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Blacklegged Tick Diseases (including Lyme)

Attention: Physicians, Hospitals, CNE, ER Manager, ER Physician, Infection Control Practitioners, Occupational Health Professionals, Community Health Centres, Walk-In Urgent Care Clinic, Nurse Practitioner, Ontario Health, Ontario Health Teams, Midwives, Family Health Team, Indigenous Healthcare & Community, Long-Term Care Homes, Retirement Homes, Neighbouring Health Units, Paramedic Services, Corrections

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Spotlight on Lyme Disease and additional Tickborne Diseases of Public Health Significance

Lyme disease is a growing health risk for residents and visitors of Simcoe Muskoka, influenced by climate change. There were 84 cases of Lyme disease reported in 2025 in our region, which continued the increased trend in case counts we've seen over the last few years.

With the addition of new vector-borne diseases to the Diseases of Public Health Significance listing in recent years, Public Health Ontario (PHO) has launched a [Vector-Borne Disease Tool](#). This includes the Blacklegged Tick (BLT) Established Risk Areas which can be filtered by public health unit.

Clinical Supports:

Further to the IDSA Guidance on the evaluation and management of Lyme disease update in 2020, the following revisions in other supporting resources have taken place:

- In 2024, Ontario Health updated the document: [Management of Tick Bites and Investigation of Early Localized Lyme Disease](#):
 - Post-Exposure Prophylaxis (PEP): **One dose of doxycycline 200mg can now be used for all ages and pregnant people.**
 - Recommendations for Treatment of Early Localized Lyme Disease: **Doxycycline treatment can be used for all ages except for pregnant people. Also, Doxycycline is considered to be the preferred antibiotic treatment option by some guidelines for early Lyme disease (erythema migrans) in both children and adults** based on its ability to treat potential extracutaneous manifestations of infection (particularly neurological involvement) and potential coinfection or infection with the less prevalent *Anaplasma phagocytophilum* (anaplasmosis) or *Ehrlichia muris*-like agent. The range of duration continues to be 10 to 21 days depending on the antibiotic.

View all current Public Health Alerts by visiting the Health Professional Resources page at: <http://www.smdhu.org/PHA>

Receive urgent public health updates by email (such as Public Health Alert) by subscribing at: www.smdhu.org/PHAlert

- The Center for Effective Practice (CEP) has [guidance and information for clinicians and patients](#).
- The Infectious Disease Society of America (IDSA) has a [summary of their guidance](#).
- [SMDHU recorded a webinar for clinicians](#) led by Dr. Colin Lee in May 2021 which discusses (at the 36 min 20 sec mark) the differences between the CEP and the Ontario Health treatment guidelines.
- Public Health Ontario had a recent [webinar in May 2026 on Tick-borne diseases in Ontario](#)
- Public Health Ontario has a number of [clinical and epidemiological resources](#) here on Lyme disease.

Lyme Disease Laboratory Testing:

As of 2023, the **modified two-tier testing (MTTT)** approach replaced the previous standard two-tier testing (STTT). The MTTT is more sensitive without a loss in specificity, however, the sensitivity is still relatively low (~58%) for early localized disease. Please refer to the [PHO Lyme Disease test information sheet](#) for details.

What is the clinical guidance for the new MTTT modified two-tier test?

- The first step involves testing using a Tier 1 ELISA test.
- If the initial ELISA test is non-reactive, health care providers should consider an alternative diagnosis or submit a follow-up specimen (2-4 weeks apart) if clinically indicated.
- If the initial ELISA result is reactive or indeterminate, the sample is tested further using Tier 2 ELISA assay.

Blood tests may be negative in patients with early-stage Lyme disease or in patients with early disease who were treated with antibiotics. The stage of the infection and the possible impact of treatment on the outcomes of blood testing should be considered during diagnosis. The sensitivity of tests increases as the infection progresses.

Note: PHO does not routinely test for European Lyme disease. If European Lyme disease is suspected, submit a request for European Lyme disease along with appropriate travel history.

Tick Submission Process:

For healthcare providers: Tick submissions are not accepted at local health unit offices. Healthcare providers should consider using [eTick.ca](#) for rapid identification of the tick species. Healthcare providers can submit ticks directly to the PHO laboratory for identification. PHO provides a [surveillance form](#) to complete and submit with the tick. **PHO does not do Lyme testing on ticks.** For more information on tick submission to PHO, click [here](#).

Submission of ticks to the public health laboratory is often unhelpful for the clinical management of Lyme disease, as results likely will be received well beyond the time when clinical decisions need to be made.

Pharmacist Prescribing for Lyme Disease Post-Exposure Prophylaxis

As of 2023, pharmacists in Ontario are authorized to prescribe post-exposure prophylaxis following tick bites to prevent Lyme disease. A resource entitled "[Assessment and Prescribing Algorithm for Pharmacists: Antibiotic Prophylaxis to Prevent Lyme Disease following a Tick Bite](#)" has been developed.

Prevention and Patient Counselling

Direct your patients to the following resources that highlight key protective behaviours:

- smdhu.org/lyme
- [Ticks & Lyme Disease Fact Sheet](#) (Ontario Ministry of Health)

Additional Tick-borne Diseases of Public Health Significance

In 2023, anaplasmosis, babesiosis, and Powassan virus infection were added to the Diseases of Public Health Significance list. PHO has information on these [diseases and laboratory testing](#). The main vector for transmission is the blacklegged tick (*Ixodes scapularis*). Due to climate change and expanding ranges of blacklegged ticks in Ontario, the risk of contracting these diseases is expected to increase. In Simcoe Muskoka, there were 1 human cases of anaplasmosis reported in 2025 and 2 human cases reported in 2024; 1 human case of babesiosis was reported in 2023. Powassan virus infection, though rare, is a serious tick-borne illness due to its potential for severe neurological outcomes. In 2024, 1 human case of Powassan virus was reported to the SMDHU; no cases were reported in 2025 locally. PHO published a [2023 Ontario epidemiological report on babesiosis and anaplasmosis](#).