

epiTRENDS

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Zika Virus

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Zika is a mosquito borne virus that is increasing internationally. Many local health jurisdictions and healthcare providers in Washington State have questions about appropriate management of residents potentially exposed to the virus during travel in regions where transmission is ongoing. This article provides updates regarding Zika epidemiology, travel advisories for women who are pregnant or considering becoming pregnant, management of potentially exposed persons, and testing guidelines.

Transmission and Infection

Zika is transmitted through the bite of infected *Aedes sp.* mosquitoes. Prior to a 2007 outbreak on Yap Island in the Federated States of Micronesia, no



Aedes aegypti
www.cdc.gov

outbreaks and only 14 cases of human Zika virus disease were documented. Autochthonous transmission of Zika virus in the Americas was first identified in Easter Island, Chile, in 2014, followed by extensive cases in Brazil starting in early 2015. Currently, Zika transmission is occurring in many countries of Central and South America, as well as portions of Africa, the

Pacific Islands and the Caribbean. For an up to date list of countries where Zika transmission is ongoing, see <http://www.cdc.gov/zika/geo/index.html>. As of February 17th 2016, there are 82 cases in the United States among returning travelers. The first confirmed case in a Washington resident was February 22nd 2016.

In addition to occurring in many tropical and subtropical regions, *Aedes* mosquitoes occur in the southern continental United States and Hawaii, leading to the possibility of introduction into these areas if a Zika infected traveler is bitten. The mosquito vectors are not found in Washington State.

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Approximate distribution of *Aedes aegypti* in the United States*



Approximate distribution of *Aedes albopictus* in the United States*



<http://www.cdc.gov/chikungunya/resources/vector-control.html>

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Only about one in five people infected with Zika virus becomes symptomatic. Symptoms can include fever, maculopapular rash, arthralgia (joint pain), or conjunctivitis. Clinical illness usually is mild with symptoms lasting for several days to a week. Severe disease requiring hospitalization is uncommon and fatalities are rare. Guillain-Barré syndrome has rarely been reported in patients following suspected Zika virus infection. There is a possible link between Zika infection in pregnant woman and the birth of infants with microcephaly as well as other poor pregnancy outcomes.

Pregnancy Travel Advisory

In November 2015 health officials in Brazil noted a dramatic increase in the number of cases of infants born with microcephaly. This birth defect involves a small head due to abnormal brain development. Zika virus RNA has been identified in tissues from several infants with microcephaly and from fetal losses in women infected with Zika virus during pregnancy but research is ongoing. It has not been definitively confirmed whether Zika virus is the cause for Brazil's increase in microcephaly cases, or what genetic, environmental or other factors may be involved. For more, see <http://www.cdc.gov/mmwr/volumes/65/wr/pdfs/mm6503e2er.pdf>

However, the U.S. Centers for Disease Control and Prevention (CDC) recommended that pregnant women consider postponing travel to the areas where Zika virus transmission is ongoing; if travel cannot be postponed, CDC recommended that women at risk strictly follow steps to prevent mosquito bites. Men returning from travel to affected areas should use condoms consistently and correctly when having sex with pregnant women for the duration of the pregnancy. CDC also recommended that women who are trying to become pregnant consult with their health care provider about Zika risk and that healthcare providers should ask all pregnant women about recent travel. See

<http://www.cdc.gov/mmwr/volumes/65/wr/mm6502e1.htm>. There are also numerous general travel notices in place:

<http://wwwnc.cdc.gov/travel/notices/>

Notably, some countries in Central and South America have advised that women avoid becoming pregnant until more is understood about the effects of Zika infection on the developing fetus; in some countries, health officials have recommended their residents postpone pregnancy until 2018.

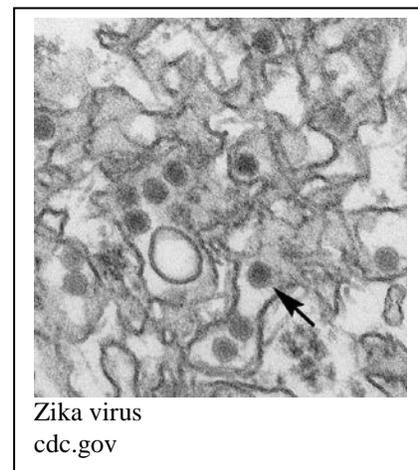


Countries and territories with active Zika virus transmission
<http://www.cdc.gov/zika/geo/index.html>

Testing and Management

According to the CDC, Zika virus infection should be considered in patients with acute fever, rash, arthralgia, or conjunctivitis who have traveled in the two weeks prior to onset of illness to areas with ongoing Zika transmission (for a current listing of areas with ongoing transmission, see <http://www.cdc.gov/zika/geo/index.html>). Healthcare providers should report suspected Zika virus disease cases to their local health jurisdiction, which in turn should report suspect cases to the Washington State Department of Health Office of Communicable Disease Epidemiology.

No commercial assay is currently available for detecting Zika virus, and serologic cross-reactivity is strong among Zika, dengue, and other flaviviruses. Because of the similar geographic distribution and clinical presentations of Zika, dengue, and chikungunya virus infections, patients with symptoms consistent with Zika virus disease should also be evaluated for the other two agents. Patients with suspected Zika infection should not take aspirin or other non-steroidal anti-inflammatory drugs until dengue virus infection is ruled out. Acetaminophen or paracetamol may be used to reduce fever and pain.



All Zika testing must be performed at CDC, which must be coordinated through the Washington State local health jurisdiction. Criteria for testing at CDC for persons with travel to an area with known Zika transmission are currently as follows, but may change in the near future:

- Person with at least two consistent symptoms: acute onset of fever, maculopapular rash, arthralgia, or conjunctivitis, during or within 2 weeks of last travel date to a risk area
- Asymptomatic pregnant woman or woman with fetal loss and with serum specimen collected 2-12 weeks after return from travel during pregnancy
 - If fetal ultrasounds detect microcephaly or intracranial calcifications, pregnant women who originally tested negative for Zika virus infection or who were not tested following travel should be retested for Zika virus infection. Also consider amniocentesis for Zika virus testing.
- Baby born to woman with travel to risk area during pregnancy with either maternal positive or inconclusive test result for Zika virus or infant microcephaly or intracranial calcifications

Note that specimens must be approved by the local health jurisdiction and routed to Washington State Public Health Laboratories for transport to CDC. To discuss testing, local jurisdictions can call the Office of Communicable Epidemiology at 206-418-5500. The general specimen for Zika testing is 2 mL serum (0.25mL serum minimum), frozen to -70°C and transported on dry ice. Additional specimens may be tested for suspect Zika infection of a pregnant woman, neonate or stillbirth. If dengue and/or chikungunya are on the differential, a separate specimen should be sent commercially for these viruses if possible to assist in decreasing the workload at CDC. For more about testing see: <http://www.cdc.gov/mmwr/volumes/65/wr/mm6502e1.htm>.

Prevention and Treatment

There is no specific treatment for Zika virus infection; care is supportive only. There are no prophylactic drugs to prevent infection so the only prevention measure is avoiding mosquito bites while in an area with ongoing Zika transmission, or avoiding travel to risk areas, as recommended by CDC for pregnant women or women who might become pregnant. All travelers returning from affected areas should avoid donating blood for 28 days following travel. Additional donor deferral rules are in effect for symptomatic persons and persons with male sexual contacts who traveled to affected areas.

There is still much to learn about Zika virus. Local health jurisdictions can consult with Office of Communicable Disease Epidemiology about diagnosis and testing.

Resources

Zika in Washington: <http://www.doh.wa.gov/YouandYourFamily/IllnessandDisease/ZikaVirus>

For general mosquito bite prevention strategies for travelers, see: http://www.cdc.gov/chikungunya/pdfs/fs_mosquito_bite_prevention_travelers.pdf

Healthcare providers can obtain additional information at: <http://www.cdc.gov/zika/hc-providers/index.html>