

## Idaho Public Health Guidance for Zika Virus Testing

Zika virus diagnosis is based on a combination of travel history, clinical signs and symptoms, and specialized laboratory tests of blood or other tissues. Characteristic clinical findings are acute onset of fever with maculopapular rash, arthralgia, or conjunctivitis. Other commonly reported symptoms include myalgia and headache. Clinical illness is usually mild with symptoms lasting for several days to a week. Symptoms typically begin 2 to 7 days, but may occur up to two weeks, after being bitten by an infected mosquito.

### Types of Testing

There are no commercially available diagnostic tests for Zika virus disease. Zika virus testing is performed at the Idaho Bureau of Laboratories (IBL) or the Centers for Disease Control and Prevention (CDC) Arbovirus Diagnostic Laboratory (see table below). CDC approval must be obtained prior to submitting specimens other than serum or CSF for Zika testing. Please contact IBL, your local Public Health District, or the state Epidemiology Program for assistance.

Test Name	Specimen Type	Minimum Volume
Reverse transcriptase-polymerase chain reaction (RT-PCR)* (IBL and CDC) or virus isolation (CDC)	Serum (IBL)* Cerebrospinal fluid (IBL)* Urine (IBL)* Amniotic fluid (IBL)*	Submit 0.5 mL of serum or urine, or 1 mL of CSF to IBL.
	Saliva (CDC) Semen (CDC) Umbilical cord blood (CDC)	1 mL (place swab of saliva in tube with 1 mL media)
	Fresh frozen tissue (placenta, umbilical cord, fetal tissue, other products of conception) (CDC)	1 cm <sup>3</sup>
Serology: Zika virus-specific IgM and plaque-reduction neutralization testing (PRNT) (CDC)	Serum Umbilical cord blood	0.5 mL
	Cerebrospinal fluid	1 mL
Histopathology and immunohistochemistry (CDC)	Fixed tissue (placenta, umbilical cord, fetal tissue, other products of conception)	1 cm <sup>3</sup>

\*RT-PCR is the preferred test for Zika virus infection. CSF, urine, and amniotic fluid may only be tested alongside a patient-matched serum specimen.

For symptomatic persons, RT-PCR testing can be offered on serum collected  $\leq 7$  days after illness onset and on urine specimens collected  $<14$  days after illness onset. Serologic testing can be offered after 4 or more days after illness onset. It is important to note that cross-reaction with IgM antibodies against related flaviviruses is common in areas where there is co-circulation of viruses. Because IgM and PRNT test results are not normally received until 30 days after specimen receipt, antibody testing for other flaviviruses (e.g., dengue) for clinical evaluation and diagnosis should be ordered from a commercial laboratory to ensure timely results. If the first of paired samples is diagnostic, testing of the second sample by CDC is not expected.

### Indications for Testing

Testing for Zika virus infection through public health agencies is indicated for:

- Pregnant women who report symptoms consistent with Zika virus disease *during or within two weeks* of returning from travel to an area with Zika virus transmission
- Pregnant woman with possible sexual exposure to Zika virus who developed symptoms consistent with Zika virus disease or whose male sex partner developed symptoms consistent with Zika virus disease



- Asymptomatic pregnant women *within 2–12 weeks* after returning from travel to an area with Zika virus transmission or after having sex without a condom with a symptomatic male
- Infants born to women who traveled to or resided in an area with Zika virus transmission during pregnancy who 1) were diagnosed with microcephaly or intracranial calcifications detected prenatally or at birth, or 2) have mothers with positive or inconclusive test results for Zika virus infection
- Mothers of infants without microcephaly or intracranial calcifications who had clinical illness and travel history consistent with Zika virus disease during pregnancy
- Currently ill persons who report symptoms consistent with Zika virus disease (*i.e.*, acute onset of fever, rash, arthralgia, or conjunctivitis) with *onset during or within two weeks* of completing travel to an area with Zika virus transmission and for whom test results would aid in differential diagnosis to inform treatment
- Persons who have had possible sexual exposure to Zika virus and develop signs or symptoms consistent with Zika virus disease

Testing for Zika virus infection through public health agencies is NOT recommended and will not be performed at CDC for:

- Asymptomatic pregnant women who completed travel to an area with Zika virus transmission more than a week *before* becoming pregnant or who had possible sexual exposure to Zika virus with an male who is asymptomatic
- Infants without microcephaly or intracranial calcifications born to mothers with negative test results for Zika virus infection
- Currently ill persons who report onset of symptoms consistent with Zika virus disease two or more weeks after returning from travel to an area with Zika virus transmission and whose potential exposure was from travel
- Well persons with a history of travel to an area with Zika virus transmission and for whom test results will not aid in clinical evaluation
- Male persons with a history of travel to an area with Zika virus transmission for the purpose of assessing risk for sexual transmission
- Semen from semen donors

### Guidance for Completing Test Request Forms

Please review the [Instructions for CDC Form 50.34 for Zika Testing](#) and ensure that [CDC Form 50.34 for Idaho](#) is filled out completely as indicated on the instructions prior to specimen submission to IBL.

Specimens will not be tested or forwarded for testing until all required information is on the form, including pregnancy status, onset of illness date, clinical description, and travel history (including dates). Public health officials will contact provider offices if necessary to obtain the required information.

**Healthcare providers who have questions about testing may contact the following for more information:**

#### Idaho Local Public Health Districts

<http://healthandwelfare.idaho.gov/Health/HealthDistricts/tabid/97/Default.aspx>

#### Division of Public Health

Bureau of Communicable Disease Prevention, Epidemiology Program: 208-334-5939

#### Idaho Bureau of Laboratories

Clinical Section: 208-334-0589

### References

CDC Guidance for Health Care Providers: <http://www.cdc.gov/zika/hc-providers/index.html>

CDC instructions for submitting diagnostic specimens:

<http://www.cdc.gov/ncezid/dvbd/specimensub/arboviral-shipping.html>

