

Health Advisory

Locally-Acquired and Travel-Related Arboviral Infections: Testing and Reporting Requirements for West Nile and Other Arboviruses

July 12, 2017

Given the detection of mosquitoes infected with West Nile virus (WNV) in Philadelphia and neighboring counties in southeastern Pennsylvania, risk for human infection is increased. Area healthcare providers should consider the potential for WNV and other arboviral infections (e.g., Powassan virus) in patients presenting with unspecified neuroinvasive infections, as well as travel-related arboviral infections (e.g., Zika) among Philadelphia residents returning from subtropical and tropical regions.

SUMMARY POINTS

- Mosquitoes infected with WNV have been detected in Philadelphia.
- Through October, collect both serum and CSF for WNV IgM testing of patients who have unexplained encephalitis or meningitis.
- Assess travel and outdoor activity history, and place testing for other arboviruses as needed.

All suspected and confirmed arboviral infections including WNV, Zika, chikungunya, and dengue as well as encephalitis cases should be reported immediately to the Philadelphia Department of Public Health (PDPH) at 215-685-6740 during regular business hours or 215-686-4514 after-hours. **Your support testing and reporting suspected arboviral infections enables us to implement mosquito-control measures in a timely manner.**

West Nile Virus (WNV) and Other Arboviral Encephalitides

Although <1% of infected individuals will develop WNV neuroinvasive disease (aseptic meningitis, encephalitis, or flaccid paralysis), severe illness may result in residual neurological deficits or death. The risk of neuroinvasive disease is highest among adults > 50 years old and individuals with weakened immune systems. Between 2012 and 2016, 1 to 6 neuroinvasive WNV infections and up to 2 deaths occurred annually in Philadelphia. Current seasonal WNV activity updates are available on the PDPH Health Information Portal (<https://hip.phila.gov>).

Laboratory Diagnosis of WNV: Beginning now through the end of October or when the first hard frost occurs, PDPH urges clinicians to collect both serum and cerebrospinal fluid (CSF) for WNV testing from patients who have onset of unexplained encephalitis or meningitis. WNV-specific IgM in serum or CSF is preferred for laboratory confirmation. Consider the specimen type and timing of collection when ordering WNV-specific IgM testing.

- Serum: Collect 8 to 14 days after illness onset. Draw and test additional serum if collected too early.
- CSF: Collect within 8 days of illness onset.

Many commercial laboratories offer serologic and polymerase chain reaction testing for WNV. Any positive specimen should be forwarded to the Pennsylvania Department of Health Bureau of Laboratories (PADOH BOL) for confirmatory testing using standard methods developed by the Centers for Disease Control and Prevention (CDC). PDPH can provide consultation for testing and help facilitate specimen submission to PADOH BOL.

Providers in our area should also recognize that other arboviral infections (e.g., Powassan, Eastern Equine Encephalitis, La Crosse, Jamestown Canyon, etc.), although rare, can result in severe illness similar to WNV meningoencephalitis. Specifically, Powassan virus, which is spread by black-legged ticks (Lyme disease vector), has emerged in upper mid-western and northeastern states including neighboring New York and New Jersey. For arbovirus testing inquiries, contact PDPH at 215-685-6742.

Mosquito Bite Prevention: Between April and October, discuss the following prevention measures with your patients, especially those who work or are active outdoors. Regardless of season, prevention tips should also be shared with patients traveling to areas where other mosquito-borne infections are endemic.

- Use repellent with DEET (≥20% to prevent tick bites), picaridin, or oil of lemon eucalyptus when outdoors.
- When weather permits, wear long-sleeved shirts and long pants.
- Keep well-fitted screens on windows and doors along with using air conditioning.
- Regularly check and empty standing water outside their home (e.g., unused pools, tires, containers).
- Report mosquito problems and dead bird sightings to the PDPH's Mosquito Complaint Line at 215-685-9000.