



Zika Virus Update for Healthcare Professionals

Last updated: March 30, 2016; updates from previous version are underlined

What is Zika virus?

Zika virus is a flavivirus transmitted by *Aedes* mosquitoes found in South America, Latin America and the Caribbean. Originally found only in Africa and Asia, the virus was first reported in the Western Hemisphere in 2015. Zika is from the same family of viruses as Dengue and West Nile Virus that are also transmitted by *Aedes* mosquitoes. Mosquito-borne transmission is overwhelmingly the dominant mechanism of Zika transmission. There have been reports, outside of Canada, of both sexual transmission and transmission of Zika virus through the blood supply. The overriding concern about Zika infection relates to the association between Zika virus infection in pregnancy and microcephaly. The nature of this association is being investigated, as causality has not been established.

Who is at risk of acquiring Zika virus?

- 1) People from British Columbia who travel to regions where Zika is circulating. More than 30 countries in South America, Latin America and the Caribbean have reported Zika cases. Due to differences in testing and reporting, the risk of acquiring Zika infection when travelling to countries in the region not currently reporting Zika cases is unknown and likely to change. The absolute risk to a traveller for each particular destination is unknown at this time. For a list of affected countries go here: <http://www.cdc.gov/zika/geo/index.html>
- 2) Possibly sexual partners of men who have recently visited areas where the Zika virus is circulating.
- 3) A fetus exposed through either of the mechanisms above.

What are the symptoms and complications of Zika virus infection?

Up to 80% of those infected are asymptomatic. Symptomatic illness is generally mild, with acute onset of low-grade fever, maculopapular rash, arthralgia, or non-purulent conjunctivitis, lasting from several days to one week. Headache and myalgias are also reported. Severe disease is uncommon, and death is rare. Guillain-Barré syndrome has been reported following Zika virus infection, and an association between Zika virus infection in pregnant women and microcephaly in the infant is being further investigated. There is currently no specific treatment for, or vaccine against, Zika virus infection.

Are cases expected in Canada?

Cases of Zika virus have been confirmed in Canada **only among travellers** who have been to areas where Zika virus is circulating. The risk of vector-borne Zika transmission in Canada is very low as the mosquitoes known to transmit the virus are not established in Canada. Cases of Zika virus are reportable to the medical health officer.

Prevention

There are no vaccines or medications currently available to prevent Zika virus infection. **It is advised that pregnant women and women trying to get pregnant during their travels or immediately afterwards, consider postponing travel to areas where Zika is being transmitted.** There are no specific recommendations for others to avoid travel. If pregnant women, and those trying to conceive are unable to avoid travel they should follow travel advice recommended for all travellers including seeking travel medicine advice prior to departing

All travellers should take precautions to avoid mosquito bites throughout the day and night, both indoors and outdoors, and be advised to:

- wear long-sleeved shirts and long pants,
- use a recommended insect repellent according to instructions on the product label; those containing **DEET (20%)** or **icaridin (20%)** are effective and safe for pregnant women,
- use permethrin-treated clothing and gear,
- stay and sleep in screened-in or air-conditioned rooms,
- if staying outside, sleep under a mosquito bed net

For more information please see: travelclinic.vch.ca

Pregnancy and sexual transmission

Information on this topic is changing rapidly with some of the current recommendations based on expert opinion only. This guidance will be updated frequently as new data become available.

As most infections are asymptomatic, the advice is provided in the context of an exposed and potentially infected traveller.

1) Women as travellers

- a. It is recommended that women be advised of the **risks of conceiving a child in a region where Zika is circulating**, postpone travel if possible, and be provided with information on how to prevent both mosquito bites and pregnancy.
- b. It is recommended that health care providers of women **returning from an area where Zika virus is circulating, discuss delaying conceiving** a child for at least 2 months. This recommendation is based upon the sum of incubation period, duration of illness and time required to clear virus. Note: Once the virus has cleared, there is no evidence to suggest that previous Zika virus infection will have any effect on subsequent pregnancies.
- c. See recommendations below for male partners at risk of Zika infection.

2) Men as travellers

- a. It is recommended that men who have returned from an area where Zika is circulating and who have a **pregnant partner** should consider abstaining from sexual activity or, consistently and correctly using a condom, for the duration of the pregnancy. This advice is being offered in an environment of uncertainty about the duration of time in which special barrier precautions should be in place during pregnancy. Guidance will be updated as evidence becomes available. (The role of Zika virus testing in this setting remains to be determined. You may wish to consult with a BCCDC Public Health Laboratory Medical Microbiologist for specific circumstances at 1-877-747-2522 or page 604-661-7033 for urgent consults only).
- b. It is recommended that health care providers discuss the possibility of sexual transmission of Zika virus with men who have returned from an area where Zika virus is circulating, and who have a **non-pregnant partner**.
 - If effective birth control is being used, the guidance relates to transmission of the virus, and the associated illness in the female partner, in the absence of foetal considerations. For asymptomatic men, interventions to prevent sexual transmission of Zika include abstinence or avoiding unprotected sexual activity for at least 6 months. As data accumulates, more precise recommendations may be communicated.
 - If pregnancy is desired, at minimum, attempts at conception should be delayed for at least 6 months. Abstinence or the use of condoms with sexual activity is recommended for this period of time.

Management of returning travellers and those with sexual contact with a traveller

All returning symptomatic travellers **should be assessed for infections in a returning traveller**. All symptomatic travellers **who have visited an area where Zika virus is circulating and become ill up to 15 days of returning can be offered Zika testing as component of the work-up for infection in a returning traveller (see Table 1 for Laboratory Testing Guidelines)**.

Women, especially pregnant women, who have had unprotected sexual contact with a male partner with possible Zika virus infection should be offered testing.

Zika virus testing is not routinely indicated for **asymptomatic** returning travellers **unless the traveller was pregnant during or within 2 months of returning from travel to a Zika virus affected area**. Testing for other travellers can be considered on a case-by-case basis, in consultation with the Medical Microbiologist at the BCCDC Public Health Laboratory (1-877-747-2522 or page 604-661-7033 for urgent consults only).



**Current recommendations for the management of returning pregnant travellers to BC.
Updates to these recommendations will be shared as soon as available.**

At this time, we recommend that **all pregnant women returning from a Zika affected area be offered Zika virus testing** (please see Table 1 below for details), and a detailed ultrasound at 19-20 weeks gestational age. Those with negative or unknown Zika virus serology and a normal detailed or baseline ultrasound, may be offered monthly ultrasounds for reassurance. **Assistance with interpreting results** and determining follow-up can be obtained from the Reproductive Infectious Diseases Clinic at BC Women's Hospital (Tel: 604-875-2424 ext. 5212, Fax 604-875-2871)

Referral to the Reproductive Infectious Diseases Clinic at BC Women's Hospital is recommended for pregnant women that meet the following criteria:

1. Have a positive test for Zika virus infection OR
2. Have an abnormality on ultrasound consistent with congenital viral infection.

Interpretation of serologic laboratory test results among returning pregnant travellers who did not have symptoms consistent with Zika virus during or within 2 weeks of their travel is challenging as the sensitivity and specificity of Zika virus antibody testing among those who are asymptomatic is not known. Laboratory tests for Zika virus are not yet fully validated and cross-reactivity with related flaviviruses (e.g. Dengue) is common. Results need to be interpreted in consultation with the BCCDC-PHL medical microbiologist (1-877-747-2522 or page 604-661-7033 for urgent consults only).

Table 1. Laboratory Guidance for Zika Virus Testing

Clinical presentation	Recommended Tests
<p>Acutely ill:</p> <ol style="list-style-type: none"> 1. <i>Patient reports two or more symptoms consistent with Zika virus disease (acute onset of fever, maculopapular rash, arthralgia, or conjunctivitis) with onset during or within 2 weeks of travel AND</i> 2. <i>Is currently symptomatic or had symptom onset within the previous 10 days.</i> 	<ol style="list-style-type: none"> 1. 5ml EDTA purple top blood tube for Zika virus RNA detection 2. 5 ml gold top serum separator tube for Zika virus serology 3. Urine for Zika virus RNA detection 4. Nasopharyngeal swab for Zika virus RNA detection <p>Please provide the travel and clinical history (including the date of onset of symptoms), information on pregnancy and indicate that samples are to be forwarded to the BCCDC Public Health Laboratory.</p>
<p>Recovered:</p> <ol style="list-style-type: none"> 1. <i>Reported symptoms consistent with Zika virus disease with onset during or within 2 weeks of travel</i> 2. <i>No longer symptomatic, and symptom onset was more than 10 days ago</i> 	<p>5 ml gold top serum separator tube for Zika virus serology, collected one month after symptom resolution</p> <p>Please provide the travel and clinical history (including the date of onset of symptoms), information on pregnancy and indicate that samples are to be forwarded to the BCCDC Public Health Laboratory.</p>
<p>Asymptomatic:</p> <ol style="list-style-type: none"> 1. <i>No symptoms consistent with Zika virus disease during or within 2 weeks of travel</i> 	<p>5 ml gold top serum separator tube for Zika virus serology, collected one month after return from Zika affected area</p> <p>Please provide the travel and clinical history (including the date of onset of symptoms), information on pregnancy and indicate that samples are to be forwarded to the BCCDC Public Health Laboratory.</p>

Calling the Medical Health Officer

The medical health officer for your region can be reached at the numbers below. When calling, be explicit that the call is related to Zika.

Fraser Health: 604-587-3828 (M-F, 8:30-4:30) OR 604-527-4806 (after hours)

Interior Health: 1-866-457-5648 (24/7)

Island Health:

South Island 1-866-665-6626 (M-F, 8:30-5:00)

Central Island 1-866-770-7798 (M-F, 8:30-5:00)

North Island 1-877-887-8835 (M-F, 8:30-5:00)

All VIHA HSDAs 1-800-204-6166 (after hours)

Northern Health: 250-565-2000 (24/7)

Vancouver Coastal Health: 604-675-3900 (M-F, 8:30-5:00) OR 604-527-4893 (after hours)

References

- Government of Canada – Zika Virus Website
http://healthycanadians.gc.ca/diseases-conditions-maladies-affections/disease-maladie/zika-virus/index-eng.php?utm_source=zika_virus_16&utm_medium=banner_en&utm_campaign=phacfeaturebox
- Public Health Agency of Canada Travel Notice Regarding Zika virus infection in the Americas
<http://www.phac-aspc.gc.ca/tmp-pmv/notices-avis/notices-avis-eng.php?id=143>
- Centers for Disease Control and Prevention – Zika Website
<http://www.cdc.gov/zika/>
- Oster AM, Brooks JT, Stryker JE, et al. Interim Guidelines for Prevention of Sexual Transmission of Zika Virus — United States, 2016. *MMWR Morb Mortal Wkly Rep* 2016;65:120–121. DOI: <http://dx.doi.org/10.15585/mmwr.mm6505e1>
- Oster AM, Russell K, Stryker JE, et al. Update: Interim Guidance for Prevention of Sexual Transmission of Zika Virus — United States, 2016. *MMWR Morb Mortal Wkly Rep*. ePub: 25 March 2016. DOI: <http://dx.doi.org/10.15585/mmwr.mm6512e3er>
- Oduyebo T, Petersen EE, Rasmussen SA, et al. 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 Morb Mortal Wkly Rep* 2016;65:122–127. DOI: <http://dx.doi.org/10.15585/mmwr.mm6505e2>
- Petersen EE, Polen KN, Meaney-Delman D, et al. Update: Interim Guidance for Health Care Providers Caring for Women of Reproductive Age with Possible Zika Virus Exposure — United States, 2016. *MMWR Morb Mortal Wkly Rep*. ePub: 25 March 2016. DOI: <http://dx.doi.org/10.15585/mmwr.mm6512e2er>
- Interim RCOG/RCM/PHE/HPS clinical guidelines: Zika Virus Infection and Pregnancy - Information for Healthcare Professionals
<https://www.rcog.org.uk/globalassets/documents/news/zika-virus-interim-guidelines.pdf>
- Committee to Advise on Tropical Medicine and Travel Recommendations, 17 March 2016.
<http://www.healthycanadians.gc.ca/publications/diseases-conditions-maladies-affections/committee-statement-treatment-prevention-zika-declaration-comite-traitement-prevention/index-eng.php>