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**FOR INFORMATION**

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**From the Office of Dr. Joyce Lock, Medical Officer of Health, Southwestern Public Health**

## Lyme Disease Update

Lyme disease is the most common tick-borne illness in Canada. The incidence is increasing significantly as populations of blacklegged ticks continue to spread. In 2019, Port Burwell Provincial Park (and the 20 km radius surrounding the park) was added to the Ontario Lyme Disease Risk Areas Map. In 2020, a large portion of Middlesex-London was added to the map. Between January 1, 2019 and July 1, 2021, seven (7) confirmed cases and eight (8) probable cases of Lyme disease were reported to Southwestern Public Health.

**VIEW:** [2021 Lyme Disease Map – Estimated Risk Areas in Ontario](#)

### Diagnosis of Lyme Disease - Key Considerations

The diagnosis of Lyme disease is primarily made on the basis of clinical findings, supported by a history of possible tick exposure.

Clinical Assessment:

- ✓ Complete a full-body skin exam to determine if your patient has erythema migrans (EM) rash.
  - The majority (80%) of infected patients will develop an EM rash, with or without bulls-eye appearance, within 3-30 days after the bite of an infected tick.
- ✓ Assess for non-specific symptoms and rule-out other causes.
  - Infected patients may develop non-specific symptoms such as fever, body aches, headache, fatigue, decreased appetite, swollen lymph nodes. These symptoms usually start within 3-30 days after the bite of an infected tick and last >72 hours.

Exposure History:

- ✓ Remember that ticks can be found outside currently identified risk areas.
  - Ask your patients about outdoor activities in the last 30 days in tall grass or wooded areas such as parks, soccer fields, campgrounds, golf courses.
  - Ask about protective measures such as using bug repellent, tucking pant legs into socks, wearing light-colored clothing, and doing tick checks after outdoor activities.
  - Ask if they have pets that go outdoors.

- Ask if they have travelled to or lived in an area where blacklegged ticks are established or emerging.
- ✓ Detection of antibodies, using the two-tiered serological method described below, may be used as an additional diagnostic tool in patients with non-specific symptoms and an exposure risk. For more information, refer to lab testing information below.

**VIEW:** [Management of Early Lyme Disease in Primary Care, CEP](#)

**Clinical Guidance: Management of Tick Bites and Investigation of Early Localized Lyme Disease,**  
HQO

**VIEW:** [Tick Identification: etick.ca](#)

NOTE: SWPH no longer accepts tick submissions, and the National Microbiology Lab has discontinued blacklegged tick testing for passive surveillance

### **Lab Testing Recommendations**

Laboratory testing should only be used to supplement clinical findings, not as a basis for diagnosing early Lyme disease.

- ✓ Do not test asymptomatic patients.
- ✓ Do not test patients with an EM rash as they can be diagnosed clinically and treated.

Two-tiered serological testing:

- ✓ The two-tiered serological testing approach is recommended when testing a patient's blood for antibodies. This approach is validated for use in Canada and includes:
  - an enzyme immunoassay (EIA) screening test
  - a confirmatory immunoblot (IB) test (if the EIA is positive or equivocal)
- ✓ Note: Serological testing may not yield positive results during early localized Lyme disease. Following exposure to an infected tick, IgM antibodies are detected within 2–4 weeks, and IgG antibodies within 4-6 weeks.
- ✓ Use this link for [specimen collection and submission information](#) and [test requisition](#).

Canadian laboratory diagnostic guidelines for Lyme disease meet current international standards. They are also consistent with those followed by public health authorities in the U.S. and Europe. Some private, for-profit laboratories may not be using:

- Properly validated tests
- Recommended standards for interpreting test results

**NOTE: Effective July 13, 2021, public health units in Ontario no longer receive reports from In-Common Laboratories (ICL), an Ontario based company that sends specimens to the United States for processing using tests that are NOT approved by the US Food and Drug Administration (FDA).**

### **Reporting Requirements**

A patient does not necessarily have to have a positive lab result to be reported to public health. As per the Health Protection and Promotion Act (HPPA), health care providers, including registered naturopaths, have a duty to report if they form the opinion, while providing care, that an individual has or may have a [disease of public health significance](#), such as Lyme disease.

**VIEW:** [SWPH Lyme Disease Reporting Form](#)

**VIEW:** [Diseases of Public Health Significance List](#)

**References:**

1. Centre for Effective Practice, 2020, Early Lyme Disease
2. Government of Canada, 2021, For health professionals: Lyme disease
3. Health Quality Ontario, 2019, Clinical Practice Document – Management of Tick Bites and Investigation of Early Localized Lyme Disease
4. Public Health Ontario, 2020, Lyme Disease Serology

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