Arboviral Testing in Maine

It is arboviral season in Maine. Keep these points in mind when considering arboviral testing.

When to consider arboviral testing:

Endemic arboviruses in Maine include:
• Eastern Equine Encephalitis (EEE)
• Jamestown Canyon virus (JCV)
• Powassan virus (POW)
• West Nile virus (WNV)

Consider arboviruses in any patient with
• Febrile or acute neurologic illness
• Recent likely exposure to ticks or mosquitoes
• Cases of encephalitis and aseptic meningitis
• Recent history of travel to areas where non-endemic arboviruses circulate

Consult an infectious disease physician as early as possible to optimize diagnostic testing. Viral loads decrease quickly.

Specimen collection for selected tests at HETL:

Recommended specimen collection volumes:
• CSF Panel by PCR: Collect a minimum of 1.5 mL CSF.
  • If negative for enterovirus, HSV1, HSV2, VZV, and Neisseria meningitidis, will reflex to run Arboviral Panel.
• Arboviral Panel: Collect a minimum of 0.5 mL CSF, along with a paired serum sample.
• Arboviral Panel AND POW RT-PCR: Collect a minimum of 1.0 mL CSF.
• Viral Metagenomics: May be ordered when etiology is unknown. Collect minimum of 100 µL CSF.

Sign up for the Health Alert Network:

Maine CDC shares updates about cases of arboviral illness and testing through the Maine Health Alert Network (HAN). Sign up to receive HANs at https://www.mainehan.org/.
Interpreting results:
Assays for the detection of IgM and IgG antibodies (ELISA, MIA, IFA) provide a presumptive diagnosis and should be followed by confirmatory testing.
• Confirmatory testing by Plaque Reduction Neutralization Test (PRNT) conducted at US CDC Fort Collins. This test requires at least 14 days before a result is available.
In geographic areas where two or more closely-related arboviruses occur, testing for more than one virus may be needed to determine the specific causative virus.
• For example, such testing might be needed to distinguish antibodies resulting from infections with flaviviruses such as West Nile virus and Powassan virus.

Share this information with your lab:
Clearly label each specimen with:
• Patient name
• Patient date of birth
• Specimen type
• Specimen collection date

For specimen packaging, storage, and shipping information, refer to the Laboratory Submission Information Sheets (LSIS) found here: www.maine.gov/dhhs/lsis

Each sample must be submitted with the following forms. Fill out all forms completely (including symptom onset date on each form):
• A HETL Clinical Requisition Form
• If requesting Arboviral Panel, submit with the Arboviral Submission Form
• Find links to these forms at: www.maine.gov/dhhs/microforms

A Maine CDC epidemiologist may call to collect additional information if specimens need to be sent to US CDC Fort Collins for further testing.

For more information:
Call Maine CDC at 1-800-821-5821 or email disease.reporting@maine.gov