Lyme Disease Fact Sheet

WHAT IS LYME DISEASE?

Lyme disease is caused by bacteria called Borrelia burgdorferi. This bacterium is carried by certain ticks, and spreads to the host when the tick bites. The bacterium is normally found in small animals such as mice, squirrels, chipmunks, shrews, etc.

Lyme disease in humans can have a range of effects from rashes and flu-like symptoms to more serious symptoms including arthritic, cardiac and neurological effects. It can often be effectively treated, especially if detected in the early stages.

Lyme disease is an occupational concern for people who work outdoors. Any person who spends time outdoors is also at risk.

In the United States, Lyme disease is the most common “vector borne” disease. Vector is the term for any insect or arthropod that carries and transmits a disease pathogen (virus, bacteria, etc.).

How is Lyme disease transmitted?

Ticks usually live in woods or tall grasslands in Canada, the United States, Europe and Asia. Ticks infected with Borrelia burgdorferi spread the disease when they feed on blood from the host. Ticks cannot fly – they hang onto small bushes or tall grasses and are usually found close to the ground. They wait for an animal or person to pass near them and when the animals or person make contact, the ticks attach themselves to the skin to feed.

In North America, Lyme disease is transmitted (spread) mainly by two species of ticks:

- Blacklegged tick (sometimes called the deer tick), Ixodes scapularis.
- Western blacklegged tick, Ixodes pacificus.

Regulators also states that pets, especially dogs, can get Lyme disease, but there is no evidence that pets can spread the infection directly to humans. However, pets can carry infected ticks into the home or yard.

What are the signs and symptoms of Lyme disease?

Tick bites are usually painless and most people do not know they have been bitten. Signs and symptoms of Lyme disease vary greatly from person to person.

Symptoms often include:

- Fatigue.

- Fever or chills.
- Headache.
- Spasms or weakness.
- Numbness or tingling.
- Swollen lymph nodes.
- Skin rash.

A typical sign of infection is an expanding rash, sometimes referred to as a “bull’s eye” rash because it may have rings spreading from the bite site (known as erythema migrans). It is important to note that rashes without the bull’s eye may occur, and that rashes do not appear in every case of Lyme disease infection. If a rash is to appear, it usually appears in 7 to 14 days, but may appear three days to a month after infection. The rash can last up to 8 weeks. It can be warm to the touch, but may not be painful or itchy.

Additional symptoms include:

- Severe headaches and neck stiffness.
- Cognitive dysfunction (brain fog) or dizziness.
- Nervous system disorders, including facial or Bell’s palsy (loss of muscle tone or droop on one or both sides of the face).
- Painful or stiff joints, similar to arthritis.
- Abnormal heart beat or heart palpitations.
- Extreme fatigue.

If untreated, a condition called late disseminated Lyme disease may occur. Regulators reports symptoms include recurring arthritis (muscle and joint pain), nervous system and/or neurological problems. Symptoms can also include numbness and/or paralysis (unable to move parts of the body). Deaths from Lyme disease are rare but may occur.

Lyme disease can be difficult to recognize, and it has been confused with other diseases. It is important for people to consult with their doctor if they feel it is possible that they have Lyme disease.

Can Lyme disease be treated?

In most cases, yes. Antibiotics can effectively treat Lyme disease, especially when treatment begins early. Cases that reach the later stages of the disease, however, can be difficult to treat and some symptoms can persist.

Regulators reports that removing the tick within 24-36 hours usually prevents infection.

How do I know if I have a tick bite?

Many people who develop the disease do not remember seeing ticks or being bitten. Tick bites commonly occur from May to September in North America, although blacklegged ticks can be active most of the year. Ticks sometimes move around on the body but they usually attach themselves to the skin and stay in one place. Before feeding, ticks look like small, brown scabs or freckles. After feeding, ticks may swell considerably, and could be as big as a raisin or a small grape.

Are some locations more at risk than others?

Yes and no. There are areas in which the bacteria is endemic meaning the disease is established and present more or less continually in that community.

In Canada, blacklegged tick populations have been confirmed or are growing in the following areas:

- Southern British Columbia.
- Southeastern and south-central Manitoba.

- Southern, eastern, and northwestern Ontario.
- Southern Quebec.
- Southern New Brunswick and Grand Manan Island.
- South shore and northern mainland Nova Scotia.

However, it is important to note that ticks (including those that are infected with the Borrelia burgdorferi bacteria) can be spread by birds, in particular songbirds that feed off the forest floor. Because these birds are migratory, there is the potential for new populations of the bacteria to spread across the country. This fact means that you do not have to be in an endemic or high-risk area to be at risk of contacting ticks and the disease.

What tests are available for Lyme disease?

When a person becomes infected, the body creates antibodies to protect itself from the bacteria. Certain blood tests are available to measure these antibodies. However, sometimes a “false negative” test can result if there are not enough antibodies in the blood for the tests to detect accurately. A doctor should also do a complete medical examination and get information about your activities in order to make a clinical diagnosis for Lyme disease.

Who is at risk?

Many occupations may be at risk, including forestry, farming, veterinarians, construction, landscaping, ground keepers, park or wildlife management, and anyone who either works outside or has contact with animals that may carry the ticks (including domestic animals like dogs, cats, goats, cows, horses, etc.)

Similarly, any person who spends a lot time outdoors (hiking, camping, birding, golfing, hunting, fishing, etc.), especially in grassy or wooded areas may also be at risk.

How can Lyme disease be prevented?

In areas where ticks are found, people should know about the risk of Lyme disease and should take precautions to protect themselves. Be aware of the signs and symptoms of Lyme disease so it can be detected and treated promptly.

- Find out from your local public health office if there are ticks in your area, especially Ixodes ticks.
- Wear protective clothing to prevent ticks from attaching to your skin. Wear closed toed shoes, long sleeve shirts that fit tightly around the wrist, and long-legged pant tucked into your socks or boots.
- Use insect repellents containing DEET or Icaridin to repel ticks. Apply to both clothes and skin. Always read the label and follow instructions for use.
- If possible, avoid contact with low bushes and long grasses. For example, if hiking or walking, walk in the centre of the trail.
- Wear light coloured clothing to help you to find the ticks more easily.
- Check for ticks on and under clothing, especially after being in areas where ticks may live.
- Inspecting your skin daily greatly reduces the risk of infection as ticks may take several hours to two days to attach to the skin and feed. Check areas including armpits, in and around hair, navel, groin, and behind the ears and knees. Also check children and pets.
- Wash clothes promptly and put them in the dryer with heat to help kill any ticks that may remain.
- Shower or bathe within two hours of being outdoors to wash away loose ticks.
- Carefully remove ticks found attached to the skin. Gently use fine pointed (needle-nose) tweezers to grasp head and mouth parts of the tick as close to the skin as possible. Pull slowly to remove the whole tick. Try not to squash or crush the tick since this can help bacteria to get into the body.

- If the mouthparts of the tick break off or do not come out, Regulators recommends to remove them with tweezers or, if you are unable to remove them easily, leave alone and let the skin heal.
- Wash affected area with soap and water or disinfect with alcohol hand sanitizer after removing ticks.
- Keep the tick for testing by placing it in a small sealed container or double zip lock bags. Write the date on the container or bag. Bring the tick to your doctor if you experience or if think you might be having symptoms.

- Know the signs and symptoms of Lyme disease.
- Contact a doctor immediately if you have an illness that resembles Lyme disease. If you were able to save the tick, bring it to your medical appointment as it may help the doctor.

Regulators has issued a public health reminder stating “Lyme disease is a serious illness that’s present in Canada and spreading.” Regulators has also prepared a Lyme disease tool kit which provides material to raise awareness and educate.

What can a workplace or home do to reduce the presence of ticks?

Keep the lawn and yard well maintained to prevent ticks from living near the home or workplace.

- Keep the grass mowed. Trim trees and shrubs.
- Remove leaf litter, brush, and weeds at the edge of the lawn, and around stonewalls and woodpiles.
- Clean up and seal stonewalls and small openings around the home to help discourage rodents.
- Move firewood piles and bird feeders away from buildings.
- Keep any pets, particularly dogs, out of the woods and talk to your vet about tick repellents for your pets.
- Move children’s swing sets and sandboxes away from the woodland’s edge, and use a woodchip or mulch foundation.
- Consider using hard landscape items such as woodchips, mulch, stones/ gravel, tile or metals.
- Create a border at least 3 metres wide between the lawn, woods, or stonewalls.
- Widen woodland trails.
- Use plantings that do not attract deer, or keep deer out of the area by using fencing where possible.
- Consider a least-toxic pesticide application as a targeted barrier treatment.