



Philadelphia Department of Public Health
Division of Disease Control

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

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Given the detection of mosquito pools infected with West Nile virus (WNV) in Philadelphia and neighboring counties in southeastern PA and NJ, risk for human infection is increased. Area healthcare providers should consider the potential for WNV and when indicated by travel or outdoor exposure history, other arboviral infections (e.g. Zika, Powassan virus) in patients presenting with unspecified neuroinvasive infections.

All suspected and confirmed arboviral infections including neuroinvasive and non-neuroinvasive WNV, Zika, chikungunya, and dengue as well as encephalitis, meningitis, and acute flaccid paralysis cases should be reported immediately to the Philadelphia Department of Public Health (PDPH) at 215-685-6742 during regular business hours or 215-686-4514 after-hours. **Your assistance with testing and immediate reporting of suspected arboviral infections enables us to determine potential exposure locations, direct additional mosquito-control efforts, and accurately monitor severe illness.**

West Nile Virus and Other Arboviral Encephalitides: Although less than 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 increases with age, and is highest among adults >50 years old and among organ transplant patients. In 2015, 4 neuroinvasive WNV infections occurred in Philadelphia, and the WNV positivity rate in mosquitoes was similar to 2012 (19% vs. 18%), the last peak WNV season. 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 unexplained encephalitis, meningitis, or acute flaccid paralysis. WNV-specific IgM in serum or CSF is preferred for laboratory confirmation. Consider specimen type and timing of collection when ordering WNV-specific IgM testing.

- Serum: Collect 8 to 14 days after illness onset. Draw & test additional serum if initially collected before day 8.
- CSF: Collect within 8 days of illness onset.

Many commercial laboratories offer serologic and polymerase chain reaction (PCR) 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 is available to help facilitate specimen submission to PADOH BOL. Providers in our area should also recognize that other arboviral infections (e.g., Zika, Powassan, Eastern Equine Encephalitis, La Crosse, etc.), although rare, can result in severe illness similar to WNV meningoencephalitis. Providers should assess the patient's recent travel and outdoor exposure history to inform testing for other arboviral infections. For arboviral infection testing inquiries, contact the PDPH at 215-685-6742.

Mosquito Bite Prevention: Between April and October, discuss prevention measures with your patients, especially those who work or are active outdoors. Prevention tips should always be shared with patients traveling to areas endemic for Zika, chikungunya, dengue, and other mosquito-borne infections.

- Use repellent with DEET (≥20%), Picaridin, or oil of lemon eucalyptus when outdoors.
- Wear light-weight long-sleeved shirts and long pants for additional protection.
- Keep well-fitted screens on windows and doors along with using air conditioning.

SUMMARY POINTS

- Mosquito pools infected with WNV have been detected.
- Through October, collect serum and cerebrospinal fluid (CSF) for WNV IgM testing of patients who have unexplained encephalitis, meningitis, or flaccid paralysis.
- Assess travel and outdoor exposure history from these patients to determine the need for other arboviral testing.

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