



Government of the District of Columbia Department of Health



Center for Policy, Planning and Evaluation Administration
Division of Epidemiology–Disease Surveillance and Investigation

June 13, 2016

Health Notice for Health Care Providers

Updates and Reminders on Zika Virus Disease: Testing, Guidance and Health Messages

Summary

The District of Columbia (DC) Department of Health (DOH) has posted several important health notices, related to Zika virus disease (ZVD) (<http://doh.dc.gov/page/health-notice>). We ask that health care providers continue to consistently collect travel history information during the clinical evaluation of patients. Health care providers are encouraged to report suspected cases of ZVD and other travel-associated illnesses to DOH in order to facilitate diagnosis and mitigate the risk of local transmission. In this notice we provide updates on ZVD testing, current guidance, and health messages.

Zika Virus Disease

Background

Zika virus is a flavivirus that is spread to people primarily through the bite of an infected *Aedes* species mosquito (*Ae. aegypti* and *Ae. albopictus*). These are the same types of mosquitoes that transmit the yellow fever, dengue and chikungunya viruses. Transmission of Zika virus can also occur through sexual contact with an infected man (to his male or female partners), from a pregnant woman to her fetus during pregnancy or around the time of birth, and through blood transfusions. To date, there are no reports of infants getting Zika through breastfeeding. Before 2015, ZVD outbreaks occurred in areas of Africa, Southeast Asia, and the Pacific Islands. In May 2015, the Pan American Health Organization (PAHO) issued an alert regarding the first confirmed Zika virus infections in Brazil.

Most people with ZVD do not develop symptoms, or experience a mild illness characterized by acute onset of fever, maculopapular rash, arthralgia, and conjunctivitis. Other common symptoms of ZVD include myalgia and headache. Symptoms usually last for several days to a week. Severe disease is uncommon and deaths are rare. Zika virus infection during pregnancy is a cause of microcephaly and other severe fetal brain defects. Other problems that have been detected among fetuses and infants with congenital Zika virus infection before birth include defects of the eye, hearing deficits, and impaired growth. The Centers for Disease Control and Prevention (CDC) is investigating a potential link between ZVD and Guillain-Barré syndrome. To date, ZVD has not been spread by mosquitoes in the continental United States (US) and there have been no confirmed blood transfusion-transmission cases in the US. As of June 1, 2016, states had reported a total of 618 travel-associated ZVD cases to CDC. Of these, 11 were sexually transmitted, and 1 had Guillain-Barré syndrome.

Update: Zika virus testing and interpretation of results

- Currently, Zika virus testing is performed at the DC Public Health Laboratory and CDC **at no cost to the patient.**
 - Two tiger-top Vacutainer tubes should be used to collect 6mL of whole blood per tube. Two tubes per person are requested for testing in the event that a re-test is needed.

- Molecular Testing
 - **Real-time reverse transcription–polymerase chain reaction (rRT-PCR)** can be used to identify Zika viral RNA if the sample is collected within 7 days of illness onset.
 - For all patients for whom molecular testing is indicated, the DC Public Health Laboratory performs rRT-PCR testing for chikungunya, dengue, and Zika virus RNA simultaneously.
 - A positive rRT-PCR result **confirms** Zika virus infection; no antibody testing is indicated.
 - A negative rRT-PCR result does not exclude infection. Therefore, immunoglobulin (Ig) M and neutralizing antibody testing should be performed.
- Antibody Testing
 - The CDC **Zika IgM Antibody Capture Enzyme-linked immunosorbent assay (Zika MAC-ELISA)** is used to test for anti-Zika virus IgM antibodies, which typically develop toward the end of the first week of illness and persist for approximately 12 weeks following infection.
 - The **plaque reduction neutralization test (PRNT)** measures virus-specific neutralizing antibody titers to confirm primary flavivirus infections and differentiate Zika virus infection from other viral illnesses.
 - False positive IgM antibody results can be produced because of cross-reacting IgM antibodies against related flaviviruses or non-specific reactivity.
 - PRNT is indicated when IgM antibody testing yields positive, equivocal or inconclusive results.
 - Without confirmatory PRNTs, it is not possible to determine whether a positive (presumptive) IgM antibody result against Zika reflects recent flavivirus infection or a false-positive result.
 - PRNT can also be used to identify the infecting virus in cases in which it is the first time the person is infected with a flavivirus.
 - A complete description of antibody test result interpretation is described in a recent CDC guidance document: <http://www.cdc.gov/mmwr/volumes/65/wr/mm6521e1.htm>

Update: CDC recommendations on Zika virus testing of urine

- A matching serum specimen should **always** be collected with a urine sample.
- rRT-PCR testing can be performed on urine collected **< 14 days after symptom onset**.
- rRT-PCR testing of urine should be performed in conjunction with serum testing.
- A positive rRT-PCR result in either specimen type provides evidence of ZVD.
- The serum sample should be tested for anti-Zika virus IgM antibodies followed by PRNT if indicated.
- The DC Public Health Laboratory is in the process of developing procedures for the collection, submission, and testing of urine specimens. Additional details will be made available once the validation of the procedures is completed.
- More information on testing of urine is available in the following CDC health update: <http://emergency.cdc.gov/han/han00389.asp>

Review of ZVD symptoms and testing recommendations

- Clinical illness is consistent with ZVD if a patient has one or more of the following symptoms: **acute onset of fever, rash, arthralgia, or conjunctivitis.**
- Testing is recommended for any person with a **positive travel history and who develops one or more** of the symptoms consistent with ZVD **within two weeks** of travel or possible sexual exposure.
- **Asymptomatic** pregnant women who have traveled to areas with active Zika virus transmission while pregnant can be tested if the sample is collected **two to 12 weeks** after their last date of travel.
- Women who have traveled to areas with active Zika virus transmission during the **eight weeks before conception** (6 weeks before the last menstrual period) can be tested if the sample is collected **two to 12 weeks** after their last date of travel.
- Samples from the following groups **will not be tested**: 1) men and children who have a positive travel history, but are asymptomatic, and 2) asymptomatic persons whose travel to areas with active Zika virus transmission was **more than 12 weeks ago**.

Current guidance and recommendations for preconception counseling

- Women who have been diagnosed with ZVD or who have symptoms of ZVD after possible exposure should wait **at least eight weeks** after symptom onset before attempting conception.
- Asymptomatic women with possible Zika virus exposure should be advised to wait **at least eight weeks** after the last date of possible exposure before attempting conception.
- Men who have been diagnosed with ZVD or who have symptoms of ZVD after possible exposure should wait **at least 6 months** after symptom onset before attempting conception.
- In the absence of data on the risk of Zika virus transmission by asymptomatic men, it is currently being recommended that asymptomatic men who have possible Zika virus exposure wait **at least eight weeks** after the last date of possible exposure before attempting conception.
- Routine testing is not recommended for women or men who are attempting conception who have possible exposure to the virus, but no clinical illness.

Current guidance and recommendations for couples in which the woman is pregnant

- If a man has traveled to or resides in an area with active Zika virus transmission, the couple should consistently and correctly use condoms during sex or abstain from sex **for the duration of the pregnancy.**
- Although microcephaly and intracranial calcifications are typically detected during ultrasounds in the late second and early third trimester of pregnancy, these findings might be detected as early as 18-20 weeks gestation.

Important health messages for patients and their partners

- During preconception counseling with women with a possible exposure to Zika virus, health care providers should provide information on strategies to prevent unintended pregnancy, including the use of the most effective contraception methods that can be used correctly and consistently.
- For pregnant women whose partner traveled to or resides in an area with active Zika virus transmission, couples should be advised to consistently and correctly use condoms during sex or abstain from sex **for the duration of the pregnancy.**

- Due to the small window of time that a patient with ZVD is thought to be viremic, it is important to educate patients to avoid mosquito bites during the first week of illness to minimize the potential for local transmission.
- Patients should apply sunscreen before applying insect repellent

Important health messages during mosquito season

- Please remind patients that there has been **no** local transmission of Zika virus by mosquitoes in the continental US.
- Even if they do not feel sick, travelers returning to the US from an area with active Zika virus transmission should wear insect repellent and avoid mosquito bites for **three weeks** to prevent local transmission.
- As the summer months progress, please be vigilant of ZVD symptoms in persons who have *not* traveled outside of the US. If you are concerned about ZVD in a patient *without* a positive travel history, please contact the DOH Division of Epidemiology–Disease Surveillance and Investigation at 202-442-8141.

Reminders about procedures for submitting case reports

- To report suspected cases, fill out the **current** Zika Disease Case Report form **completely** (<http://doh.dc.gov/publication/zika-virus-information>) and fax it to 202-442-8060.
 - Please include the **email address of the submitter and the patient’s provider** on the form
- Please let the patient know to expect a call from DOH once you submit the form.
 - **Do not** instruct patients to call DOH on their own.
 - DOH will interview all patients approved for testing
- After receiving the Zika Disease Case Report Form, DOH will send the submitter/provider a detailed email with further instructions to coordinate sample pick-up for testing.
 - **Paper copies** of both the CDC 50.34 form and DC Public Health Laboratory Clinical Specimen Receipt/Chain of Custody form should be included with the specimen when picked up by the courier. **These forms should not be submitted to DOH via email.**
- If your facility has a key contact(s) who will coordinate sample pick-up, please send an email to DOH.EPI@dc.gov with your facility name, facility address, and the name and contact information (email, phone number) for the designated person.
- When calling with inquiries, please leave a **direct number** where you can be reached (not the general number for your facility) to help expedite our response.
- DOH will report test results to the provider as soon as they are received. DOH will **not** report results directly to patients.
- Test results may be available anywhere from one week to four weeks after submission, depending on whether molecular testing, antibody testing, or a combination of the two types of testing are performed.
- Please carefully consider other potential diagnoses in addition to ZVD when referring a patient for testing.

If you have any questions regarding this important issue, you may contact the Division of Epidemiology–Disease Surveillance and Investigation:

Phone: 202-442-8141 (8:15am-4:45pm) | 1-844-493-2652 (after-hours calls)

Fax: 202-442-8060

Email: doh.epi@dc.gov

Additional Resources

- Update: Interim Guidance for Health Care Providers Caring for Women of Reproductive Age with Possible Zika Virus Exposure — United States, 2016: http://www.cdc.gov/mmwr/volumes/65/wr/mm6512e2er.htm?s_cid=mm6512e2er_w
- Update: Interim Guidance for Prevention of Sexual Transmission of Zika Virus — United States, 2016: http://www.cdc.gov/mmwr/volumes/65/wr/mm6512e3er.htm?s_cid=mm6512e3er.htm_w
- DOH Information on Zika virus: <http://doh.dc.gov/publication/zika-virus-information>
- DOH Health Notices for Health Care Providers: <http://doh.dc.gov/page/health-notice>
- Zika testing algorithms: <http://www.cdc.gov/zika/hc-providers/tools.html>
- CDC information on Zika: <http://www.cdc.gov/zika>
- How to measure head circumference in infants: http://www.cdc.gov/zika/pdfs/microcephaly_measuring.pdf
- Additional instructions for submitting specimens for Zika virus testing: <http://www.cdc.gov/nceid/dvbd/specimensub/arboviral-shipping.html>
- Information on protection against mosquitoes: <http://wwwnc.cdc.gov/travel/yellowbook/2016/the-pre-travel-consultation/protection-against-mosquitoes-ticks-other-arthropods>

References

1. World Health Organization Western Pacific Region. Zika virus. (May 2015). Retrieved January 6, 2016, from: http://www.wpro.who.int/mediacentre/factsheets/fs_05182015_zika/en/