

BE TICK AWARE: PEOPLE & PETS CAN GET LYME DISEASE

In 2010, Lyme disease became a nationally reportable disease in Canada. The risk for exposure to the disease is highest in regions where the ticks that transmit Lyme disease are known to be established: this includes eastern Ontario.

Lyme disease is an illness caused by the bacterium, *Borrelia burgdorferi*, which can be spread through the bite of the blacklegged tick (formerly called deer tick). People can't spread Lyme disease to each other. Although dogs & cats can contract Lyme disease, there is no evidence that they can spread the infection to people. Dogs are 50% more likely to get Lyme disease than humans. Lyme disease in cats is rare.

TICKS: What are ticks?

Ticks are closely related to spiders. They are typically small when unfed, (1 to 5 mm in length). They cannot fly & they move quite slowly. Ticks usually come in contact with people or animals by positioning themselves on tall grass & bushes. They may take several hours to find a suitable place on the host to attach to feed.



How do ticks transmit Lyme disease?

Ticks feed on blood by inserting their mouthparts (not their whole bodies) into the skin of a person or an animal. It is not uncommon to be completely unaware of a tick bite & feeding as the tick emits an anesthetic-like substance while it feeds. Ticks feed slowly & their body gradually enlarges as it feeds, making it more visible. It usually takes from 3 to 7 days for a blacklegged tick to take a complete blood meal. The majority of bites will not result in disease because most ticks are not infected with the agent of Lyme disease.

Ticks are most likely to transmit infection after being attached for more than 24 hours of feeding because the bacteria requires time to migrate from the tick's gut to its salivary glands. Because of this delay, prompt detection & removal of ticks is one of the key methods of preventing Lyme disease.

TICKS & PEOPLE: Symptoms in People

The symptoms of Lyme disease usually happen in three stages, although not all patients have every symptom. The first sign of infection is usually a circular rash called erythema migrans or EM. This rash occurs in about 70-80 % of infected people. It begins at the site of the tick bite after a delay of three days to one month. Other common symptoms include fatigue, chills, fever, headache, muscle & joint pain, & swollen lymph nodes.

If untreated, the second stage of the disease can last up to several months & include central & peripheral nervous system disorders, multiple skin rashes, arthritis & arthritic symptoms, heart palpitations, extreme fatigue, & general weakness. If the disease remains untreated, the third stage can last months to years with symptoms that can include recurring arthritis & neurological problems. Fatalities from Lyme disease are rare.

How do I avoid ticks?

- ✓ Wear light-coloured clothing. It makes ticks easier to see & remove before they can attach to feed.
- ✓ Wear long pants & a long sleeved shirt.
- ✓ Wear closed footwear & socks.
- ✓ Tuck your pants into your socks.
- ✓ Use a tick-repellent that has “DEET” (following the manufacturer’s directions for use). Apply it to your skin & outer clothing. Avoid your eyes & mouth, as well as cuts & scrapes.
- ✓ If you frequent the areas where blacklegged ticks are established, examine yourself thoroughly for ticks. It is important to do this each day. Pay special attention to areas such as groin, scalp & armpits. Use a mirror to check the back of your body, or have someone else check it.
- ✓ There are several steps you can take to make sure your yard does not become a haven for ticks that might be able to infect you with Lyme disease:
 - Keep grass on your property well cut to reduce the amount of habitat suitable for ticks
 - Remove leaves & brush around your house & at the edges of lawns. Ticks love cool, damp areas. They hate hot, dry places
 - Create a barrier of wood chips between lawns & wooded areas to restrict the migration of ticks
 - Keep the ground around bird feeders clean
 - Stack wood neatly & in dry areas
 - Keep playground equipment, decks & patios away from the edge of your yard
 - Discourage deer: if they come on your property, don't feed them.

What do I do if I find an attached tick on me?

- ✓ Prompt removal of ticks from your body will help prevent infection, since transmission of the Lyme disease agent usually requires the tick to be attached for more than 24 hours.
- ✓ Using fine-tipped tweezers, carefully grasp the tick as close to your skin as possible. Pull it straight out, gently but firmly. You may also use a tick twister available from your local pet store
- ✓ Don’t squeeze it. Squeezing the tick may cause the Lyme disease agent to be accidentally introduced into your body.
- ✓ Don’t put anything on the tick, or try to burn the tick off.

- ✓ Thoroughly cleanse the bite site with rubbing alcohol &/or soap & water.
- ✓ After the tick has been removed, place it in a screw-top bottle (like a pill vial or a film canister), & take it to your doctor or local health unit. It can be send it to the Ontario Public Health Laboratory for identification. It is important to remember where you most likely acquired the tick. It will help public health workers to identify areas of higher risk.
- ✓ The identification of the *Borrelia burgdorferi* bacteria in the tick is useful for surveillance purposes but it is not useful for diagnosis or treatment of Lyme disease. Just because the tick has evidence of the bacteria does not mean that the bacteria has passed to the individual who was bitten. In addition, it takes several weeks for the tick testing to be done, & if the individual has been infected with the bacteria, symptoms of Lyme disease will have already occurred.

When should I seek health care?

- ✓ See your doctor or nurse practitioner if you experience any of the following symptoms within a few days to a month or so following a tick bite: a bulls-eye rash at the site of tick bite, malaise, fever, fatigue, headache, stiff neck, swollen lymph nodes, & muscle & joint soreness. These are the early symptoms of Lyme disease. You will receive a course of antibiotics & a blood sample will be taken for an approved laboratory test to see if you have antibodies to the bacteria. The early blood tests are not very accurate so early treatment is based on symptoms rather than a lab test.
- ✓ If the disease is not treated, later symptoms may develop including facial palsy & other neurological problems, & heart problems. A course of antibiotics is also given in this situation & a blood sample will be taken to see if you have antibodies to the bacteria. The later blood tests are more accurate, but some people with Lyme disease never test positive.
- ✓ For some people the disease is not detected & treated early & they may develop chronic symptoms of fatigues, arthritis or other complications. This is why it is so important to identify Lyme disease early.

TICKS & PETS: Symptoms in pets

Symptoms of Lyme disease are fever, loss of appetite, fatigue, abnormal development of the lymph nodes, lameness [arthritis], may be sudden, sometimes with severe pain. Lameness occurs two to five months after tick exposure. This symptom may present as shifting from one leg to another. One or more joints may be swollen, hot & painful on manipulation. 90% of infected animals limp (usually one foreleg that may exhibit a swollen lymph node). This lameness progresses over three to four days, going from mild & barely noticeable to complete disuse of the painful limb. Acute or subacute arthritis may be noticed. The acute form may be transient & may recur in some cases. Lyme disease can move from mild discomfort to a phase where a dog will be in such pain it will refuse to move. It is possible that the heart muscle & nerve tissue may be damaged at this point. Treatment at this stage will prevent permanent joint & nerve damage.

The chronic stage of humans with systemic disease is rare in dogs. However, those reported have involved heart block, kidney failure, liver or eye disorders and neurological changes (seizures, aggression, confusion, overeating) and obsessive/compulsive behaviors such as chewing fur & or licking legs, lack of coordination or palsy. The Erythema Migrans rash is rarely seen in dogs. Symptoms can be subtle or intermittent & vary in intensity from mild to severe & can mimic many

other conditions. With pregnant dogs there have been reports of miscarriage, premature births, still births, birth defects & trans-placental infection of the fetus.

How do I avoid my pet getting Lyme disease?

- ✓ Talk to your veterinarian about
 - a simple blood test to screen for Lyme disease
 - vaccination against Lyme disease
 - the use of preventatives that are applied to the back of the neck monthly starting early in the spring
- ✓ Even with the use of preventative measures, your pet will still get ticks; however, they are less likely to cause Lyme disease. You still want to remove any ticks from your pet to reduce the risk of infection & to reduce the risk the tick will migrate to another pet or a family member
- ✓ Examine your pet thoroughly for ticks. Feel for ticks or hard bumps. It is important to do this every day.
- ✓ Watch for signs associated with Lyme disease

What do I do if I find a tick on my pet?

- ✓ Promptly remove the tick from your pet
- ✓ Using fine-tipped tweezers, carefully grasp the tick as close to your skin as possible. Pull it straight out, gently but firmly. You may also use a tick twister available from your local pet store or your veterinarian (these can also be effectively used when removing ticks from people)
- ✓ Don't squeeze it. Squeezing the tick may cause the Lyme disease agent to be accidentally introduced into the body
- ✓ Don't put anything on the tick, or try to burn the tick off.
- ✓ Thoroughly cleanse the bite site with rubbing alcohol &/or soap & water.
- ✓ After removing the tick you may wish to preserve it in rubbing alcohol. Be sure to label the container with information about the time & place the tick bite occurred. This will help you remember details if symptoms of Lyme disease appear later & can be helpful in diagnosis.

When should I take my pet to the veterinarian?

- ✓ Take your pet to the veterinarian if you observe any symptoms of Lyme disease in your pet: lameness, fever, swollen joints, "not himself/herself", & anorexia
- ✓ Your pet will be treated by a course of antibiotics. A blood sample will also be taken for laboratory testing. If caught & treated early, the outcome is usually very good.

Article reviewed by Dr. Paula Stewart, Medical Officer of Health, Leeds, Grenville & Lanark District Health Unit, & by Dr. Julia Brown, Westport Veterinary Services, April 2012

For further information

www.healthunit.org/hazards/documents/lyme.htm

www.health.gov.on.ca/en/public/publications/disease/lyme.aspx

www.phac-aspc.gc.ca/id-mi/lyme-fs-eng.php