

October 31, 2011

Lyme disease at a glance

- Lyme disease is an infection caused by the bacterium *Borrelia burgdorferi* (*B. burgdorferi*).
- A bite from an infected blacklegged tick can lead to the transmission of the *B. burgdorferi* bacterium.
- A tick must be attached for at least 24 hours for transmission of the bacterium to occur.
- Not all blacklegged ticks carry the bacterium that causes Lyme disease.
- Early symptoms of Lyme disease can include fever, headache, muscle and joint pain, fatigue and a skin rash that looks like a red bull's eye.
- Symptoms of Lyme disease usually begin within three days to one month after being bitten by an infected tick.
- Lyme disease is diagnosed by clinical signs and symptoms and blood testing.
- Antibiotic treatment is recommended for those exhibiting symptoms of Lyme disease.
- Ontario follows the diagnostic and treatment guidelines provided by the Infectious Diseases Society of America.
- Ontario conducts ongoing human and tick surveillance across the province.
- Certain areas of the province are considered high risk with an established tick population. However, you can be bitten by a tick outside of these high risk areas.
- Protect yourself from tick bites by wearing light-coloured clothing, avoiding shrubs or grassy areas, wearing long sleeves and pants, tucking pants into socks and using a bug repellent containing DEET.

Testing of Lyme disease

- Public Health Ontario (PHO) conducts serological (blood) testing for *B.burgdorferi*, the bacterium that can lead to Lyme disease.
- PHO conducts these tests as requested by a health care provider.
- Test results (whether positive or negative) are sent to the health care provider and positive results are sent to the local health unit.
- Diagnosis of Lyme disease is a complex process that relies on clinical signs and symptoms, tick exposure history and results of serological tests. Results of serological tests provide supportive evidence, but not the sole evidence, for a diagnosis of Lyme disease.
- Laboratory results of patients tested during early infection may not yet reveal antibodies to the bacterium. It is recommended that patients exhibiting symptoms be tested again four weeks later to get an accurate result.
- PHO follows a two-tier testing protocol: enzyme immunoassay (EIA) and Western immunoblot assay (WB).
- These testing methods are aligned with Canadian Public Health Laboratory network recommendations and the US Centers for Disease Control and Prevention. Health Canada has approved the test kits in use at the PHO laboratories.
- Initially, patient sera are tested using EIA to detect total IgM and IgG antibodies against *B. burgdorferi*. If results from the EIA are either positive or indeterminate, second tier testing using western blot (WB) is performed. This test is comprised of separate IgM and IgG immunoblots to detect antibodies against *B. burgdorferi*.

For more information:

Government of Ontario fact sheet on Lyme disease: <http://www.health.gov.on.ca/en/ms/lyme/public/>

Government of Ontario publication on Lyme disease:
<http://www.health.gov.on.ca/en/public/publications/disease/lyme.aspx>

Public Health Agency of Canada on Lyme disease: <http://www.phac-aspc.gc.ca/id-mi/lyme-eng.php>

US Centers for Disease Control on Lyme disease: <http://www.cdc.gov/lyme/>

Media requests:

For information, or to book an interview with one of our experts, please contact:
647 260 7247 or media@oahpp.ca