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PUBLIC HEALTH ADVISORY

To: Health Care Providers
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Seasonal Arbovirus Update for Clinicians

Summary

This advisory is intended to alert clinicians to the risk of human arboviral disease activity in Maine and provide information on prevention, testing, and reporting. Eastern Equine Encephalitis virus (EEE), West Nile virus (WNV), and Jamestown Canyon virus (JCV) are all mosquito-borne viruses endemic to Maine. These infections can result in severe neurological disease and may be fatal. Clinicians should consider mosquito-borne viruses in patients presenting with unexplained fever, meningitis, or encephalitis, particularly among individuals with outdoor exposure or recent travel to areas with known arboviral transmission. In addition to endemic viruses, clinicians should be aware of imported arboviruses like chikungunya (CHIK), dengue (DENV), Oropouche (OROV), yellow fever (YFV), and Zika (ZIKV), particularly in returning travelers.

Background

In 2025, Maine reported 1 human case of EEE, 1 human case of JCV, and 1 human case of WNV. The EEE case was fatal. The Maine Department of Health and Human Services' Center for Disease Control and Prevention (Maine CDC) also reported non-human arboviral activity in 2024 and 2025 (Table 1). In 2026, as of June 26, 2026, two mosquito pools from Kennebec County tested positive for Jamestown Canyon virus (JCV). No human cases of EEE, JCV, or WNV have been reported to the Maine CDC.

Table 1. Recent Endemic Mosquito-borne Non-Human Arboviral Activity in Maine

Virus	2024	2025
EEE	27 animals, 1 mosquito pool	None
JCV	4 mosquito pools	None
WNV	43 animals, 1 mosquito pool	28 animals, 5 mosquito pools

Recently, these viruses have shown activity between May and November. Year-to-year activity is weather dependent, but clinicians should be aware of the potential for endemic viruses to occur outside the traditional window of risk.

Clinicians should also evaluate patients for travel-associated arboviral infections such as CHIK, DENV, OROV, YFV, and ZIKV in patients who report recent travel to affected regions and have compatible symptoms. Maine lacks mosquito species capable of transmitting these viruses locally but imported cases are possible. Clinicians should monitor the [U.S. CDC’s travel health notices](#) for updates on arboviral activity occurring in other countries.

Clinical Presentation

EEE, JCV, and WNV infections have similar symptoms. Most people infected by these viruses are asymptomatic. The clinical presentations are either neuroinvasive or non-neuroinvasive.

- **Non-neuroinvasive (mild):** fever, headache, fatigue, muscle aches, and neck stiffness
- **Neuroinvasive (severe):** vomiting, ataxia, aphasia, encephalitis, meningitis, confusion, altered mental status, convulsions, seizures, paresis/paralysis, coma, and death

Incubation periods vary by virus. Following a bite from an infected mosquito, symptoms may appear within 4–10 days for EEE, within 1–14 days for JCV, and within 3–15 days for WNV.

Case fatality rates (CFR) for severe infections can range from 10% for WNV to 30% for EEE. The CFR for JCV is not well described.

Risk Factors

The following groups of people are at higher risk for clinically significant arboviral infection:

- People who work or spend time outdoors
- Individuals age over 50 years old and younger than 15 years old
- Persons with weakened immune systems

Testing

Diagnosis of arboviral infections relies on a high index of suspicion, travel history, and on the results of specific laboratory tests. EEE, JCV, WNV, or other arboviral infections should be considered in any individual with an onset of unexplained influenza-like illness, encephalitis, meningitis, or high fever. The local presence of EEE, JCV, and WNV in animals and mosquito pools should further raise the index of suspicion. Clinicians can find up-to-date information on reportable arboviruses in the [weekly arboviral surveillance report](#) posted online.

The Maine CDC’s Health and Environmental Testing Laboratory (HETL) and many other reference laboratories can test for EEE, JCV, and WNV as well as CHIK, DENV, and ZIKV. Testing for OROV and YFV is only available at the U.S. CDC and some reference laboratories (Tables 2 and 3). Preferred testing is by serological IgM and Plaque Reduction Neutralization Test (PRNT), but PCR is also available. DENV may also be diagnosed with an antigen test.

Both the HETL [Requisition Form](#) and the [Arboviral Submission Form](#) are required for testing.

Table 2. Testing Services Available at HETL and U.S. CDC for EEE, JCV, and WNV

Pathogen	Test Type	HETL	U.S. CDC	HETL Test Order Request
Eastern Equine Encephalitis Virus	Serology	Yes	Yes	Arbovirus IgM Serology Panel*
	PRNT	No	Yes	
West Nile Virus	Serology	Yes	Yes	
	PRNT	No	Yes	
Jamestown Canyon Virus	Serology	No	Yes	Indicate "JCV Suspected" **
	PRNT	No	Yes	
	PCR	Yes	No	Jamestown Canyon virus RT-PCR

* Samples automatically sent to U.S. CDC for PRNT confirmation if IgM is positive or indeterminate

** Samples will be sent to the U.S. CDC for serology and PRNT confirmation

Table 3. Testing Services for Imported Arboviruses at HETL and U.S. CDC

Pathogen	Test Type	HETL	U.S. CDC	HETL Test Order Request
Chikungunya Virus	Serology/ PRNT	No	Yes	Indicate “CHIK Suspected” *
	PCR	Yes	No	Chikungunya Virus RT-PCR
Dengue Virus	Serology/ PRNT	No	Yes	Indicate “DENV Suspected” *
	PCR	Yes	No	Dengue Virus 1-4 RT-PCR
Oropouche Virus	Serology/ PRNT	No	Yes	Indicate “OROV Suspected” *
Yellow Fever Virus	Serology/ PRNT	No	Yes	Indicate “YFV Suspected” *
Zika Virus	Serology/ PRNT	No	Yes	Indicate “ZIKV Suspected” *
	PCR	Yes	No	Zika Virus RT-PCR

* Samples will be sent to U.S. CDC for serology and PRNT confirmation

Clinicians who suspect arboviral infection based on clinical evidence should submit serum, whole blood, and CSF for arboviral testing. The sample type depends on the type of test. All CSF samples submitted to HETL should be accompanied by at least one serum sample. Ideally, clinicians should submit an acute and convalescent serum sample for each patient (Table 4). Additional sample collections and tests may be necessary to confirm or rule out infection.

Table 4. Specimen Type and Collection Timeframes by Test Type

Test Type	Specimen Type	Collection Time
Serology/PRNT	Acute Serum (1.0 mL)	Immediately
	Convalescent Serum (1.0 mL)	2+ weeks after onset
	CSF (1.0 mL minimum, 2.0 mL preferred)	2-10 days after onset
PCR	Whole Blood (at least 0.5 mL)	3-10 days after onset
	CSF (0.5 mL minimum, 1.0 mL preferred)	2-10 days after onset

A negative PCR result does **NOT** rule out arboviral infection. Samples from persons with positive IgM and negative PCR results should be forwarded to U.S. CDC for confirmatory testing.

In some instances, arboviruses from the same genus (e.g., flaviviruses such as DENV, Powassan [POW], St. Louis Encephalitis [SLEV], and WNV) produce cross-reactive antibodies. In areas where two or more closely-related arboviruses occur, serologic testing for more than one virus may be needed to determine the specific causative virus. For example, a positive SLEV IgM in a person with no recent out of state travel may indicate infection with POW or WNV.

Treatment

Treatment of arboviral infections is supportive.

Prevention

The best way to prevent mosquito-borne illnesses is to prevent mosquito bites. Steps patients can take to protect themselves are as follows:

- Wear long sleeves and pants to minimize exposed skin for mosquitoes to bite.
- Use EPA-approved repellents on skin and permethrin on clothing. Always remember to follow instructions on the label.
- Avoid outdoor activity from dusk to dawn, when mosquitoes are most active.
- Reduce standing water around homes at least weekly to disrupt mosquito breeding habitats, like birdbaths and pet bowls.

Reporting

All arboviral illnesses are reportable in Maine. **EEE is immediately notifiable.** All suspected cases and positive laboratory reports should be reported by electronic laboratory reporting, or by phone (if immediately notifiable) to the 24/7 disease reporting and consultation line at 1-800-821-5821. **Laboratories are required to forward all arboviral positive samples to HETL for confirmation testing.**

Additional Information

- Arboviral testing in Maine for clinicians: www.maine.gov/dhhs/mecdc/sites/maine.gov.dhhs.mecdc/files/epi/Arboviral-Testing-Healthcare.pdf
- How to submit human arboviral specimens to HETL: www.maine.gov/dhhs/mecdc/services/maine-public-health-laboratory/clinical-microbiology/submitting-samples
- The Maine CDC arboviral diseases website: www.maine.gov/dhhs/vectorborne
- Weekly arboviral reports (June to October): www.maine.gov/dhhs/mecdc/data-reports/diseases/animal-and-insect-borne-diseases/arboviral-surveillance-reports
- The U.S. CDC mosquito website: www.cdc.gov/mosquitoes
- The U.S. CDC travel health notices: wwwnc.cdc.gov/travel/notices
- Dengue testing guidance: www.cdc.gov/dengue/hcp/diagnosis-testing
- Oropouche clinical guidance: www.cdc.gov/oropouche/site.html#hcp
- Zika testing guidance: www.cdc.gov/zika/hcp/diagnosis-testing
- The U.S. CDC: Imported arboviral risk by country:
 - Chikungunya: www.cdc.gov/chikungunya/data-maps
 - Dengue: www.cdc.gov/dengue/areas-with-risk
 - Oropouche: www.cdc.gov/oropouche/data-maps/index.html
 - Yellow Fever: www.cdc.gov/yellow-fever/south-america/index.html
 - Zika: www.cdc.gov/zika/geo/index.html
- The Maine CDC disease reporting and consultation line: 1-800-821-5821 (available 24/7)