

July 14, 2016

Attention: Physicians, Nurse Practitioners, Hospitals - Emergency Rooms / Infection Control / Occupational Health, Walk-In Clinics

RE: LYME DISEASE

Diagnosing Lyme Disease and Laboratory Testing

Lyme disease is a tick-borne zoonotic disease caused by the bacterium, *Borrelia burgdorferi*. This bacteria is found in the gut of the female deer tick or blacklegged tick (*Ixodes scapularis*) and can be transferred by feeding on a human for a **MINIMUM** of 24 hours.

Diagnosis is primarily based on clinical and epidemiological findings.

Blood tests to support a diagnosis of Lyme disease are performed at the Ontario Public Health Laboratory (PHOL) or the National Microbiology Laboratory. (See PHOL Labstract: https://www.publichealthontario.ca/en/ServicesAndTools/LaboratoryServices/Pages/Lyme_Disease_Serology.aspx)

Stage	Symptoms	Testing Recommendations
Early Localized Disease < 30 days after infected tick bite	Erythema Migrans (EM) > 5 cm in diameter, fever, malaise, headache, myalgia, neck stiffness, fatigue and arthralgia	Not necessary – insensitive in acute EM
Early Disseminated Disease < 3 months after infected tick bite	Multiple EM rash, cranial nerve palsies, lymphocytic meningitis, conjunctivitis, arthralgia, myalgia, headache, fatigue and carditis	Serology – two-tier testing: enzyme-linked immunosorbent assay (ELISA) screening test and confirmatory Western blot test
Late Disseminated Disease > 3 months after infected tick bite	Early infection not detected, untreated or not adequately treated may have symptoms involving the heart, nervous system and joints; arrhythmias, heart block and sometimes myopericarditis; recurrent arthritis affecting large joints; peripheral neuropathy, CNS manifestations - meningitis, encephalopathy; and fatigue.	Direct* – Culture, PCR on appropriate clinical specimen i.e. Biopsy of EM lesion, Synovial fluid, CSF * <u>use restricted to research studies at this time</u> Indirect - Serology – two-tier testing, ELISA test and Western blot test

If a tick is still attached, it should be removed and submitted for identification to the Public Health Ontario Laboratory.

<http://link.coremotivesmarketing.com/c/306/b1d45e6f84c84ad67ac8279f58fcc5ec402bfa524f1041262f0f2d374028e4ce>

Human Case Surveillance

Within the Haliburton, Kawartha, Pine Ridge District Health Unit (HKPRDHU) area, from 2011-2015, there were 7 laboratory-confirmed cases, and 9 probable cases of Lyme disease reported. There has been no annual increase in confirmed cases, however, there has been a recent increase in the incidence of probable cases, possibly related to the modification of the Ontario Provincial case definition within the Infectious Diseases Protocols effective April, 2015.

Tick Surveillance

In 2015, 11-15% of blacklegged ticks collected by active (started in 2014) and passive surveillance throughout the HKPRDHU area tested positive for *Borellia burgdorferi*. A map of Lyme disease Risk Areas is available and annually updated by Public Health Ontario to assist clinicians in the diagnosis and/or treatment of Lyme disease. https://www.publichealthontario.ca/en/eRepository/Lyme_Disease_Risk_Areas_Map_2015.pdf

Reporting to HKPR District Health Unit

Please report any probable or confirmed Lyme disease cases to the Infectious Diseases team at 905-885-9100 ext. 1232 in Port Hope, and 705-324-3569 ext. 2232 in the Haliburton and City of Kawartha Lakes areas.

Communicable Disease Control nurses in the Infectious Diseases Program contact all probable and confirmed cases to provide health teaching on prevention, signs, symptoms, treatment, and to obtain case details for reporting to the Ministry of Health and Long-Term Care.

Confirmed Case

- Clinician confirmed Erythema Migrans > 5cm in diameter with a history of residence in, or visit to, Lyme disease endemic or risk area.
OR
- Clinical evidence of Lyme disease with laboratory confirmation by PCR or culture.
OR
- Clinical evidence of Lyme disease with laboratory support by serological methods, and a history of residence in, or visit to, an endemic or risk area.

Probable Case

- Clinical evidence of Lyme disease with laboratory support by serological methods, but with no history of residence in, or visit to an endemic or risk area.
OR
- Clinician confirmed EM > 5 cm in diameter, but with no history of residence in, or visit to an endemic or risk area.

Resources on Lyme Disease

The link below will take you to a recent presentation by Public Health Ontario provided to the Ontario Hospital Association (OHA). It is highly recommended that Health Care Providers take the time to view this presentation.

<http://oha.mediasite.com/mediasite/Play/3fd7ea6b5f424411ad92f906c5ef5c361d>
www.hkpr.on.ca

FAX Facts are posted on the Health Unit's website at:

<http://www.hkpr.on.ca/ResourcesForms/HealthCareProfessionals/FAXFacts.aspx> and the cited documents can be accessed there via the embedded links.

Haliburton	Lindsay	Port Hope	After Hours
705-457-1391	705-324-3569	905-885-9100	1-888-255-7839