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HEALTH PROFESSIONALS UPDATE

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2010 West Nile Virus Update

West Nile virus (WNV) was first detected in Peel in 2001 and has been present in Peel mosquito pools every year since.

Summary of WNV activity in Peel for 2009

- There were four positive mosquito batches in Peel in 2009. This was a marked decrease from 2008 when 21 positive mosquito batches were found.
- In 2009, Ontario had 3 confirmed human WNV cases, however, there were no cases in Peel.

WNV activity in Peel in 2010 to-date

- As of July 13,122 mosquito batches have been tested for WNV and all have tested negative.
- As in 2009, Peel Public Health will not conduct dead bird surveillance and will rely on larval and adult mosquito surveillance to determine the human health risk of WNV in Peel.
- The larviciding program started on June 1**,** and will continue until September 30, 2010. Larviciding involves applying environmentally friendly products (Bt) to reduce mosquito larvae living in stagnant water. The products are applied to municipal catch basins and selected sites on public property.

Clinical presentation of West Nile Virus illness

The incubation period for WNV ranges from 3 to 14 days. There are three clinical manifestations of WNV: asymptomatic, non-neurological and neurological.

- **Asymptomatic** - The majority of WNV cases
- **WNV non-neurological syndrome** (formerly WNV Fever). About 20% of infected persons develop symptoms which may include a mild flu-like illness with fever, headache and body aches. Occasionally a skin rash or swollen lymph nodes that last several days may occur. 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 disease. Approximately 1 in 150 WNV infections will result in neurological disease. The most significant risk factor for developing severe neurological disease is advanced age.

Exposure

- The period of greatest risk for human WNV acquisition is from mid-July to the end of September, depending on the weather. Camping, outdoor work, gardening, or other activities with exposure to mosquitoes can increase exposure to vectors of arboviral illnesses.

Diagnostic testing of acute cases (IgM)

The requisition for all initial WNV blood tests should indicate: *"Testing is for suspect WNV"*. Include symptoms and travel history on the requisition.

- ***Serologic testing of clotted or serum blood*** remains the mainstay of diagnosis of WNV.
- Blood should be collected in a red cap tube (5-10ml).

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- Negative or equivocal results from samples taken <10 days after symptom onset should be repeated in 10 days.
- For PCR processing, call the Provincial Lab at 416-235-6071.

Diagnostic testing of immunity (IgG)

The serology requisition needs to clearly state: "*this is a test for immunity-IgG"*

- **WNV is a reportable disease. Please report WNV human cases directly to Peel Public Health at 905-799-7700** or, for more information, visit http://www.peel-bugbite.ca [1].

Legionellosis Update

Since the beginning of July 2010, there has been an increase in legionellosis cases reported in Peel and in other jurisdictions across Ontario.

Legionellosis is an acute infection caused by the bacterium *Legionella pneumophila*. The disease has two distinct syndromic presentations:

- Legionnaire's Disease (the more severe pneumonic form), and
- Pontiac fever, a milder, non-pneumonic illness.

Legionellosis is acquired through inhalation of contaminated aerosols or water from devices such as cooling towers, showers and faucets. It is not spread from person to person.

Those most at risk for legionellosis are older people (usually 65 years of age and older), smokers, patients with COPD and immunocompromised patients.

Diagnostic testing

- Physicians who diagnose individuals with community-acquired pneumonia should consider *Legionella* in their differential diagnosis.
- The recent cluster of legionellosis cases in Peel were all confirmed with urine antigen detection tests.
- Genotyping is necessary in order to link cases to each other or to an environmental source. Genotyping requires isolates obtained from culture (i.e., not urine antigen).

The optimal approach to diagnosis of legionellosis includes:

1. collection of a urine sample for a urinary antigen test

   AND

2. collection of an appropriate respiratory sample for culture from sputum or bronchoalveolar lavage

Sputum can be collected for culture from patients not requiring bronchoscopy, but the sensitivity is lower. Specimens should be collected prior to antibiotic treatment.

[1]**References:**
MOHLTC West Nile Virus Laboratory Diagnostic Guidelines

MOHLTC Infectious Diseases Protocol, 2009 Appendix A: Disease - Specific Chapter: West Nile Virus

MOHLTC Infectious Diseases Protocol, 2009 Appendix B: Provincial Case Definitions for Reportable Diseases. West Nile Virus Illness