

July 29, 2016

Revised Zika virus testing guidelines reflect newly reported sexual transmission potential from females

Actions Requested

- **Be aware that it is possible for females to transmit Zika virus to their sexual partners.** Potential sexual exposure to Zika virus is now defined as having had sex with a person (male or female) who has traveled to or lives in an area with active Zika virus transmission when the sexual contact did not include a barrier to protect against infection.
- **Assess all pregnant women for possible Zika virus exposure**, including both their own travel and unprotected sex with a partner (male or female) who has traveled to or resides in a Zika affected area.
 - Male partner's possible Zika virus exposure should have occurred in the past 6 months.
 - Female partner's possible Zika virus exposure should have occurred in the past 8 weeks.
- **Know that testing criteria, including recommended timeframes, have changed.** Use attached updated screening form to help identify if Zika testing is warranted and select the appropriate test (RT-PCR versus antibody testing) and specimen types. Guidance on interpreting results and the need for further testing is also included.
- **Read the two new updated guidelines from CDC** (*see links below*).
- **Call us to report any suspect Zika virus cases and request antibody testing.** Prior to collecting specimens, please call us with travel/exposure history and clinical information details ready to discuss.

For questions, please contact our Communicable Disease staff at 360-337-5235.

Background

Two new guidelines issued this week by the Centers for Disease Control and Prevention (CDC) regarding caring for pregnant women and prevention of sexual transmission reflect the emerging data that Zika virus RNA can be detected for prolonged periods in some pregnant women and the newly identified potential for females to transmit the virus to their partners (*see attachments*). As of last week, CDC reported 15 cases of sexually acquired Zika cases in the U.S. Between this and the first documented case of female to male sexual transmission, there is increased emphasis on preventing sexual transmission and evaluating all pregnant women for potential sexual as well as travel exposure.

Note that Florida recently reported a potentially locally acquired case due to mosquito-borne transmission. An investigation is still underway. The likelihood of this occurring in Washington is extraordinarily low given that we do not have any of the mosquito species known to be competent vectors for Zika virus. However, the possibility of exposure due to domestic travel should be considered and reported immediately if suspected.

Resources

Attachments:

- (1) WA DOH / KPHD screening form, lab testing guidance, and CDC testing approval form (July 25, 2016)

Additional resources:

- CDC MMWR: "Update: Interim Guidance for Health Care Providers Caring for Pregnant Women with Possible Zika Virus Exposure — United States" (July 25, 2016), available at: http://www.cdc.gov/mmwr/volumes/65/wr/mm6529e1.htm?s_cid=mm6529e1_e
- CDC MMWR: "Update: Interim Guidance for Prevention of Sexual Transmission of Zika Virus — United States" (July 25, 2016), available at: http://www.cdc.gov/mmwr/volumes/65/wr/mm6529e2.htm?s_cid=mm6529e2_e
- CDC Zika virus website for healthcare providers: www.cdc.gov/zika/hc-providers/index.html
- Previous Zika virus health alerts from KPHD: www.kitsappublichealth.org/healthcare

Criteria for testing: person must meet any one of the following criteria:

* **Risk area:** check the CDC web site for current areas with Zika virus activity: (<http://www.cdc.gov/zika/geo/>)

** **Possible exposure** = travel to an area with known Zika virus transmission OR unprotected sex with a partner (male or female) who traveled to or resides in an area with known Zika virus transmission, regardless of the partner's symptoms. Male partner's exposures should have been within the last 6 months; female partner's exposure should have occurred in the last 8 weeks. Exposure to pregnant women includes any trimester of pregnancy as well as 8 weeks prior to conception (6 wks before LMP).

[§] Collect dual specimens so one can be sent to commercial lab for dengue and chikungunya serology.

#	Criteria	Yes	No
1	<p>Any non-pregnant person with illness consistent with Zika virus disease, including at least two of: acute onset of fever, maculopapular rash, arthralgia, or conjunctivitis, occurring during or within 2 weeks of possible exposure** to Zika virus.</p> <p>→ Ideally obtain serum and urine within 2 weeks of symptom onset</p> <p>→ If >=14 days after symptom onset, collect serum only[§]</p>		
2	<p>Pregnant woman (symptomatic with <u>at least 1 symptom</u> OR asymptomatic) with possible exposure** Zika virus.</p> <p>→ Obtain serum and urine up to 12 weeks after symptom onset (if symptomatic) or last exposure (if asymptomatic)</p> <p>→ NOTE: For asymptomatic pregnant women with negative RT-PCR results on specimens collected <2 weeks after last exposure, another serum specimen should be collected at 2-12 weeks for IgM</p> <p>→ If >12 weeks after onset (if symptomatic) or last exposure (if asymptomatic), serial ultrasounds recommended. Serologic testing can be considered.</p>		
3	<p>Woman experiencing fetal loss with possible exposure** during pregnancy if not previously tested.</p> <p>→ Contact Kitsap Public Health District for specimen collection and submission instructions</p>		
4	<p>Pregnant woman with fetal abnormalities identified on ultrasound who originally tested negative for Zika virus infection or who were not tested following travel should be tested/retested.</p> <p>→ Obtain serum and urine; consider amniocentesis</p>		
5	<p>Infant born to a woman with possible exposure** to Zika during pregnancy with EITHER:</p> <p>a) maternal positive or inconclusive test result for Zika virus; OR</p> <p>b) infant microcephaly,[¥] intracranial calcifications, or other brain or eye abnormalities consistent with congenital Zika virus infection; OR</p> <p>c) acute symptoms of Zika disease (see #1 above) in the infant within 2 weeks of birth and maternal exposure occurred within 2 weeks of delivery</p> <p>→ Collect maternal serum if not previously tested and as many of the following as applicable and available: amniotic fluid, fixed and frozen placenta and umbilical cord tissue, umbilical cord serum, AND infant serum within 2 days of birth.</p> <p>[¥] For possible congenital Zika, microcephaly is defined as occipitofrontal circumference <3rd percentile, based on standard charts for sex, age, and gestational age at birth. If circumference is ≥3rd percentile but notably disproportionate to body length, or if CNS deficits exist, further evaluation for Zika infection might be considered.</p>		

NOTE: Our Communicable Disease staff at Kitsap Public Health District (KPHD) are available for consultation as needed. Call us at (360)-337-5235.

Laboratory Testing for Zika Virus

- Patients with Zika virus disease symptoms should generally also be evaluated for dengue and/or chikungunya because of strong cross-reactivity and clinical similarity. Consider ordering these tests simultaneously via commercial lab. If dengue infection is possible, advise the patient to avoid aspirin and NSAIDs.
- **Limited Zika virus testing (RT-PCR) is now being offered commercially;** more extensive testing available at CDC.
- **Timeframes and patients for which RT-PCR versus IgM antibody testing is appropriate:**

Patient Type	Specimen Collection Timing	Test	Comments	Pre-Approval Required
Symptomatic and NOT pregnant	Serum and urine specimens within 14 days of illness onset	RT-PCR	<ul style="list-style-type: none"> • <u>Positive</u> RT-PCR results from serum or urine are indicative of current infection. • <u>Negative</u> RT-PCR result on a serum or urine specimen collected at any time <i>does not rule out</i> infection. A specimen should be obtained for ELISA IgM testing at CDC (<i>with approval</i>). 	No; commercially available
Symptomatic and NOT pregnant	Serum specimen ≥14 days after illness onset	IgM ELISA and PRNT	IgM antibodies against Zika virus, dengue virus, and other flaviviruses have strong cross-reactivity. Public Health will assist with interpretation of results.	Yes; offered at CDC
Pregnant, regardless of symptoms	Serum and urine specimens within 14 days of either illness onset (<i>if symptomatic</i>) or last exposure (<i>if asymptomatic</i>)	RT-PCR	<ul style="list-style-type: none"> • <u>Positive</u> RT-PCR results from serum or urine are indicative of current infection. • <u>Negative and symptomatic:</u> follow-up with IgM testing for both dengue (commercially) and Zika (at CDC) • <u>Negative and asymptomatic:</u> collect a second serum at 2-12 weeks after last exposure for Zika IgM 	RT-PCR: No, commercially available IgM: Yes, offered at CDC
Pregnant, regardless of symptoms	Serum and urine specimens 2-12 weeks after onset or exposure	IgM ELISA, RT-PCR, and PRNT	<ul style="list-style-type: none"> • <u>Positive or equivocal</u> IgM ELISA will reflex to RT-PCR if not already performed; if already performed or negative, reflex to PRNT 	Yes; offered at CDC

- **For CDC testing: Submissions must still be pre-approved.**
 - In Kitsap County, please call KPHD at (360)-337-5235 to request testing prior to collecting specimens.
 - Serum (0.25 mL minimum, 2 mL preferred) spun down in a red or tiger top (serum separator) tube and kept cold or frozen to -70°C.
 - Urine (>1 mL) in a sterile container with a tight fitting screw cap and kept cold or frozen to -70°C.
 - For perinatal cases collect maternal serum **and** as many of the following as applicable and available: amniotic fluid, fixed placenta and umbilical cord tissue, frozen placental tissue and umbilical cord tissue, umbilical cord serum or infant serum (>0.25 mL) within 2 days of birth. For still births, contact KPHD.
 - All specimens require two patient identifiers, both on the specimen label and the submission form
 - **Specimen submission form:** www.doh.wa.gov/Portals/1/Documents/5230/302-017-SerVirHIV.pdf
 - Ship appropriate specimen(s) using Category B labels and packaging in an insulated container with ice packs or on dry ice, with completed submission form to WA PHL (address on form).
 - **The following intake form (page 3) MUST be completed and submitted to KPHD for approval prior to specimen submission.** Be sure to complete all fields. Missing details will result in specimen rejection. Fax completed form to our KPHD Communicable Disease confidential fax at (360)-337-5241.

Date: _____

Zika Virus Intake Form

PATIENT	Last name: _____ First name: _____ DOB: _____ Sex: <input type="checkbox"/> Male <input type="checkbox"/> Female County: _____ Patient Address: _____ Phone Number: _____									
SUBMIT BY	Physician / Hospital / Lab / Clinic name: _____ Contact name: _____ Phone: _____									
SPECIMEN	Date of Specimen Collection (if asymptomatic pregnant woman, must be 2-12 weeks after travel): _____ Shipping date: _____ Specimen Source: <input type="checkbox"/> Serum <input type="checkbox"/> Urine <input type="checkbox"/> Amniotic Fluid <input type="checkbox"/> CSF <input type="checkbox"/> Fixed tissue <input type="checkbox"/> Frozen tissue <input type="checkbox"/> Other: _____									
EPIDEMIOLOGY	Date of Symptom Onset: _____ OR <input type="checkbox"/> Asymptomatic Symptoms (check all) if patient is not pregnant, must have 2: <input type="checkbox"/> Fever <input type="checkbox"/> Rash <input type="checkbox"/> Conjunctivitis <input type="checkbox"/> Arthralgia <input type="checkbox"/> Guillain-Barré Syndrome <input type="checkbox"/> Other: _____ Patient pregnant? <input type="checkbox"/> No <input type="checkbox"/> Yes, # weeks gestation currently: _____ OR estimated delivery date: _____ Fetal/infant anomalies: <input type="checkbox"/> None <input type="checkbox"/> Unk <input type="checkbox"/> Microcephaly <input type="checkbox"/> Intracranial calcifications <input type="checkbox"/> Other: _____									
	Flavivirus Vaccination					Past Arboviral Infection				
		N	Unk	If Yes/date			N	Unk	If Yes/Date	
	Yellow Fever					Yellow fever				
	Japanese Enceph.					Japanese encephalitis				
	Tick-borne Enceph.					Tick-borne enceph.				
	Commercial Labs Ordered					St. Louis encephalitis				
		N	Unk	If Yes/DOC	Lab	Results	West Nile virus			
	CHIK PCR						Dengue			
	CHIK IgM/IgG						Chikungunya			
Deng PCR										
Deng IgM/IgG										
TRAVEL HISTORY	Patient traveled to an area with Zika transmission within 14 days prior to symptom onset or within 12 weeks if asymptomatic? <input type="checkbox"/> Unk <input type="checkbox"/> No <input type="checkbox"/> Yes, countries/cities and dates of travel:									
	Infant with maternal history of exposure during pregnancy? <input type="checkbox"/> N/A <input type="checkbox"/> unk <input type="checkbox"/> No <input type="checkbox"/> Yes, countries/cities and dates of travel: OR dates of last sexual exposure:									
	Unprotected sex within 14 days prior to symptom onset or within past 12 weeks if asymptomatic with <u>male sexual partner</u> who: <input type="checkbox"/> Tested positive for Zika virus <input type="checkbox"/> Had exposure (travel or sexual) in past 6 months AND had symptoms of disease within 2 weeks of last exposure <input type="checkbox"/> Had exposure (travel or sexual) in past 6 months AND no symptoms of disease Date of male sexual partner symptom onset: _____ AND countries and dates of travel OR dates of sexual exposure:									
NOTES	Notes:									

CALL KITSAP PUBLIC HEALTH AT (360) 337-5235. FAX COMPLETED FORM TO (360) 337-5241.