Labstract – October 2012

Lyme Disease IgG/IgM – Implementation of C6 peptide assay for *Borrelia burgdorferi*

To Health Care Providers:

Effective October 22, 2012, Public Health Ontario laboratories (PHOL) will replace its current Enzyme Linked Immunosorbant Assay (ELISA) test for the qualitative detection of total IgG/IgM antibodies to *Borrelia burgdorferi* (Lyme Disease) in human serum with a C6 peptide *Borrelia burgdorferi* (Lyme) IgG/IgM ELISA assay.

The assay change is a result of a competitive procurement and technical evaluation of Health Canada approved Lyme Disease IgG/IgM serological assays. The C6 peptide *Borrelia burgdorferi* (Lyme) IgG/IgM ELISA assay utilizes a synthetic peptide (C6 peptide) derived from the VlsE protein.

Lyme Serology at PHOL

PHOL will continue to use a two-tier test method as recommended by the Canadian Public Health Laboratory Network[1]. This will consist of a C6 peptide ELISA; followed by *Borellia burgdorferi* Western Blot IgG and IgM tests if the sample is reactive or indeterminate by C6 ELISA method. This testing is performed at PHOL Toronto.

Testing for European Lyme disease (*Borrelia afzelii* and *Borrelia garinii*) must be specifically requested on the requisition submitted including clinical information and travel history of the patient. Specimens with reactive or indeterminate C6 peptide ELISA results will be forwarded to National Microbiology Lab (NML) Winnipeg for European Lyme Western Blot.

Acceptance criteria and Specimen requirements

- Patient's full name (first and last name)
- Health Insurance Number (HIN)
- Date of Birth
- Date of Onset
- Clinical signs and symptoms
- Travel history
- Submit clotted whole blood or serum. The minimum acceptable volume is 1 mL of serum. Serum separator tubes (SST) are acceptable with the gel sediment. Haemolysed, icteric, lipemic or microbially contaminated sera are not recommended for testing.

Laboratory testing for Lyme disease (Continued)

PHOL will **NOT** accept the following for routine testing of Lyme:

- Plasma for serology. Please submit serum or whole clotted blood.
- CSF for routine antibody screening or western blot testing.
- Any tissue or body fluid specimens for culture.

For more information, please visit the Specimen Collection Guide at:
http://www.oahpp.ca/services/specimen-collection-guide.html

Turn around time

- Non-reactive results: less than seven days
- Reactive results: within 14 days
- European Lyme request requiring confirmation at NML, Winnipeg: 21 days

For additional information regarding Lyme disease please refer to the PHO Technical Report: Update on Lyme Disease Prevention and Control at:
http://www.oahpp.ca/about/whatsnew/PHO-technical-report-update-on-lyme-disease-prevention-and-control.html

For further information:

- Call the Customer Service Centre at 416 235 6556 or toll free at 1 877 604 4567
- PHOL Specimen Collection information is available at http://www.oahpp.ca/services/specimen-collection-guide.html
- To view our Labstracts, visit http://www.oahpp.ca/resources/labstracts.html
- To subscribe to future PHO Labstracts, please email labstracts@oahpp.ca

References

1. Public Health Laboratory Network. *The laboratory diagnosis of Lyme borreliosis: Guidelines from the Canadian Public Health Laboratory Network.* Can J Infect Dis Med Microbiol. 2007; 18(2):145-8.