

MLS Laboratory Update: Arbovirus Testing for the 2025 Vector-borne Disease Season

MAY 15, 2025

Purpose of this Message:

To alert clinical laboratory partners that the Minnesota Department of Health-Public Health Laboratory (MDH-PHL) has resumed mosquito-borne arbovirus testing for the 2025 summer season.

Action Item:

Submit serum, cerebrospinal fluid (CSF), and urine specimens to MDH-PHL for arbovirus testing, especially in patients presenting with neurologic symptoms after outdoor exposures.

Background:

With the arrival of warmer temperatures, Minnesotans are heading outdoors, increasing their risk of exposure to ticks and mosquitoes and the diseases they carry. In 2024, Minnesota continued to see infections due to emerging arboviral pathogens, like Powassan virus (transmitted by the blacklegged tick or deer tick) and Jamestown Canyon virus (transmitted by various species of mosquitoes). Both viruses are rare but can cause serious illness, especially in older patients, or those with compromised immune systems.

Healthcare providers should be suspicious of arboviral disease throughout the warmer months in patients presenting with fever, headache, and myalgia after spending time outdoors, particularly if symptoms progress to encephalitis, meningitis, or other neurologic disease.

Additional Information:

Key Points:

- MDH-PHL has resumed arbovirus testing for the 2025 season.
- **Symptom onset date is required** for testing to be performed.
[The General Infectious Disease Submission Form \(https://www.health.state.mn.us/diseases/idlab/forms.html\)](https://www.health.state.mn.us/diseases/idlab/forms.html) provides a place for this information to be recorded. This information helps determine the most appropriate testing methods based on disease progression and is required for confirmatory testing.
- More specific information for arbovirus submissions can be found in our [Infectious Disease Laboratory \(IDL\) Test Catalog \(https://labinventory.web.health.state.mn.us/#/\)](https://labinventory.web.health.state.mn.us/#/)
- Healthcare providers and clinical laboratories are required to report all suspect and confirmed arboviral disease cases to MDH within one working day per the reportable disease rule. Submissions of specimens are also helpful for ongoing surveillance but not required by law.

MLS LABORATORY UPDATE: ARBOVIRUS TESTING FOR THE 2025 VECTOR-BORNE DISEASE RISK SEASON

- If any arbovirus testing was performed by a laboratory other than MDH, please record the testing and the results in the comments of the submission form.

Testing Done at MDH-PHL: Any specimen submitted for arboviral testing will be tested for the entire endemic arboviral panel for the presence of IgM antibodies through an EIA, IFA, or RT-PCR (WNV only). Testing turnaround time to receive a test result report back is 7-21 days from specimen receipt at MDH.

Our endemic arboviral panel currently includes:

- Serum and/or CSF specimens:
 - Powassan (POW).
 - Jamestown Canyon Virus (JCV).
 - West Nile Virus (WNV).
- Serum specimens only:
 - California Group Encephalitis Viruses (CAL).
 - St. Louis Encephalitis Virus (SLE).
 - Western Equine Encephalitis Virus (WEE).
 - Eastern Equine Encephalitis Virus (EEE).
- Urine specimens:
 - WNV only.

Specimen Requirements:

- 1 mL serum (preferred).
- 2 mL CSF (preferably with a paired serum).
- Urine specimens submitted with a paired serum.
 - Approximately 1 mL, in a sterile container.
- Please ship within 48 hours of collection at refrigeration temperature. Otherwise, freeze and ship to MDH frozen. Specimens received at refrigeration temperature more than 48 hours after collection will not be tested for WNV IgM antibodies. Please record storage temperature on submission form.

If travel associated arboviral infections are suspected, such as Zika, dengue, or chikungunya, or if you have additional questions about arboviral disease, please contact our Epidemiology department at 651-201-5414.

For more information about arboviruses, please see the MDH [Vectorborne Diseases web page \(https://www.health.state.mn.us/diseases/vectorborne/index.html\)](https://www.health.state.mn.us/diseases/vectorborne/index.html).

Questions:

Sarah Namugenyi, Ph.D
Interim Virology/Immunology Unit Supervisor

MLS LABORATORY UPDATE: ARBOVIRUS TESTING FOR THE 2025 VECTOR-BORNE
DISEASE RISK SEASON

Public Health Laboratory, Minnesota Department of Health

Phone: 651-201-5691

Sarah.Namugenyi@state.mn.us

For case reporting or arbovirus information:

Vector-Borne Disease Epidemiology at 651-201-5414

Thank you for your partnership and continued arboviral disease surveillance efforts in Minnesota.

THIS IS AN UPDATE FROM THE MINNESOTA DEPARTMENT OF HEALTH – PUBLIC HEALTH LABORATORY (MDH-PHL) AND THE MINNESOTA LABORATORY SYSTEM (MLS). THIS MESSAGE IS BEING SENT TO MLS LABORATORY CONTACTS SERVING MINNESOTA RESIDENTS. YOU ARE NOT REQUIRED TO REPLY TO THIS MESSAGE.

PLEASE FORWARD THIS TO ALL APPROPRIATE PERSONNEL WITHIN YOUR INSTITUTION AND HEALTH SYSTEM

THE CONTENT OF THIS MESSAGE IS INTENDED FOR PUBLIC HEALTH AND HEALTH CARE PERSONNEL AND RESPONSE PARTNERS WHO HAVE A NEED TO KNOW THE INFORMATION TO PERFORM THEIR DUTIES. IT IS FOR OFFICIAL USE ONLY. DO NOT DISTRIBUTE BEYOND THE INTENDED RECIPIENT GROUPS AS DESCRIBED IN THIS MESSAGE.

Minnesota Laboratory System

Minnesota Department of Health, Public Health Laboratory

601 Robert St. N, St. Paul, MN 55164-0899

651-201-5200

health.mnlabssystem@state.mn.us

www.health.state.mn.us/diseases/idlab/mls/index.html

05/15/2025

To obtain this information in a different format, call: 651-201-5200.