Lyme Disease

THE ISSUE

Lyme disease is a serious illness spread by the bite of certain species of ticks. Ticks are small insect-like parasites that feed on the blood of animals, including humans. For most Canadians, the risk of getting Lyme disease is fairly low, but it is increasing. You should take steps to reduce your risk if you spend time outdoors in areas where there may be ticks.

HOW LYME DISEASE IS SPREAD

Lyme disease is caused by a bacterium called *Borrelia burgdorferi*. This bacterium is normally carried by mice, squirrels, birds and other small animals. It can be passed to humans when ticks feed on infected animals, become infected themselves, and then bite people.

In Canada, there are two species of ticks known to transmit Lyme disease:

- the western blacklegged tick, which can be found in parts of southern British Columbia
- the blacklegged tick (sometimes called the deer tick), which can be found in parts of southeastern Quebec, southern and eastern Ontario, southeastern and south central Manitoba, New Brunswick and Nova Scotia.

These ticks vary in size and colour, depending on their age and whether they have been feeding. Before feeding, they are about 3–5 mm in length. When they are full of blood, adult female ticks can be as large as a grape. Adult ticks are red and dark brown in colour. Younger ticks are much smaller and lighter-coloured.

You are most likely to come into contact with ticks by brushing against plants. When a tick bites you, it attaches to your skin until it is removed.
**RISK OF EXPOSURE TO LYME DISEASE**

You are most at risk of being exposed to Lyme disease in the regions where blacklegged and western blacklegged ticks can be found. But migratory birds can also carry these ticks to other parts of Canada. Researchers believe that ticks may be establishing themselves in new areas that are not yet identified. This means there is a risk that people in other regions of Canada may also be exposed to infected ticks.

![Tick Image]

Your risk of coming into contact with ticks begins when the weather warms up in the early spring and lasts through to the end of fall. Ticks may also be active in winter in areas with mild temperatures and minimal snowfall. Although ticks can be active throughout much of the year, your risk of getting Lyme disease, especially in areas where tick populations are established, is greatest during the summer months when younger ticks are most active.

Lyme disease is not spread from person to person. And although cats and dogs can get Lyme disease, there is no evidence that they pass the infection to people. Pets can, however, carry infected ticks into your home or yard.

**SYMPTOMS, HEALTH EFFECTS AND TREATMENT**

Although the symptoms and health effects are different from one person to the next, Lyme disease is often described in three stages:

1. The first sign of infection is often a circular rash, which begins at the site of the tick bite after three days or up to one month later. About 70–80 per cent of infected people get this rash. Other symptoms may include fatigue, chills, fever, headache, and muscle and joint pain.

2. If untreated, the disease can move into the second stage, which can last several months. Symptoms of this stage include weakness, multiple skin rashes, painful, swollen or stiff joints, abnormal heartbeat, central and peripheral nervous system disorders, and extreme fatigue.

3. If the disease continues to progress, the third stage of Lyme disease can include symptoms like recurring arthritis, and neurological symptoms such as headaches, dizziness, numbness, and paralysis.

Lyme disease can usually be treated effectively with antibiotics. A rapid recovery is more likely when treatment begins in the early stages of the disease.

**REDUCE YOUR RISK**

Remember, your risk of being exposed to Lyme disease in Canada is highest in the regions where the carrier ticks are found.

If you are going to spend time outdoors in wooded areas or tall grass that may be tick-infested:

- Find out from the local public health office if there are ticks, especially blacklegged ticks, in the area.
- When walking in tick-infested areas, wear clothing that will keep ticks from getting to bare skin. Wear closed shoes, long-sleeved shirts that fit tightly around the wrist, and tuck into pants. Protect your legs by tucking pants into socks or boots. Ticks are easier to see and remove on light-coloured clothing.
- Insect repellents containing DEET can effectively repel ticks. Repellents can be applied to clothing as well as exposed skin but should not be applied to skin underneath clothing (note: DEET may damage some materials). Always read and follow label directions.
• Check for ticks on clothing and skin after being in tick-infested areas. A daily total-body inspection and prompt removal of attached ticks (within 18 to 24 hours) can reduce the risk of infection. Blacklegged ticks are very small, particularly the younger ones, so look carefully. Do not forget to check children and pets as well.

• Carefully remove attached ticks using tweezers. Grasp the tick’s head and mouth parts as close to the skin as possible and pull slowly until the tick is removed. Do not twist or rotate the tick and try not to squash or crush the tick during removal.

• After removing ticks, wash the bite site with soap and water or disinfect it with alcohol or household antiseptic. Note the day of the tick bite and try to save the tick in an empty pill vial or doubled zip-lock bag.

• Contact a doctor immediately if you develop symptoms of Lyme disease, especially when you have been in an area where blacklegged ticks are found. If you have saved the tick, take it with you to the doctor’s office.

Some Canadians have contracted Lyme disease when they travelled to the United States, where there are a larger number of higher-risk areas. You should be careful when travelling and doing outdoor activities along the Atlantic seaboard from Maine to Virginia, in northern mid-west states and in states on the Pacific Coast. Travellers to Europe and Asia may also be at risk of contracting Lyme disease.

THE GOVERNMENT OF CANADA’S ROLE

The Public Health Agency of Canada has been involved for more than a decade in research to monitor the occurrence of Lyme disease in Canada. The Agency also works with provincial, national and international experts to address key issues related to Lyme disease, including:

• the diagnosis and surveillance of the disease
• the impact of climate change on the range of the disease
• ongoing education for health professionals and the public
The Canadian Institutes of Health Research (CIHR) is funding a health research project on Lyme disease. This health research project will lead to further understanding of the pathogen causing Lyme disease.

FOR MORE INFORMATION

• The Public Health Agency of Canada, Lyme Disease section at: www.phac-aspc.gc.ca/id-mi/lyme-eng.php
• The National Microbiology Laboratory at: www.nml-lnm.gc.ca/index-eng.htm
• For information about higher-risk areas for Lyme disease in the United States, visit the U.S. Centers for Disease Control and Prevention (CDC) Lyme disease website at: www.cdc.gov/lyme/

FOR INDUSTRY AND PROFESSIONALS

• Canadian Medical Association Journal, The emergence of Lyme disease in Canada at: www.cmaj.ca/content/180/12/1221.full
• Canadian Centre for Occupational Health and Safety, Lyme Disease at: www.ccohs.ca/oshanswers/diseases/lyme.html#_1_6

RELATED RESOURCES

• Health Canada’s It’s Your Health article on Insect Repellents at: www.hc-sc.gc.ca/hl-vs/iyh-vsv/life-vie/insect-eng.php
• Health Canada’s information on pesticides at: www.hc-sc.gc.ca/cps-spc/pest/index-eng.php
• For safety information about food, health and consumer products, visit the Healthy Canadians website at: www.healthycanadians.gc.ca
• For more articles on health and safety issues, go to the It’s Your Health web section at: www.health.gc.ca/iyh

You can also call toll free at 1.866.225.0709 or
TTY at 1.800.267.1245*

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