Environmental Health while Teaching Outdoors in Northwestern Ontario

Includes information on: the benefits of learning outdoors, Blastomycosis, needle safety, ticks and tick-borne disease, and sun safety

Northwestern Health Unit
September 2020

For more on any of the information presented in this package, call the NWHU at 807-468-3147.
The Benefits of Learning Outdoors

COVID-19 has changed the way teaching looks. From desks 6ft apart to plexiglass barriers, you and your students may be itching to get outside in the open air. Whether it’s warm or cold outside, there are plenty of good reasons to move your class to the great outdoors:

The most obvious reason for teaching outside during COVID-19 is the potential for easier physical distancing and less need for wearing masks. Taking your class outside has many benefits past COVID-19 precautions though, including:

- Improving physical, mental, and social health
- Increased school performance
- Supporting emotional, behavioural, and intellectual development
- Increased enthusiasm for learning
- Increased focus when back in the classroom
- Helps children develop a sense of place and civic attitudes and behaviours

Of course, learning outdoors has its risks. In this package, you’ll learn how to mitigate such risks to keep yourself and your students safe, and let you enjoy the benefits of the outdoors.

Additional Resources on Outdoor Learning:

- USDA Guide to School Gardens
- Evergreen Outdoor Learning and Play Resources
- University of Wisconsin LEAF School Grounds Program
- The Surprising Benefits of Teaching a Class Outside – Greater Good Science Center

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**Blastomycosis**

**What is it?**
Blastomycosis is a rare infection caused by a fungus, *Blastomyces dermatiditis*. Blastomycosis affects the lungs or skin. Pneumonia caused by the spores may present with fever, chills, cough, sore chest, weight loss, aches and fatigue. Skin infections caused by the spores may begin with lesions on the face or extremities, starting out as painless red pimples progressing to crusty or open wounds. Weight loss, fever and fatigue can also accompany these skin lesions.

**Why is it a concern in Northwestern Ontario?**
The landscape in this area supports growth of *B. dermatiditis*. This fungus can be found anywhere, but it is more common in areas of acidic, moist soil such as areas where there are fallen trees that are rotting. Kenora District accounted for 43% of Ontario hospitalizations over the past 5 years where Blastomycosis was the main cause.

**How is it transmitted?**
Spores can get into your body through inhalation or through cuts in your skin. Some people who come into contact with the fungus will not get sick at all, but others may become severely ill. Pets become infected more often because their faces are close to the ground. People whose immune systems are compromised are more likely to become severely ill.

**What can you do about it?**
Unfortunately, there is no proven way to prevent Blastomycosis. There is no vaccine, and no environmental control product to eradicate it from the soil. It cannot be seen. A pet or person can become infected in one location, and hundreds of others may be exposed to the same location and not become infected. When illness results, the symptoms usually arise weeks or even months after exposure, so pinpointing the location of exposure is very difficult in many cases.

Although there is no evidence to support use of any specific personal protective equipment (no proof it will definitely protect you), consider wearing work gloves, long pants and sleeves, enclosed footwear, a dust mask and eye protection when performing work that disturbs soil, especially when your face will be near the soil. Changing the amount and length of time you are exposed to soil dust may reduce risk. Individuals whose immune system is weakened by chronic illness or medications should also consider avoiding exposure to disturbed soil, especially in moist, acidic areas.

Blastomycosis is much more common in Northwestern Ontario than in other parts of Ontario. If you have been outdoors in Northwestern Ontario and develop symptoms as described, or if you are starting a medication that will lower your immune system, tell your doctor you may have been exposed to the fungus that can cause Blastomycosis. Blastomycosis would most likely be treated using antifungals.

**Main Messaging for Students:**
- Blastomycosis is rare, but can make you very sick
- You can’t get Blastomycosis from another person or animal
- Don’t dig around in the ground

For more on any of the information presented in this package, call the NWHU at 807-468-3147.
Needle Safety

Safe Needle Disposal

Needles can be brought in to the Northwestern Health Unit. Some pharmacies may take them; call ahead to find out.

The Northwestern Health Unit provides Safe Needle Pickup Kits for people to use in case they find a needle. Call your local NWHU office to get a kit.

If you find a discarded needle, don’t panic. Needles can be picked up safely. By picking up a needle you find on the ground, you are helping to keep your community clean and safe.

Steps to Safe Pick-up:

1. Put on gloves if you have some.
2. Use a hard-sided plastic container for disposal.
3. Pick up the needle with the point facing down. Keep the needle pointing away from you. If you want, you can use tongs to pick it up.
4. Place the needle, point end first, into the container.
5. When everything has been picked up, put the lid on the container and tape it shut.
6. Wash your hands or clean them with hand sanitizer.
7. Return the container and its contents to your local Northwestern Health Unit office.

What to do if there is a needle stick injury:

A needle stick injury happens when a person’s skin is pierced or stabbed with a needle (or other sharp object). This injury may put a person in contact with blood or other body fluids from another person. It is important to follow these steps if get a needle stick injury:

1. Let the wound bleed.
2. Wash the wound out with soap and water.
3. Go to the emergency department immediately.

If a needle stick injury occurred at work, report the injury to your Occupational Health and Safety Committee and fill out the Workplace Safety and Insurance Board paperwork.

If you are unsure or uncomfortable with picking up a needle, call the NWHU for help.

Sharps Boxes Locations (Kenora)

Indoor Units:
- Harbourfront pavilion bathrooms
- Rec Center inside washrooms and baseball diamond washrooms
- Kenora Library
- NWHU bathrooms
- Fellowship
- Central Ballpark inside washrooms

Outdoor Units:
- NWHU – behind building
- Back parking lot at City Hall – retaining wall
- Scotia Bank Plaza, the walkway down towards Harbourfront, south side
- Behind Museum, facing Courthouse
- Downtown Parkade – outside wall by the entrance
- A & W ball diamonds – behind washroom area
- Behind Jubilee church
- Harbourfront washrooms
- Rec Center outside washrooms
- Shaw Cable in Keewatin

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Talking to Kids about Needles
Talking to kids about needles may be uncomfortable, but it is important for children to know what to do if they find a needle or other sharp objects on the ground.

Talking about needles can be done in an age-appropriate manner. For example, for younger children, having this conversation does not need to include talking about drugs and addiction, but older children could be taught about the dangers of injection drug use.

Remind children that there are many things on the ground that can harm them, and teach them to not touch anything they find on the ground that does not belong to them.

Injuries from needles can be prevented by making sure children know what to do.

For younger children (up to grade 6), talk about:
- How needles on the ground can be sharp and unsafe
- “Don’t Touch” needles or other sharp objects
- Asking an adult for help
- Making sure their friends away from a needle on ground

For older children (grades 7-12), talk about:
- Don’t touch the sharp end of the needle
- If possible, use gloves and tongs to pick up needle
- Never put the cap back on needle
- Place needle, point end first, in hard-sided plastic container, and tightly seal
- Wash your hands with soap and water after picking up needle
- Give sealed container to an adult
- Never put needles down the toilet, or in the garbage
- Ask an adult for help if you do not feel comfortable picking up a needle
Tick Safety

Ticks live in outdoor places like grassy fields, the woods, gardens, beaches, and parks. They thrive in tall grasses and bushes and are mostly found in broad leaf vegetation. Ticks need blood to survive, so they choose to live in habitats frequented by potential mammal hosts. Areas with dense deer populations are often Lyme disease hotspots.

Tick-borne diseases occur when a person is infected with an illness from the bite of an infected tick. In Northwestern Ontario there are several species of ticks. The only species responsible for spreading tick-borne diseases to humans in our area is *Ixodes scapularis* (A.K.A the deer tick or blacklegged tick). Other tick species, such as the more common wood tick, are not known to pass illnesses to humans.

The risk of being bitten by any blacklegged tick mainly depends on the activities of the person. A person is more likely to be bitten by a blacklegged tick if walking through a wooded or bushy area and if not wearing protective clothing or using an appropriate insect repellent.

**Tick Prevention**
- Wear bug repellent containing 20% or more of the active ingredient (like DEET)
- Tuck pants into socks
- Wear light-coloured clothing to spot ticks easier
- **Tick checks**
- Showers
- Change clothes/dry clothes
- Avoid thick brush and grass
- Help younger kids apply repellent and keep it away from eyes, mouth and hands

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**Anaplasmosis**

Anaplasmosis is an infection caused by the bacteria *Anaplasma phagocytophilum*. Humans can become infected with this bacterium when they are bitten by an infected blacklegged tick, also known as a deer tick. This type of tick is found throughout Ontario, including the Northwestern Health Unit region. Blacklegged ticks are very small and hard to see. Not all blacklegged (deer) ticks carry the bacterium that causes Anaplasmosis.

Symptoms of Anaplasmosis usually begin within five days to three weeks of being bit. The symptoms include: fever, headache, chills, muscle and joint pain, fatigue and nausea. Less common symptoms include abdominal pain, vomiting, cough and confusion. A rash is rarely noticed. Anaplasmosis is most often a mild and self-limiting illness. More serious infections and complications may occur in people who have weak immune systems or in older adults.

**Risk of Anaplasmosis**

The risk of getting Anaplasmosis depends on the risk of being bitten by a blacklegged tick that can carry the bacteria for Anaplasmosis.

The fall of 2017 was the first year that a small number of ticks in Kenora and the surrounding area tested positive for the bacteria that causes Anaplasmosis. It is uncertain whether ticks will continue to test positive. Further tick surveillance is required to determine if this is an ongoing risk for this area. If bitten, disease can be prevented by removing the tick within 12 to 24 hours.

**Diagnosis and Treatment**

Anaplasmosis is diagnosed by clinical signs and symptoms and blood testing. Early antibiotic treatment is recommended. If you have symptoms of Anaplasmosis, see your doctor.
Tick Identification

Ticks can range in size from a poppy seed in the nymph stage to a pea when they are engorged and full of blood. Wood (dog) ticks are larger than blacklegged (deer) ticks. For example, an adult female wood tick is about 0.5 cm long and an adult female blacklegged tick is about 0.3 cm long.

Ticks can be identified online. By visiting etick.ca or downloading the app on Google Play or the Apple App Store, you can submit a photo of a tick that was removed from an animal or human for free identification. Send in photographs of your tick and an expert will identify it within 48 hours. They will then contact you with the results via email and provide the necessary public health information. All ticks results are posted on an interactive public tick map.

Tick identification cards are available from the Health Unit that show the difference between wood (dog) ticks and the blacklegged (deer) tick that can carry tick-borne disease. You can also get a 'tick kit' that includes information and a tool to help remove ticks that are stuck in the skin.

Tick Removal

1. Use tweezers to grasp the tick as close to the skin as you can.
2. Pull upward with steady, even pressure. Don’t twist or jerk the tick.
3. After removing the tick, clean the bite area and your hands with rubbing alcohol or soap and water.
4. Drop the tick into a container of rubbing alcohol (hand sanitizer or mouth wash containing alcohol works too).

Avoid folklore remedies such as “painting” the tick with nail polish or petroleum jelly, or using heat to make the tick detach from the skin. Your goal is to remove the tick as quickly as possible—not wait for it to detach.

What do I do with a tick that I’ve found? Drop the tick into a container of rubbing alcohol (hand sanitizer or mouth wash containing alcohol works too.) The Northwestern Health Unit does not accept ticks for lab testing.
Main Messaging for Students:

- Wear bug spray on bare skin or wear clothes with built-in repellent
- Take a shower at night during tick season
- Avoid taking short cuts through thick brush and grass
- Don't put on old clothes that might have ticks still crawling on them
- “Check for ticks every night before bed.”
- “Always tell your parent/guardian if you were bitten by a tick.”
- (Grades 1-6): “Don’t try to pull out the tick yourself”
- Educate grade 7-12 students on how to properly remove and dispose of ticks.

Lyme Disease

What is it? Lyme disease is an infection caused by the bacteria *Borrelia burgdorferi*. These bacteria are spread by the bite of a blacklegged (deer) tick. The blacklegged tick is found throughout Ontario, including the Northwestern Health Unit region.

Where is it present? Lyme Disease is present in our catchment area and should be considered a possibility if a blacklegged tick was attached for more than 24 hours, AND from Kenora, Rainy River, Fort Frances or the areas surrounding these municipalities. If bitten, disease transmission can be prevented by removing the tick within 24 hours.

How do you get it? Not all blacklegged (deer) ticks carry the bacterium that causes Lyme disease. Ticks must be attached for at least 24 hours for transmission of the bacterium to occur, and is most likely if they have been attached for at least two days of feeding. Ticks are very small and can be hard to see, so it’s important to do a Tick Check every day after being outdoors.

What are the symptoms? Symptoms of Lyme disease usually begin within three days to one month of being bit. The symptoms include: fever, headache, muscle and joint pain, fatigue, and a skin rash that looks like a red bull’s eye.

How likely is a tick bite? The risk of being bitten by a blacklegged tick largely depends on the activities of the person. A person is more likely to be bitten by a blacklegged tick if they are:
- walking through a wooded or bushy area
- not wearing protective clothing
- not using an appropriate insect repellant.

Diagnosis and Treatment - If a black-legged tick was attached for more than 24 hours, AND from Kenora, Rainy River or the areas surrounding these municipalities, consider visiting a health care provider within 72 hours of removing the tick.

More Resources on Ticks and Tick-Borne Disease:

For teachers:
- NWHU Tick-borne Disease and Ticks
- CanLyme Lyme Basics
- Ologies Podcast – Acarology (June 5/19), Disease Ecology (June 18/19)

For students:
- CDC “Don’t Let a Tick Make You Sick!” comic
- CDC fact sheet and crossword
- Global Lyme Alliance’s Tick Check Poster
- Global Lyme Alliance’s Teacher and Student Resources
Sun Safety

Skin cancer is one of the most common forms of cancer, despite being highly preventable. Every time skin is exposed to UV radiation, the structure and function of our skin cells change which accumulates and can lead to skin cancer.

Kids are especially susceptible to the damaging effects of ultraviolet radiation as their young skin and eyes are thinner and more sensitive. A person’s risk for developing melanoma skin cancer is strongly associated with the amount or degree of sun exposure they experience in childhood or in their teenage years, even though the effects of UV radiation may not appear until later in life.

Schools can create a safe environment by creating awareness and implementing a skin protection curriculum. Increasing shade by planting trees and installing shade structures on the school site protects users from the sun.

Ultraviolet Radiation

Check the UV Index before you go out. This can be found on most weather reporting websites and channels.

<table>
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<tr>
<th>Exposure Category</th>
<th>UV Index</th>
</tr>
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<tbody>
<tr>
<td>LOW</td>
<td>0 - 2</td>
</tr>
<tr>
<td>MODERATE</td>
<td>3 - 5</td>
</tr>
<tr>
<td>HIGH</td>
<td>6 - 7</td>
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<tr>
<td>VERY HIGH</td>
<td>8 - 10</td>
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<tr>
<td>EXTREME</td>
<td>11 +</td>
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UV colour-changing beads can make a great craft for teaching children about where and when ultraviolet radiation is present. Contact the NWHU and ask for the Environmental Health department for more information or access to resources.

Air Quality

While you’re checking the UV index, keep an eye on the air quality health index (AQHI) as children with asthma or other breathing difficulties may be more sensitive to air pollution. You can find the AQHI on the Government of Canada website and watch out for Air Quality Alerts in the case of forest fire smoke or other air pollutants in the area.

SunSense

The SunSense Certification acknowledges and celebrates schools that have created a sun safe environment to protect students and staff from harmful ultraviolet radiation. By using a multi-component approach that engages parents, staff and students, schools can influence sun safety behaviours and create a sun safe culture within the school community.

Schools can gain the title of being a SunSense Certified school by completing a 7-step process outlined in the Certification Guide. At each step, schools will earn points by completing key milestones and activities. Schools that earn enough points are awarded a Gold, Silver, or Bronze level SunSense certificate. Registration deadline is in early November.
Main Messaging for Students:

UV rays can be harmful and can cause skin cancer. Remember to:

- **SLIP** – Wear weather appropriate clothing that provides sun protection.
- **SLAP** – A wide brim hat protects your ears, neck and face.
- **SLOP** – SPF 30 or higher sunscreen to protect your skin.
- **SEEK** – Seek shade or create your own where it is not available.
- **SLIDE** – Protect your eyes.

“Short shadow, seek shade.”

Skin cancer is the most common cancer in Canada.

![UV rays cause up to 90% of melanoma cases in North America.](image)

Incidence rates of melanoma in North America are the 2nd highest in the world.

Skin cancer is highly preventable. Use SunSense.

- **Seek shade**
- **Cover up**
- **Wear a wide-brimmed hat**
- **Wear sunglasses**
- **Wear sunscreen**

Use of indoor tanning equipment before the age of 35 leads to increased risk of melanoma. Don’t use indoor tanning beds.

- **59%** of young women use indoor tanning equipment.
- **27%** of young women use indoor tanning equipment.

Additional Resources on Sun Safety:

- Ottawa Public Health “Safe Fun in the Sun” Curriculum Resource for Kindergarten-4th Grade
- Alberta Health Services Sun Safety and Toolkit
- Government of Canada - Sun Safety
- Canadian Dermatology Association – Videos and PSAs
- World Health Organization – Ultraviolet Radiation