

## Lyme Disease and West Nile Virus Update 2016

**Attention:** Physicians, Emergency Departments, Infection Control Practitioners, Walk-In Clinics/Urgent Care Clinics, Nurse Practitioners

**Date:** June 27, 2016

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### Lyme Disease

The Simcoe Muskoka District Health Unit (SMDHU) would like to remind health care professionals of the following information regarding testing, diagnosis and treatment of Lyme disease; and tick submissions processes:

1. A [two-step protocol](#) is used for serologic testing of Lyme disease in Ontario:
  - a. The C6-peptide [ELISA](#) is sensitive for detecting IgG/IgM antibodies to Borrelia genospecies that develop within a few weeks of onset of erythema migrans.
  - b. A [Western immunoblot assay](#) that is highly specific for B. burgdorferi is used as a confirmatory test for reactive or indeterminate ELISA specimens only.
2. The two-step protocol is consistent with recommendations of the Public Health Agency of Canada, U.S. Centers for Disease Control and Prevention, and Infectious Diseases Society of America, to obtain the best balance between sensitivity and specificity.
3. Diagnosis and treatment should be based primarily on clinical assessment and history of tick exposure (see [PHO Lyme disease risk areas map](#)), particularly for early localized Lyme disease.
4. Serology results may be negative in early stage Lyme disease before antibody development or in some patients previously treated with antibiotics who may lack a detectable serologic response at the time of testing.
5. Serologic testing is appropriate when early disseminated or late Lyme disease is suspected based on objective findings.
6. If the patient has a history of tick exposure in Europe: provide travel history and request testing for European Lyme disease. A Western blot specific for the Borrelia species that occur in Europe will be used as the confirmatory test.
7. SMDHU encourages Healthcare Providers to submit ticks for identification and testing once they have been removed from a patient. Public Health Ontario provides a [surveillance form](#) that is to be filled out and submitted along with the tick. The identification and bacterial testing of ticks is not to support the clinical diagnosis of Lyme disease, but allows public health to better understand the type and distribution of ticks throughout the province. This surveillance data informs local risk assessment, communication and education of the risks associated with Lyme disease among Simcoe Muskoka residents.

## **West Nile Virus**

**The Simcoe Muskoka District Health Unit would like to remind health care professionals of the following information regarding testing, diagnosis and treatment of West Nile virus (WNV):**

The period of greatest risk for human WNV acquisition is from mid-July to the end of August. To better determine the risk of WNV within Simcoe Muskoka and provincially, adult mosquito trapping programs work to identify the presence of WNV within the adult mosquito population. To date, there have been no reports of mosquitoes or humans testing positive for the virus within the province for 2016. It is important to note that although 80% of infected cases are asymptomatic, health care providers are encouraged to remain vigilant for clients presenting with signs and symptoms consistent with WNV.

### **West Nile Virus Clinical presentation:**

- There are three clinical manifestations of WNV; asymptomatic, non-neurological and neurological. The majority of WNV cases are asymptomatic.
- About 20% of infected persons develop the usually less severe symptom complex known as WNV non-neurological syndrome. This presents with a mild flu-like illness with fever, headache and body aches, occasionally with a skin rash and swollen lymph nodes or other non-specific symptoms that last several days. Other symptoms may include nausea, vomiting, eye pain or photophobia.
- WNV neurological symptoms can present as an encephalitis illness as well as conditions similar to acute flaccid paralysis, and Parkinson's disease. Less than 1% of infected people will develop neurological symptoms.

### **West Nile Virus Laboratory Testing:**

- Serologic testing of clotted or serum blood is the preferred method of testing for WNV. If considering molecular testing, contact PHOL Customer Service to speak to a microbiologist for approval.
- On the requisition please include mosquito bite history, symptoms, onset date, relevant travel history and history of Japanese virus vaccination or yellow fever vaccination.
- Minimum serology volume required - 5.0ml blood or 1.0 ml serum

### **For more information on vector borne diseases of interest in Simcoe Muskoka:**

SMDHU Health Professionals

- [Lyme disease](#)
- [Vector Borne Diseases](#)

Local Epidemiology

- [Lyme disease](#)
- [West Nile Virus](#)

Public Health Ontario

- [Lyme disease](#)
- [West Nile Virus](#)

Government of Canada

- [Information for health professionals on Lyme disease](#)
- [Information for health professionals on West Nile Virus](#)

**If you need more information on Lyme disease and West Nile Virus, please contact the Communicable Disease Surveillance Unit (705-721-1495- Extension 8809 between 8:30am to 4:30pm Monday through Friday, or 1-888-225-7851 after hours).**

For laboratory use only

Date received

PHOL No.

yyyy / mm / dd

## Surveillance Form for Tick Identification

**NOTE:** Tick testing will be used for surveillance activities. As per Infectious Disease Society of America (IDSA) guidelines, tick testing should not be used for diagnosis and management of Lyme disease.

**ALL Sections of this form must be completed**

<p><b>Submitter</b></p> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p style="text-align: right; color: gray;">Courier code</p> <p>Provide Return Address:</p> <p style="text-align: center;">Name Address City &amp; Province Postal Code</p> </div> <p>Clinician Initial / Surname and OHIP / CPSO Number</p> <p>Tel: _____ Fax: _____</p>	<p><b>Client Information</b></p> <table border="1" style="width: 100%;"> <tr> <td>Date of Birth: yyyy / mm / dd</td> <td>Sex: <input type="checkbox"/> Male <input type="checkbox"/> Female</td> </tr> <tr> <td>Last Name: (per health card)</td> <td>First Name: (per health card)</td> </tr> <tr> <td colspan="2">Phone number: (AREA CODE) ###-####</td> </tr> <tr> <td colspan="2">Address: _____</td> </tr> <tr> <td>City: _____</td> <td>Postal code: _____</td> </tr> <tr> <td colspan="2">Submitter lab no. (if applicable):</td> </tr> <tr> <td colspan="2">Public Health Unit Investigation No.:</td> </tr> </table>	Date of Birth: yyyy / mm / dd	Sex: <input type="checkbox"/> Male <input type="checkbox"/> Female	Last Name: (per health card)	First Name: (per health card)	Phone number: (AREA CODE) ###-####		Address: _____		City: _____	Postal code: _____	Submitter lab no. (if applicable):		Public Health Unit Investigation No.:	
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### Tick Information

\*The information in fields a) and b) is mandatory and is essential to the tick surveillance program. Failure to provide this information may result in delays and/or rejection of the tick for testing.

a) \*Where was the tick most likely acquired (Be as specific as possible, e.g., town, park, province, or city):

Province \_\_\_\_\_ Town \_\_\_\_\_ Other: \_\_\_\_\_

b) Did you travel in the previous two weeks? (Check one)\*:

Yes  No travel  Unknown

If yes, which localities were visited? (Be as specific as possible, e.g., town, park, province, or city):

Please indicate all travel locations:

c) When was the tick collected or removed?: yyyy / mm / dd \_\_\_\_\_

d) Was the tick attached (feeding)

Yes  No  Unsure

e) How long was the tick attached (feeding) \_\_\_\_\_ (state hours or days)

**PHO does not perform tick testing on ticks removed from non-human sources (e.g., dogs).**

The personal health information is collected under the authority of the Personal Health Information Protection Act, 2004, s.36 (1)(c)(iii) for the purposes specified in the Ontario Agency for Health Protection and Promotion Act, 2007, s.1 and will be used for surveillance and other public health purposes. If you have questions about the collection of this personal health information please contact the PHOL Manager of Customer Service at 416-235-6556 or toll free 1-877-604-4567.