

## Cover Sheet

**DATE:** May 27, 2016

**SUBJECT:** Zika Virus Infection Update and Testing Guidance

### INSTRUCTIONS:

**DISTRIBUTE** to your local HAN contacts. This HAN is intended for general sharing of information.

- Time for Forwarding: **As Soon As Possible**
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**For LOCAL HEALTH DEPARTMENT reference only**

DPHHS Subject Matter Resource for more information regarding this HAN, contact:

**DPHHS CDCP  
Epidemiology Section  
1-406-444-0273**

**DPHHS Health Alert Hotline:  
1-800-701-5769**

**DPHHS HAN Website:  
[www.han.mt.gov](http://www.han.mt.gov)**

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### Categories of Health Alert Messages:

**Health Alert:** conveys the highest level of importance; warrants immediate action or attention.

**Health Advisory:** provides important information for a specific incident or situation; may not require immediate action.

**Health Update:** provides updated information regarding an incident or situation; unlikely to require immediate action.

**Information Service:** passes along low level priority messages that do not fit other HAN categories and are for informational purposes only.

**Please update your HAN contact information on the [Montana Public Health Directory](#)**

# Information Sheet

**Date:** May 27, 2016

**Subject:** Zika Virus Infection Update and Testing Guidance

**Background:** The Centers for Disease Control and Prevention (CDC) continues to work closely with state and local health departments to track the impact of Zika in the US. This includes close monitoring of infections and work to improve diagnostic testing. DPHHS does not anticipate mosquito-borne transmission of the virus in Montana, because we do not have the mosquitos which are known to transmit the disease (*Aedes albopictus* and *Aedes aegypti*). However, we have been impacted by returning travelers.

To date, specimens from 57 individuals with a suspected Zika exposure who experienced related symptoms and/or were pregnant have been submitted to the Montana Public Health Laboratory (MPHL) for testing. Of these, one positive test specimen was identified, 44 others were negative, and 12 are pending. We continue to work closely with local public health jurisdictions and providers to ensure timely testing when appropriate.

**Information:** Please see the attached CDC HAN message for an update regarding the testing of urine specimens for the presence of Zika virus. If a patient with exposure has symptoms and/or is pregnant, we ask providers to work with local public health authorities to complete a brief assessment regarding the need for testing. If testing is indicated submission of both blood and urine is requested.

## Instructions

Collect urine specimens within 14 days post symptom onset, along with patient-matched serum specimens for those who match CDC Zika virus clinical and/or epidemiological testing criteria for Zika virus infection.

**Serum:** Provide 1.0 mL of the specimen in a serum separator tube or a sterile screw capped vial secured with thermoplastic, self-sealing lab film. If you are pouring specimen into a sterile vial, be sure to do so under a biological safety cabinet using proper precautions.

**Urine:** Provide 0.5–1.0 mL of the specimen in a sterile screw capped vial secured with thermoplastic, self-sealing lab film.

Please ensure a tight seal as leaking specimens cannot be accepted. All specimens should be stored and shipped cold, by packing in an insulated container with adequate ice packs to ensure specimen integrity.

For questions related to collection and handling, please contact Montana Public Health Laboratory at 1-800-821-7284.

## **Recommendations:**

### Providers:

- Please review the attached Health Alert Network message closely for pertinent information.
- Zika virus testing is currently recommended to establish a diagnosis of infection in exposed persons with signs or symptoms of Zika Virus Disease and/or are pregnant.

- Continue to advise that pregnant women should consider postponing travel to any area where Zika virus transmission is ongoing. Pregnant women who do travel to one of these areas should talk to their doctors or other healthcare providers first and strictly follow steps to avoid mosquito bites during the trip. Women trying to become pregnant should consult with their healthcare providers before traveling to these areas and strictly follow steps to avoid mosquito bites during the trip.
- At this time, testing of exposed, asymptomatic men for the purpose of assessing risk for sexual transmission is not recommended.
- Healthcare providers are encouraged to report suspected Zika virus disease cases to their local health department to facilitate diagnosis and to mitigate the risk of local transmission.

### Local Health Jurisdictions:

- If you have a request for Zika Virus testing, offer to coordinate the request with the provider.
- Please call ahead for an Epi consult to verify the criteria that indicates testing at 406-444-0273.
- Health Departments receiving requests for information on travelers vaccinations should advise all travelers to affected regions to take steps to avoid mosquito bites to prevent Zika virus infection and other mosquito-borne diseases.

For questions related to epidemiology, contact the Communicable Disease Epidemiology Section at 1-406-444-0273.

**This is an official**

# **HAN HEALTH UPDATE**

Distributed via the CDC Health Alert Network  
May 25, 2016, 14:15 EDT (2:15 PM EDT)  
CDCHAN-00389

## **Diagnostic Testing of Urine Specimens for Suspected Zika Virus Infection**

### **Summary**

On May 13, 2016, the Centers for Disease Control and Prevention (CDC) issued [interim guidance](http://www.cdc.gov/mmwr/volumes/65/wr/mm6518e1.htm) (<http://www.cdc.gov/mmwr/volumes/65/wr/mm6518e1.htm>) that recommends Zika virus rRT-PCR testing of urine collected less than 14 days after symptom onset, along with testing of patient-matched serum samples, for the diagnosis of suspected Zika virus infection (1). The purpose of this Health Alert Network (HAN) health update is to further disseminate information about the interim guidance to clinical and public health professionals.

### **Background**

Zika virus is a mosquito-borne flavivirus. Zika virus infection during pregnancy can cause microcephaly and other severe fetal brain defects. Zika virus infection is also associated with Guillain-Barré syndrome. Transmission of Zika can occur through mosquito bite, from a pregnant woman to her fetus, through sexual contact with an infected male, and possibly through blood transfusion. The most common symptoms of Zika virus disease are fever, rash, joint pain, or conjunctivitis. Other common symptoms include muscle pain and headache. Evidence from case reports and experience from related flavivirus infections indicate that the incubation period for Zika is likely a few to 14 days.

Diagnostic testing for Zika virus infection can be accomplished using molecular and serologic methods. The U.S. Food and Drug Administration (FDA) has issued [Emergency Use Authorizations](http://www.fda.gov/MedicalDevices/Safety/EmergencySituations/ucm161496.htm) (EUA) (<http://www.fda.gov/MedicalDevices/Safety/EmergencySituations/ucm161496.htm>) for several diagnostic assays to detect Zika virus infection (2). The EUAs authorize real-time reverse transcription-polymerase chain reaction (rRT-PCR) assays to detect Zika virus RNA in specified clinical sample types, and an immunoglobulin M (IgM) antibody capture enzyme-linked immunosorbent assay (ELISA) to detect anti-Zika virus IgM antibodies in serum and cerebrospinal fluid. The CDC Trioplex rRT-PCR assay is authorized by FDA for Zika virus testing of urine and serum. Anti-Zika IgM antibodies develop during the first week of illness and persist for approximately 12 weeks following infection. However, extensive cross-reactivity can occur in flavivirus serological assays, and therefore additional tests, such as the plaque reduction neutralization test (PRNT), are necessary to distinguish Zika virus infection from other flavivirus infections.

Although Zika virus RNA is unlikely to be detected in serum after the first week of illness, recent data suggest that Zika virus RNA can persist in urine for at least two weeks post symptom onset (3). Given this information, on May 13, 2016, CDC issued interim guidance on rRT-PCR testing for Zika virus RNA in urine (1). CDC now recommends that, for persons with suspected Zika virus disease, Zika virus rRT-PCR should be performed on both urine and serum specimens collected within 7 days after onset of symptoms. Zika virus rRT-PCR also should be performed on urine specimens collected within 14 days after onset of symptoms. A positive rRT-PCR result in either specimen confirms Zika virus infection. However, a negative rRT-PCR in a serum or urine sample collected at any time point after illness onset does not exclude Zika virus infection, and in these cases IgM antibody testing should be performed on serum.

CDC recommendations for Zika virus testing of serum and other clinical specimens remain unchanged at this time. Please contact your state or local health department to facilitate testing.

### Recommendations for Health Care Providers and Public Health Practitioners

- Collect urine samples within 14 days post symptom onset along with patient-matched serum samples for those who match CDC Zika virus clinical and/or epidemiological testing criteria for Zika virus infection.
- Perform Zika virus rRT-PCR testing on urine, in conjunction with testing of serum using the appropriate molecular or serologic assay, based on days post symptom onset.

### Additional Considerations

- Further investigation is needed to determine the sensitivity and utility of Zika virus rRT-PCR on urine specimens collected  $\geq 14$  days after onset of symptoms: limited data in pregnant women suggest that viremia in serum might be prolonged in pregnancy (4, 5).

### References

1. CDC. Interim guidance for Zika virus testing of Urine – United States, 2016. MMWR Morb Mortal Wkly Rep 2016; 65. DOI: <http://dx.doi.org/10.15585/mmwr.mm6518e1>.
2. Food and Drug Administration. Emergency Use Authorizations. <http://www.fda.gov/MedicalDevices/Safety/EmergencySituations/ucm161496.htm>
3. Comparison of Test Results for Zika Virus RNA in Urine, Serum, and Saliva Specimens from Persons with Travel-Associated Zika Virus Disease — Florida, 2016 <http://www.cdc.gov/mmwr/volumes/65/wr/mm6518e2.htm>
4. Driggers RW, Ho CY, Korhonen EM, et al. Zika virus infection with prolonged maternal viremia and fetal brain abnormalities. N Engl J Med. March 30, 2016. DOI: 10.1056/NEJMoa1601824
5. Bocanegra C. Zika virus infection in pregnant women in Barcelona, Spain. Clin Microbiol Infect. April 3, 2016. DOI: 10.1016/j.cmi.2016.03.025.

### For More Information

- General information about Zika virus and disease: <http://www.cdc.gov/zika/>
- Zika virus information for clinicians: <http://www.cdc.gov/zika/hc-providers/index.html>
- Memorandum – Revised diagnostic testing for Zika, chikungunya, and dengue viruses in US Public Health Laboratories (not updated with urine guidance): <http://www.cdc.gov/zika/state-labs/index.html>
- Diagnostic testing: <http://www.cdc.gov/zika/hc-providers/diagnostic.html>
- Collection and submission of body fluids for Zika virus testing: <http://www.cdc.gov/zika/hc-providers/body-fluids-collection-submission.html>

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### Categories of Health Alert Network messages:

**Health Alert** Requires immediate action or attention; highest level of importance

**Health Advisory** May not require immediate action; provides important information for a specific incident or situation

**Health Update** Unlikely to require immediate action; provides updated information regarding an incident or situation

**HAN Info Service** Does not require immediate action; provides general public health information

## This message was distributed to state and local health officers, state and local epidemiologists, state and local laboratory directors, public information officers, HAN coordinators, and clinician organizations ##