



**STATE OF NEW HAMPSHIRE**  
**DEPARTMENT OF HEALTH AND HUMAN SERVICES**  
***DIVISION OF PUBLIC HEALTH SERVICES***  
**BUREAU OF INFECTIOUS DISEASE CONTROL**

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***How to Collect and Submit Clinical Specimens for Arboviral Testing***

*All suspect arbovirus cases should be reported to the Communicable Disease Control Section at 1-603-271-4496 before specimens are submitted.*

**Diagnostic testing:** The arboviral testing panel is a serological test for West Nile virus (WNV), Eastern Equine Encephalitis virus (EEE), St. Louis Encephalitis virus (SLE).

- The most efficient diagnostic method measures IgM antibodies in CSF or serum collected within 8 days of illness onset. The PHL uses the Microsphere Immunoassay (MIA) for detection of IgM antibody.
- Since the MIA is a preliminary test, Plaque Reduction Neutralization test (PRNT) is required for case confirmation.
- The IgM antibody does not cross the blood-brain barrier; IgM antibody in CSF strongly suggests central nervous system infection.
- Serologic tests have a lower sensitivity due to cross-reactivity to related flaviviruses (e.g., yellow fever, Japanese encephalitis, dengue) and the persistence of WNV IgM antibodies in serum for 6 months or longer after infection.

**Fee Schedule:**

<b>TEST</b>	<b>CPT</b>
Eastern Equine Encephalitis (EEE) virus antibodies, IgM	86652
St. Louis Encephalitis virus antibodies, IgM	86653
West Nile Virus (WNV) antibodies, IgM	86788

All specimens submitted to the Public Health Laboratories will be screened for EEE, SLE, and WNV.

**The Total Cost Per Screen is \$105.00.**

**Note: All spinal fluid submissions must be accompanied by a patient matched serum sample. There will only be a single charge for the paired specimens.**

**Specimens:**

**Cerebrospinal fluid (CSF):** As early as the first few days of illness, IgM antibody can be demonstrated in CSF by MIA.

Submit 2-5 ml in sterile, empty, screw-capped container.

**Serum:** Acute serum (3ml) should be collected and sent immediately to PHL for testing. If the specimen is IgM positive, then a convalescent specimen may be requested to determine the timing of infection.

**Ideal timing of specimens for serology:**

<b>Specimen</b>	<b>Timing</b>
<b>Acute</b>	3 to 10 days after onset of symptoms
<b>Convalescent</b>	2-3 weeks after acute sample

The following information is critical for accurate interpretation of test results and should be recorded on the accompanying case report form:

- **Date of onset of disease symptoms**
- Date of specimen collection
- Unusual immunological status of patient (e.g. immunosuppression)
- Brief clinical summary including suspected diagnosis (e.g., encephalitis or meningoencephalitis)
- Current address and travel history to flavivirus-endemic areas
- History of prior vaccination against flavivirus disease (e.g., yellow fever, Japanese encephalitis or Central European encephalitis)
- Disease history (e.g., previous history of viral encephalitis or Dengue fever)

**Procedure for submission of serum or CSF:**

1. Perform lumbar puncture or venipuncture (SST or whole blood tube) by standard aseptic technique.
2. Label the specimen tubes with patient's full name, date of birth, and the date of collection.
3. If possible, centrifuge blood to separate serum.
4. For CSF, tightly seal cap and then wrap parafilm around seal to provide additional protection from leakage during transport.
5. Fill out requisition form completely, being sure to request "Arbovirus IgM"
6. Place CSF inside zip-lock biohazard bag and seal.
7. Place blood tube inside inner metal liner. Be sure there is enough absorbent material to cushion tubes in transit or to absorb liquid in case of leaking or broken tubes. Cap liner tightly.
8. Wrap the requisition form around the OUTSIDE of the inner metal liner.
9. Insert the metal liner into the outer cardboard container, and cap tightly. Make certain that the mailing container is labeled with the name and address of the NH PHL.
10. Mail first class or hand/courier deliver to the PHL. Refrigerate at 2-8°C if it is not possible to send specimen immediately.

To order specimen collection kits, please call 603-271-4605, or email <mailto:phlclinicalkitorders@dhhs.nh.gov>.

For further technical information regarding diagnostic testing, please call Rebecca Lovell, at 603-271-0280.