

**Date:** February 10, 2016

**To:** All Zones - Nursing, Physicians, Medical Officers of Health and Laboratories

**From:** Provincial Laboratory for Public Health (ProvLab)

**Re:** Update on Laboratory Testing for Zika Virus in Pregnant Females

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**Key Messages:**

- This bulletin provides further information on Zika virus testing and should be read in conjunction with the previous February 4, 2016 bulletin<sup>1</sup>.
- In principle, testing of pregnant women by serology for viral infections associated with congenital defects is desirable. Recent Canadian and U.S. recommendations<sup>2,3,4</sup> indicate that asymptomatic pregnant women with recent travel history to areas of known Zika virus activity, can be carefully considered for serological testing.
- Both the physician and the patient need to be well aware of the caveats associated with Zika virus serological testing. These caveats include a lack of thorough knowledge about the parameters of the assays and a current low capacity for testing, leading to results that can be difficult to interpret, and potentially long turn-around times.
- The Zika IgM assay may result in false positives and has potential cross-reactivity with other flaviviruses, such as dengue viruses which co-circulate in the same geographic areas as Zika virus. Based on experience with other flaviviruses, the lack of an IgM response within 2 to 12 weeks after exposure would suggest that recent infection did not occur, but the negative predictive value of the assay is currently insufficiently substantiated. The confirmatory assay (neutralization, PRNT) is extremely labor intensive and consequently has a long turn-around time, and only a small number of samples can be processed at a time. Previous flavivirus infection or vaccination (e.g. Yellow Fever) can also create difficulties.
- The situation is expected to evolve over time as more data and experience are acquired with these assays, as the testing capacity increases and as other assays are developed and evaluated.
- Current recommendations are constantly reviewed and ProvLab will issue further information as needed.
- Consult with the Virologist-on-Call for Zika virus testing requests
  - Calgary site 403 944-1200
  - Edmonton site 780 407-8822

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**Laboratory Testing:**

Asymptomatic non-pregnant patient	No testing performed
Symptomatic* patient	<p>If symptom onset is <math>\leq 7</math> days:</p> <ul style="list-style-type: none"> <li>• Order Zika virus RT-PCR on urine and EDTA (lavender top) blood, AND</li> <li>• Order SST (Gold Top) blood for Zika virus IgM and IgG serology. Send convalescent blood 10-14 days later.</li> </ul>
Asymptomatic pregnant female	<p>Testing may be considered 2 weeks after returning from Zika endemic area:</p> <ul style="list-style-type: none"> <li>• Zika serology - Order SST (Gold Top) blood for Zika virus IgM and IgG serology on samples collected 1 month apart</li> </ul>

\*Case definition: Clinical illness with TWO or more symptoms: acute onset of fever, maculopapular rash, conjunctivitis, or arthralgia.

**Required clinical information on ProvLab requisition:**

- (1) pregnancy status and gestational age,
- (2) clinical symptoms,
- (3) date of onset of illness,
- (4) areas visited within past 2 weeks and
- (5) date of return to Alberta.

**Comment/Questions:**

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Dr. Kevin Fonseca, Clinical Virologist at [Kevin.Fonseca@albertahealthservices.ca](mailto:Kevin.Fonseca@albertahealthservices.ca)

**This bulletin has been reviewed and approved by:**

Dr. Graham Tipples, Medical / Scientific Director, Provincial Laboratory for Public Health (ProvLab)

**References**

1. [ProvLab bulletin. Availability of Laboratory Testing for Zika Virus](#) (February 1, 2016)
2. Public Health Agency of Canada. [Laboratory testing recommendations for Zika virus.](#) (February 9, 2016)
3. Committee to Advise on Tropical Medicine and Travel. [Canadian recommendations on the prevention and treatment of Zika virus.](#) (February 8, 2016)
4. Centers for Disease Control and Prevention. [Update: Interim guidelines for health care providers caring for pregnant women and women of reproductive age with possible Zika virus exposure – United States, 2016. MMWR](#) (February 5, 2016):