcoemuskokahealth.org/Libraries/JFY_ChildCare/SMDHU_October_27_2012.sflb.ashx

Phthalate Free

Phthalates are used in a variety of consumer products and can be harmful to our health by affecting both reproduction and development. They can be found in fragranced products and can be used to "soften" plastics. Phthalates are known to "leach" out of plastics over time. It is important to monitor children's plastic toys and their use. Health Canada recommends that if children are observed chewing or sucking on items such as vinyl bibs, squeeze or inflatable toys for an extended period of time to remove them from use.

For more information refer to
http://www.simcoemuskokahealth.org/Libraries/TOPIC_Environment/Phthalates.sflb.ashx.

List of Useful Plastics Resources

Fact Sheets

- Plastics (www.healthyenvironmentforkids.ca)
- Environmental Health for Kids- Simple

Internet Resources

- Canadian Partnership for Children's Health and Environment (www.healthyenvironmentforkids.ca)
- Health Canada - Bisphenol A (http://www.hc-sc.gc.ca/fn-an/securit/packag-emball/bpa/index-eng.php)
- Consumer Information - Safety of Plastic Containers Commonly Found in the Home

  http://www.chemicalsubstanceschimiques.gc.ca/fact-fait/plastic-plastique-eng.php

EXTREME WEATHER

What is Extreme Weather?

Climate change is likely to have wide-ranging effects on human health in the coming years. Extreme weather events such as heat waves and cold snaps are becoming more common and will increase in frequency. Both extreme heat and extreme cold present several risks to children compared to adults. Children are unable to dissipate heat or maintain core body temperature the same way an adult can, therefore putting them at risk for heat or cold related illnesses. Precautions need to be taken if learning and play are going to occur outdoors.

It is important to consider the weather when planning for events outdoors. ECCC forecasts provide details about potential extreme weather events. ECCC's weather website, www.weatheroffice.gc.ca, provides access to information on EC Alert Me, an alert program offered by ECCC that allows Canadians to receive notification on extreme weather events such as Heat Warnings and Extreme Cold Warnings. Information on EC Alert Me can be found here.

The Simcoe Muskoka District Health Unit communicates the risks associated with extreme heat and cold events. The importance of reducing exposure to extreme temperatures and ways to protect yourself is reinforced through public messaging and notification to municipalities, community groups and those serving Simcoe-Muskoka's vulnerable populations.

Extreme Heat

Extreme Heat and Health

Extreme heat can impact the human body and children are especially vulnerable to its effects. ECCC issues Heat Warnings when predetermined criteria are met (see Heat Warning section below). When a Heat Warning is issued, the risk of acquiring a heat related illness, particularly for children is increased. During a heat warning, temperatures can overwhelm a child's body leading to sweating or overheating causing heat related illnesses to occur. Children have a high metabolic rate and as a result, produce more heat. Their capacity to sweat is not as great compared to adults; so it is more difficult for them to release heat from their bodies. Dehydration is also greater in children. Children rely on others to provide adequate fluids to them to stay hydrated.

Children who are suffering from obesity, anorexia, developmental delays or illnesses such as diabetes, cystic fibrosis or diarrhea are at even greater risk of acquiring a heat related illness and need to be monitored frequently.

There are several heat related illnesses that may affect children. These are summarized in the chart below. For more information call Health Connection or refer to www.simcoemuskokahealth.org and/or link to the Conditions and Symptoms page.

Examples of Heat Related Illnesses

Condition	Cause	Symptoms	Treatment	Prevention
Heat Rash	Hot, humid environment; plugged sweat glands.	Red, bumpy rash; severe itching.	Provide a cool, less humid environment. It is important to keep the affected area(s) dry to prevent further irritation.	Wash regularly, keeping skin clean and dry.
Heat Cramps	Heavy sweating depleting body's salt causing painful cramps in the muscles. *May also be a sign of heat exhaustion.*	Muscle pain or spasm, normally in the legs, arms or abdomen. May be associated with activity.	Stop any activity and move to a cool place. Ensure that medical attention is sought if cramps do not subside. Do not resume physical activity until several hours after cramps subside.	Avoid strenuous activity during times of high heat and humidity. Maintain fluid levels.
	The following conditions are considered more life threatening. Both heat exhaustion and heat stroke are considered medical emergencies. ***Medical attention must be sought immediately if signs of fainting,*** ***heat exhaustion or heat stroke are observed.***			
Fainting	Lack of blood flow to the head, causing loss of consciousness.	Cool moist skin; weak pulse.	Ensure the child is seated or lying down with legs raised. Rehydrate slowly and move to a cooler area	Reduce activity levels and heat exposure. Drink fluids regularly.
Heat Exhaustion	Inadequate salt and fluid intake causes body's cooling system to start to break down. Body overheats but not above 40ºC.	Heavy sweating; cool, moist skin; muscle cramps/pain; headache; nausea; weak pulse; normal or low blood pressure; feel faint or weak; shortness of breath; chest or abdominal pain	Consider medical attention. Cool the body by taking a cool shower/bath; seek an air conditioned environment. Rest and drink cool beverages (non-alcoholic, non-caffeinated).	Reduce activity level in hot humid environments; maintain fluid levels.
Heat Stroke	Body's salt and water is depleted; sweating stops; and body temperature rises.	High body temperature 41ºC or more; red, hot and dry skin; no sweating; rapid pulse; seizures; abnormal mental status; nausea.	Emergency – call 911 Take child to a shaded area immediately. Cool the body as fast as possible (cool bath/shower; wrap the child in a wet sheet etc.). Seek medical assistance immediately.	Reduce activity levels. Maintain fluid levels. Recognize signs and symptoms.

Heat Warnings

ECCC will issue a Heat Warning when the forecast is expected to reach the following minimum thresholds:

- Two consecutive days of daytime maximum temperatures are expected to reach 31ºC or more **and** nighttime minimum temperatures are expected to fall to 20ºC or more

  OR

- Two consecutive days of humidex values are expected to reach 40ºC or more.

SMDHU issues Heat Warnings to our community and municipal stakeholders once notification as received by ECCC. During these notifications the SMDHU will communicate the health risks associated with exposure to hot temperatures, so residents of Simcoe Muskoka can better protect themselves against the heat.

For more information about Humidex and Heat Warnings refer to ECCC website. (http://www.ec.gc.ca/meteo-weather/default.asp?lang=En&n=d9553ab5-1#heat.)

Humidex & Heat

The Humidex (humidity index) is an index that describes how hot weather feels. It takes both temperature and humidity into consideration to derive a perceived temperature and comfort level. The Humidex index is an important tool to refer to when evaluating risk during a heat warning. When the humidity is high sweat does not evaporate as well from the body. This is particularly important when it comes to children, as they already are more vulnerable to the effects of heat.

Category	Humidex	Health Effects
Caution	<29	**Little discomfort. Fatigue possible with prolonged exposure and/or physical activity.**
Extreme Caution	30-39	**Some discomfort. Heatstroke, heat exhaustion and heat cramps possible with prolonged exposure and/or physical activity.**
Danger	40 – 54	**Great discomfort. Avoid Exertion and seek a cool shady location. Heat cramps or heat exhaustion likely. Heat stroke possible with continued exposure and/or physical activity.**
Extreme Danger	**> 55**	**Heatstroke imminent with continued exposure.**

Air Quality and Heat

Air quality and humidity can present challenges when coupled with high temperatures. Generally, on hot days air quality can become poor and SAQS or SAHAS could be issued (Refer to the AQHI section of this chapter for more information).

Precautions for Heat Days

Keep the children cool by:

- Remembering that infants who are exclusively breastfed do not require additional water to maintain hydration levels during hot weather, offer breastmilk based on feeding cues.
- Knowing water requirement for infants 7-12 months is met by water from human milk, complementary foods and other beverages.
- Frequently offering children fluids (non-caffeinated) before they are thirsty.
- Having children wear lightweight, light-coloured, loose-fitting clothing.
- Staying cool indoors and if possible, in an air-conditioned place.
- Having electric fans for providing comfort by increasing evaporation, however when the conditions are extreme (i.e. high humidity), fans will not prevent heat-related illness.
- Keeping physical activity to an absolute minimum. Reschedule outdoor play to cooler parts of the day, choose a shady location or move the activity indoors.
- Moving learning and play to an air-conditioned area (if possible)
- Drawing blinds/curtains to prevent radiant heat from entering classrooms
- Using water play tables

Refer to the S*un Safe Environment* safety section within this child care resource for more information on sun safety.

Extreme Cold

Extreme Cold and Health

Although most Canadians have adapted to cold environments, extreme cold poses many dangers to children and their caregivers. As noted above, children are not able to regulate their internal body temperature as well as adults and therefore caution must be taken during the late fall and winter months.

ECCC issues extreme cold warnings when predetermined criteria are met (see Extreme Cold Warning section below). Once an extreme cold warning is issued, the risk of acquiring a cold related illness, particularly for children increases.

Cold related illnesses occur when the body loses heat faster than it can maintain it. They can be localized (frost bite, frost nip) or generalized (hypothermia). If a cold related illness is suspected in a child it is always recommended to seek medical attention. Below is a table containing common cold related illnesses:

Condition	Cause	Symptoms
Frost Nip	• Ear lobes, noses, cheeks, fingers, or toes are exposed to the cold and the top layers of skin freeze	• Skin turns white or yellowish and may feel numb • Skin feels soft to the touch • Experience a painful tingling or burning sensation
Frost Bite	• Effects nose, ears, cheeks, chin, fingers, or toes, bare extremities • Exposure to extreme cold or contact with extremely cold objects • Tissue temperature falls below freezing (0°C), or when blood flow is obstructed	• Pale grey, waxy textured skin • Skin cold to the touch • Numbness and localized pain • Swelling, blistering
Hypothermia	• The body is unable to compensate for heat loss and core temperature starts to fall	• Shivering, confusion, weakness • Mumbling, stumbling • Pale skin colour. For infants look for cold reddish skin and low energy

Winter asthma may also be triggered or aggravated due to cold, dry air. Ensure children suffering from asthma are monitored closely.

Extreme Cold Warnings

Environment and Climate Change Canada will issue an extreme cold warning when the forecast is expected to reach the following minimum thresholds:

- South-central and Southwestern Ontario (Simcoe County):
  - Issued when the temperature or wind chill is expected to reach -30ºC for at least 2hrs.
- Southeastern Ontario (District of Muskoka):
  - Issued when the temperature or wind chill is expected to reach -35ºC for at least 2hrs.

SMDHU will communicate the health risks associated with extreme cold warnings to the public, and community and municipal stakeholders. For more information about extreme cold warnings or to sign up for alerts refer to ECCC website. (http://www.ec.gc.ca/meteo-weather/default.asp?lang=En&n=d9553ab5-1#heat.)

Wind Chill

As with Humidex during the summer, wind chill is an important winter risk factor to consider when planning outdoor learning and play in the winter months. Wind chill takes into consideration the cooling effect seen from temperature and wind. Wind takes the protective layer of air close to the skin away and draws heat away from the body.

For more information about wind chill and its influence on cold related illnesses, visit ECCC's website – Canada's Wind Chill Index (http://www.ec.gc.ca/meteo-weather/default.asp?lang=En&n=5FBF816A-1).

Precautions for Cold Days

- Cover exposed skin (exposed skin can become frostbitten in 30 seconds).
- Ensure children wear winter hats, mittens and scarves. Up to 40% of body heat loss can occur through the head. Winter wear will protect the chin, lips and cheeks against frost nip and frost bite.
- Keep children indoors if the temperature falls below –25°C, or –28°C or greater with the wind chill.
- Drink warm fluids, ensure they are caffeine free.
- If children are sweating during physical activity, cool off a little as wet clothes can freeze.
- Wear clothes in layers: inner layer, middle layer and outer layer.
- Keep moving. Limit time sitting – stand up and move around.
- Take shelter from the wind – this can reduce wind chill exposure.
- Always be alert for signs of frostbite and hypothermia.
- Plan ahead! Refer to your local weather report or ECCC for weather watches and warnings (www.weatheroffice.gc.ca).

List of Useful Extreme Weather Resources

Fact Sheets

- Extreme Heat (www.simcoemuskokahealth.org)
- Extreme Cold (www.simcoemuskokahealth.org)
- Playing Outdoors Is Your Child Safe? Play Time. (http://www.hc-sc.gc.ca/cps-spc/pubs/cons/child-enfant/play-jeu-eng.php)
- Frostbite: Canadian Paediatric Society (http://www.caringforkids.cps.ca/handouts/frostbite)
- Environment and Climate Change Canada: Being Prepared for Summer (www.ec.gc.ca)

Pamphlets

- Climate Change and Your Child's Health Brochure (www.cich.ca)
- Extreme Cold: A Prevention Guide to Promote Your Personal Health and Safety (https://www.cdc.gov/disasters/winter/guide.html)
- Extreme Heat: A Prevention Guide to Promote Your Personal Health and Safety (https://www.cdc.gov/disasters/extremeheat/index.html)

Internet Resources

- Simcoe Muskoka District Health Unit (www.simcoemuskokahealth.org)
- Centers for Disease Control and Prevention: Emergency Preparedness and Response (www.bt.cdc.gov)
- Environment and Climate Change Canada (www.ec.gc.ca)

VECTOR BORNE DISEASES

Vector borne diseases can pose a threat to Ontarians. If a disease is "vector borne" it means that it can be spread to us through the bite of an infected insect such as a mosquito or tick. In Ontario West Nile virus, Eastern Equine Encephalitis and Lyme are considered the most common.

What is West Nile Virus, Eastern Equine Encephalitis Virus and Lyme Disease?

WNV

WNV is a mosquito-borne virus that can cause illness, including in rare cases, encephalitis (inflammation of the brain).

WNV can be spread to humans by the bite of an infected mosquito. Mosquitoes become carriers of the virus when they feed on infected birds. Human infections from the virus are rare and those affected usually experience only mild symptoms such as fever or headaches. The illness can be serious and inflammation of the brain (encephalitis) can occur in a small number of cases.

EEEV

Eastern Equine Encephalitis virus (EEEV) is a mosquito-borne virus that can cause illness, including in rare cases, encephalitis (inflammation of the brain).

EEEV can be spread to humans by the bite of an infected mosquito. Mosquitoes become carriers of the virus when they feed on infected birds. Human infections from the virus are rare, however EEEV is the most severe mosquito-borne disease in North America. The illness can affect the central nervous system and cause severe complications and death.

EEEV has been identified in Ontario in mosquitoes and in horses, but to date *no human cases have been reported*.

Lyme Disease

Lyme disease is a tick-borne disease that is spread to humans and pets through the bite of an infected blacklegged tick (Ixodes scapularis or "Deer Tick"). Blacklegged ticks are commonly found in wooded areas, on long grasses along walking or hiking trails or in overgrown areas between forests and open spaces. It is important to note that not all blacklegged ticks carry the bacteria (Borrelia burgdorferi) responsible for causing Lyme disease**.**

If bitten by a tick, the faster it is removed the better. You cannot tell if a tick is carrying the bacteria responsible for Lyme by looking at it. Prompt removal (within 24hrs) reduces the chance of acquiring the bacteria that causes Lyme. Initial symptoms can vary from person to person:

- Fatigue
- Fever

- Chills
- Skin rash (may resemble a bulls eye, but may not be seen in all cases)
- Headache
- Muscle spasms or weakness

What Can Childcare Centre Staff Do To Help Prevent WNV and EEEV?

Reduce mosquito breeding sites on Child Care Centre property

Mosquitoes lay their eggs in stagnant water. Removing or weekly draining of objects that could contain stagnant water can reduce the number of mosquitoes around your facility. Check roof gutters, planters, birdbaths, recycling containers, toys that hold water, water play equipment and other potential areas where water can collect.

Prevent mosquitoes from entering buildings

Mosquitoes can enter buildings through open or unscreened windows or doors or broken screens. Ensure that window and door screens at your facility are tight-fitting and in good repair.

Protect yourself from mosquito bites

Mosquitoes are most active from May through September when the weather is warmer. Typically day nursery hours are not when mosquitoes are most active, which is at dusk and dawn. But for those field trips or special situations where mosquitoes could be in the area, take the following precautions:

- Notify parents of the situation and ask them to apply insect repellent to their children as per the personal insect repellents manufacturer's recommendations.
- When outside, everyone should wear light coloured, long-sleeved shirts, long pants.

What can Childcare Center Staff do to help prevent Lyme?

Protect yourself from tick bites

Lyme disease can cause severe symptoms but is preventable when precautions are taken to reduce your risk when spending time outdoors in areas where ticks may be present.

- Wear an insect repellant that contains DEET. Be sure to follow the manufacturer's directions. For more information on insect repellants refer to Health Canada's website.
- Wear light coloured clothing. This will make ticks easier to see and remove before they start to feed.
- Wear closed foot wear and socks.
- Check yourself and others for ticks following outdoor activities in areas where ticks might be present. It is important to check areas such as the groin, scalp, behind ears and in armpits.

I found a tick attached to a child – what do I do?

It is possible to remove a tick that has latched onto you or someone else. Be sure to follow these steps:

1. Using clean tweezers, carefully grasp the tick as close to the skin as possible. Pull slowly upward, but try not to twist or crush the tick.
2. Once the tick is removed, wash the area where you were bitten with soap and water or disinfect with alcohol or hand sanitizer.
3. If parts of the tick's mouth break off and remain in your skin, remove them with tweezers. If this is difficult to do, leave them alone and let the skin heal.
4. If possible, save the tick in a zip-lock bag or pill bottle. Record the location and date of the bite. Ticks can be submitted to any SMDHU health unit office for identification and testing. For more information call Health Connection or refer to www.simcoemuskokahealth.org/topics/Environment.
5. If you are not comfortable removing a tick, see a health care provider as soon as possible (Health Canada, 2015).
6. If you develop symptoms of Lyme disease in the weeks after being bitten, contact your health care provider right away. If you have not already submitted your tick to SMDHU, bring the tick with you to your medical appointment, as it may help the doctor assess your illness.

List of Useful Vector borne Disease Resources

Fact Sheets

All vector borne disease factsheets can be found on the SMDHU website under the topic "Environment – Vector Borne Disease. (www.simcoemuskokahealth.org)

- WNV
- EEEV
- Lyme Disease

Pamphlets

- Pest Management Regulatory Agency –Safety Tips on Using Personal Insect Repellent (http://www.hc-sc.gc.ca/cps-spc/pest/index-eng.php)

Internet Resources

- Healthy Canadians: Lyme Disease, West Nile Virus (www.healthycanadians.gc.ca)
- Outdoor Health: Lyme disease, West Nile Virus (www.ontario.ca/page/outdoor-health)

PESTICIDES

Commercial pesticides may get rid of pests, but they can also kill soil bacteria, worms, honeybees, birds and other species that are beneficial to the environment. This means that pesticide use can actually make your lawn and garden more vulnerable to diseases and other pests.

Impacts on Children

There is concern that exposure to pesticides can pose higher risks for children. This is due to their:

- Greater hand-to-mouth contact with soil and house dust
- Smaller size, a set amount of chemical will affect a small child more seriously than a full grown adult.
- Children spend more time in close proximity to and contact with the ground where pesticides build up and exposures can occur.
- Growing and developing bodies
- Immature metabolic systems that cannot break down toxins as well as adults

Pesticides and Your Health

Pesticide use is controversial. Many people wonder if exposure to pesticides causes health problems, and if so, what are the risks.

Impacts on Health

The answers to these questions are complex. Studies about the impact of pesticides on human health are not consistent, nor are they conclusive. However, research has shown that pesticides that are used for agriculture, lawns, and gardens are associated with:

- Some cancers (especially leukemias & lymphomas)
- Reproductive effects (including fertility problems and adverse pregnancy outcomes)
- Neurological effects (such as Parkinson's disease)

Research continues to look into the effects of pesticides on human health, including the impact of exposure on the immune system and brain development.

The Bottom Line

Since the long-term health effects of pesticide exposure are not fully known, it is best to avoid their use and to take precautions against being exposed to them.

Natural Options

Natural lawn and garden care practices can help your grass, flowers and other vegetation thrive.

Natural lawn and garden care methods include:

- Aerate lawn
- Mow grass 6-8 cm high
- Feed lawn with grass clippings
- Water grass deeply and infrequently
- Fertilize garden with compost
- Grow ‘native’ plants

By following these practices, you can eliminate the need for commercial fertilizers and pesticides. Many lawn care operators have ‘natural’ options available.

Keep Chemicals in Check

There may be occasions, when chemicals need to be used to protect health. Examples of this might be: poison ivy or oak, West Nile virus control. If using pesticides, follow these precautions:

- Buy only as much product as you need
- Follow label directions exactly
- Store chemicals away from children and food
- Never dump leftover chemical down the drain, toilet, or on the ground
- Never use pesticides in windy conditions or on smog alert days
- Always wear protective clothing when mixing or applying pesticides
- Take empty containers to a waste management site for disposal
- After handling chemicals wash hands thoroughly with soap and water
- Avoid breathing spray or smoking when using pesticides
- Schedule application of pesticides when children are not present (i.e.: Daycares)

List of Useful Pesticide Resources

Fact Sheet

- What you should know about Pesticides and your Health
  (www.simcoemuskokahealth.org)

Internet Resources

- Health Canada: Pest Management Regulatory Agency (www.hc-sc.gc.ca)
- Go for Green, Child Development Education (www.goforgreen.ca)
- Toronto Public Health - Pesticides (www.toronto.ca)
- Healthy Canadians – Are Pesticides Safe? (http://healthycanadians.gc.ca)

General Child Care and the Environment Resources

Pamphlets

- Health Canada: Healthy Environments for Children: What You Can Do!
  (www.hc-sc.gc.ca)
- Environmental Risks to Preconception, Prenatal and Child Health
  (www.beststart.org)
- Playing it Safe: Childproofing for Environmental Health
  (www.healthyenvironmentforkids.ca)

Books

- Child Health and the Environment - A Primer
  (www.healthyenvironmentforkids.ca)
- Playing it Safe - Service Provider Strategies to Reduce Environmental Risks to Preconception, Prenatal and Child Health
  (www. cela.ca)

Internet Resources

- Simcoe Muskoka District Health Unit (www.simcoemuskokahealth.org)
- Creating Health Home Environments for Kids: Top 5 Tips
  (http://www.healthyenvironmentforkids.ca/resources/creating-healthy-home-environments-kids-top-5-tips)