VDH Zika Virus Testing Recommendations for Providers

Instructions: This document replaces VDH's Algorithm for Zika virus testing. Providers may use CDC Screening Guide to obtain information for women possibly exposed to Zika virus during pregnancy. Providers may be guided through interpretation and recommended action steps using CDC Screening Tool. The Clinical Summary for Pediatric Healthcare Providers allows for documentation of infants with clinical findings consistent with congenital Zika virus syndrome or infants born to a mother that had laboratory evidence of Zika virus exposure during pregnancy.

Testing at private laboratories is encouraged. Providers can discuss case by case scenarios with the local health department (LHD) when public health testing is desired and testing at a private lab is not feasible (e.g., uninsured patient).

Definitions

[1]**Zika virus symptoms**- Patient presents with at least one of the following symptoms: fever, maculopapular rash, arthralgia, or conjunctivitis, complications of pregnancy (e.g., fetal loss, fetus with congenital microcephaly, intracranial calcifications, structural brain or eye abnormalities), or Guillain-Barré syndrome.

[2]**Possible Zika virus exposure**- Includes travel to or residence in an area with risk of Zika virus transmission or sex with a partner who has traveled to or resides in an area with risk of Zika virus transmission.

[3]**Ongoing Zika virus exposure**- Defined as those who reside in or frequently (e.g., daily or weekly) travel to or have unprotected sex with a partner who resides in or frequently travels to an area with risk of Zika virus transmission.

[4]**Recent Zika virus exposure**- Defined as a possible Zika virus exposure or infection during the current pregnancy or periconceptional period (8 weeks before conception or 6 weeks before the last menstrual period) through travel or sex.

[5]**Congenital Zika syndrome (CZS)** - Includes brain abnormalities and/or microcephaly, intracranial calcifications, ventriculomegaly, eye abnormalities, or other consequences of central nervous system dysfunction including arthrogryposis (joint contractures), congenital hip dysplasia, and congenital deafness)

Division of Consolidated Laboratory Services (DCLS) Instructions

1. Collect recommended specimen if time is of essence (e.g., ≤2 days after birth or ≤12 weeks after symptom onset or exposure) and properly store.
2. Contact your Local Health Department (LHD) to request public health testing.
3. Work with the LHD to complete the VDH Zika Testing Approval Form (or REDCap survey) and the DCLS Mirco/Viro Test Request Form.
4. Coordinate with the LHD to properly ship specimens to DCLS by DCLS courier or ship directly by USPS or a commercial carrier.

Serum submission to DCLS

- Collect 2 mL sera in a serum separator tube (tiger top or gold top) and centrifuge prior to shipment to DCLS, properly refrigerate for shipping.

Urine submission to DCLS

- Collect 2-5 mL urine paired with serum specimen, properly refrigerate for shipping.

Placental/fetal tissue submission

- Contact your LHD to request tissue testing performed at CDC. Testing requires CDC's pre-approval and VDH will coordinate obtaining approval.
- Fixed tissues (formalin-fixed or paraffin embedded) should be stored and shipped at room temperature.

Population	Test Recommendation	Collect	Comments	Additional Resources
Adults				
Symptomatic[1] (pregnant and non-pregnant) adult with possible Zika virus exposure[2]	Zika virus PCR (serum and urine) and Zika virus IgM (serum)	- Serum - Urine	- Test as soon as possible or through 12 weeks after symptom onset. - Non-negative Zika virus IgM specimen should be forwarded to CDC for confirmatory plaque reduction neutralization testing (PRNT).	Pregnant - Pre-test counseling - Laboratory Interpretations Non-pregnant - Laboratory interpretations
Asymptomatic pregnant women with ongoing Zika virus exposure[3]	Zika virus PCR (urine and serum)	- Serum - Urine	- Testing should be offered 3x at various points during pregnancy, ideally coinciding with prenatal visits. - Serologic testing is not routinely recommended because of the potential for prolonged detection of Zika virus IgM, making it difficult to interpret whether infection, and therefore risk of congenital Zika virus infection, occurred during the current pregnancy. - IgM testing may be discussed as part of pre-test counseling with these limitations in mind.	- Testing this population - Pre-test counseling - Laboratory interpretations
Asymptomatic pregnant women with recent[4], but not ongoing[3], exposure	Not routinely recommended	N/A	- Testing is not routinely recommended because, with declining prevalence of Zika virus disease, there is an increased probability of false positive test results. Testing should be considered using a shared decision-making model. - If testing is desired, follow guidance for symptomatic adult	- Pre-test counseling
Pre-conception counseling	Not recommended	N/A	- Testing is no longer recommended as part of pre-conception counseling to establish baseline IgM results. - Testing should be considered using a shared decision-making model.	- Pre-conception counseling - Counseling pregnant women considering travel - Counseling travelers of reproductive age
Asymptomatic non-pregnant persons with possible Zika virus exposure[2]	Not recommended	N/A		

Population	Test Recommendation	Collect	Comments	Clinical Recommendation
Infants				
Infant with CZS[5] born to mother with possible Zika virus exposure[2]	Zika virus PCR (serum and urine), Zika virus IgM (serum), and placenta	- Infant serum - Infant urine - Placenta	- Ideally specimens should be collected ≤2 days after birth - Comprehensive physical exam, vision screening, newborn hearing screening, head ultrasound are recommended	- Evaluation of infant - Tissue testing
Infant without CZS[5] born to mother with laboratory evidence of Zika virus infection during pregnancy	Zika virus PCR (serum and urine) and Zika virus IgM (serum)	- Infant serum - Infant urine	- Ideally specimens should be collected ≤2 days after birth - Comprehensive physical exam, vision screening, newborn hearing screening, head ultrasound are recommended	Evaluation of infant
Infants without CZS[5] born to mother with possible Zika virus exposure[2] but without laboratory evidence of Zika virus infection during pregnancy	Testing not routinely recommended	N/A	- Comprehensive physical exam is recommended - If testing is pursued, follow guidance for infant without CZS born to mother with laboratory evidence of Zika virus infection during pregnancy	
Pregnancy Loss				
Pregnancy loss with possible Zika virus-associated birth defect	Placental and fetal tissue to aid in fetal and maternal diagnosis	Placenta/Fetal tissue	- Contact LHD to request testing	Tissue testing
Infant death following live birth for mother with possible Zika virus exposure[2] during pregnancy	Testing placental and infant autopsy tissue to aid in infant and maternal diagnosis	Placenta/Fetal tissue	- Contact LHD to request testing	Tissue testing