Zika Virus Testing Available at MDHHS

*Updated 5/17/2016 to include new Zika protocol, (diagram below).*

In response to the emergence of Zika virus, the MDHHS laboratory is now able to provide testing. Since Zika, dengue and chikungunya viruses show similar clinical presentations in patients and are spread by the same mosquito genus in the same geographic region, testing for dengue and chikungunya viruses is performed when Zika virus testing is requested.

Preapproval is required before submission of specimens for testing. Accurate dates for both illness onset and travel to Zika-endemic areas are required. Call your local health department or MDHHS epidemiologists at 517-335-8165 for approval.

**Specimen Collection and Submission**

Serum tests include the CDC Trioplex Real-Time RT-PCR (polymerase chain reaction) assay for viral nucleic acid, the CDC IgM capture MAC-ELISA assay for Zika antibodies, and an InBios IgM capture ELISA for dengue and chikungunya IgM antibodies.

Urine, cerebral spinal fluid (CSF) and amniotic fluid specimens will be accepted for Zika PCR testing **ONLY** if they are accompanied by serum specimens.

Specimen collection and submission guidelines may be found [here](#).

IgM serology (ELISA) test information may be found [here](#).

PCR test information may be found [here](#).

**All specimens must be accompanied by a test requisition and a supplemental questionnaire.**

- The test requisition has been updated. Please use the new (DCH-0583) form found [here](#).
  
  Under TESTS THAT REQUIRE MDHHS APPROVAL, EMERGING ARBOVIRUS PANEL check the box for PCR or SEROLOGY (or both) as advised during the approval process.

- The Michigan Zika Supplemental Questionnaire form must be completed and submitted with the specimens. The questionnaire can be found [here](#).

**Testing Algorithm**

<table>
<thead>
<tr>
<th>Date of specimen collection is <strong>within 3 days</strong> of symptom onset.</th>
<th>Date of specimen collection is <strong>4-7 days</strong> of symptom onset.</th>
<th>Date of specimen collection is <strong>7-14 days</strong> after symptom onset.</th>
<th>Date of specimen collection is <strong>2-12 weeks</strong> after symptom onset.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tests Requested</td>
<td>Tests Requested</td>
<td>Tests Requested</td>
<td>Tests Requested</td>
</tr>
<tr>
<td>• Zika PCR (serum &amp; urine)</td>
<td>• Zika PCR (serum &amp; urine)</td>
<td>• Zika PCR (urine)</td>
<td>• Zika IgM (serum)</td>
</tr>
<tr>
<td>• Dengue PCR (serum)</td>
<td>• Zika IgM (serum)</td>
<td>• Dengue IgM (serum)</td>
<td>• Dengue IgM (serum)</td>
</tr>
<tr>
<td>• Chikungunya PCR (serum)</td>
<td>• Dengue PCR &amp; IgM (serum)</td>
<td>• Chikungunya IgM (serum)</td>
<td>• Chikungunya IgM (serum)</td>
</tr>
</tbody>
</table>
Results

Specimens with positive or equivocal results for Zika, dengue or chikungunya virus IgM will be forwarded to the CDC for confirmation. In addition, plaque-reduction neutralization testing (PRNT) will be performed to delineate between true Zika IgM and cross-reactivity with other flaviviruses, (e.g. West Nile, dengue). All positive and equivocal serology results should be considered **PRESUMPTIVE** until further PRNT testing is performed.


The following conditions apply to CDC’s Emergency Use Authorization (EUA) Zika MAC-ELISA assay:

- This test has not been FDA cleared or approved.
- This test has been authorized by FDA under an EUA for use by authorized laboratories.
- This test has been authorized only for the diagnosis of Zika virus infection and not for any other viruses or pathogens.
- This test is only authorized for the duration of the declaration that circumstances exist justifying the authorization of emergency use of in vitro diagnostic tests for detection of Zika virus and/or diagnosis of Zika virus infection under section 564(b)(1) of the Act, 21 U.S.C. § 360bbb-3(b)(1), unless the authorization is terminated or revoked sooner.