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First Lab-Confirmed West Nile virus Case in SMDHU

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

Date: September 10, 2024

The first confirmed human case of West Nile virus (WNV) illness in a Simcoe Muskoka resident was reported on September 5, 2024. The case is considered locally acquired as they did not travel outside of the SMDHU region during their incubation period (up to 14 days generally; up to 21 days in immunocompromised persons).

As of August 31, 2024, there have been 12 human WNV cases in Ontario this year. In addition surveillance in 2024 throughout SMDHU has identified 2 positive WNV mosquito pools in Barrie & 1 positive WNV mosquito pool in Alliston, but the risk exists throughout our catchment area.

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. Fewer than 1% of infected people will develop neurological symptoms.

Testing Indications

Testing for WNV infection is indicated when a patient displays clinically compatible signs/symptoms of infection and has a compatible exposure history (e.g., noted mosquito bites, travel to an endemic area, among others). Serology is the primary testing modality for WNV infection.

Most WNV infections are asymptomatic. WNV disease should be considered in individuals with a febrile or acute neurological illness **AND** recent exposure to mosquitoes, a blood transfusion or organ transplantation.

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This is especially true during the summer months during active mosquito season. WNV should be considered in the differential diagnosis in cases of suspected encephalitis and aseptic meningitis (e.g., herpes simplex virus, enteroviruses, among others) or infections caused by other arboviruses with a similar geographic distribution (e.g., Eastern equine encephalitis, Powassan virus, among others). The diagnosis should also be considered in any infant born to a mother infected with the virus during pregnancy or while breastfeeding.

Laboratory diagnosis of WNV infection can be accomplished by testing serum or CSF for virus-specific antibodies or nucleic acids. **Serology testing is preferred for individuals suspected of WNV infection.** Testing by PCR is not routinely recommended, due to brief episodes of viremia and should be considered only for individuals that are immune compromised¹. Testing of asymptomatic individuals is not recommended.

More information about laboratory testing can be found at [Public Health Ontario Laboratory: West Nile Virus.](#)

For more information on WNV illness please visit www.smdhu.org/HPPortal or to report suspects or confirmed cases of WNV illness please contact the Simcoe Muskoka District Health Unit Infectious Diseases Team at 705-721-7520 or 1-877-721-7520 extension 8809.

¹ For PCR requests, it is **MANDATORY** to provide all information requested on a separate [Arbovirus \(Non-Zika\) Information Intake Form.](#)