



State of New Jersey

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To: Local health departments and health care providers
From: Shereen Semple, MS
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Infectious & Zoonotic Disease Program
Date: January 14, 2016
Subject: Zika Virus Disease: Guidelines for Reporting, Testing and Preventing Infection in Travelers

Zika virus disease (or Zika) is a mosquito-borne disease that typically occurs in tropical Africa and southeast Asia. In May 2015, the Pan American Health Organization / World Health Organization (PAHO / WHO) reported the first local (autochthonous) transmission of Zika in the Americas. As of December 2015, thirteen countries and territories in the South and Central American and Caribbean region have reported autochthonous transmission, including Brazil, Colombia, El Salvador, French Guyana, Guatemala, Honduras, Martinique, Mexico, Panama, Paraguay, Puerto Rico, Suriname and Venezuela.

In late December 2015, the NJDOH identified New Jersey's first laboratory-confirmed case of Zika in a Bergen county woman exposed in Colombia. While there is no local public health risk associated with this travel-related case of Zika, the NJDOH is sending this message to local health departments (LHDs) and health care providers to increase awareness of the risk of Zika in travelers to South and Central America and the Caribbean.

Background

Zika is a flavivirus related to dengue, West Nile, yellow fever and Japanese encephalitis. It was first isolated in 1947 from a Rhesus monkey in Uganda and in 1968 from a human in Nigeria. Since that time, serologic evidence of human infections has been reported in several countries in tropical Africa and parts of Southeast Asia. In addition, Zika has been implicated as the cause of three mosquito-borne disease outbreaks outside of Africa and Asia, including Micronesia in 2007, French Polynesia in 2013, and the current outbreak in the Americas first identified in May of 2015.

Zika is primarily transmitted to humans by *Aedes* mosquitoes, including *Aedes aegypti* and *Aedes albopictus* (i.e., the Asian tiger mosquito). Nonhuman and human primates are the main reservoirs of the virus. Perinatal and possible sexual transmission has been reported, and transfusion-associated transmission may occur, as Zika has been identified in asymptomatic blood donors during ongoing outbreaks.

Autochthonous cases of Zika have not been identified in the United States, although the potential for local transmission exists, as *Aedes* mosquitoes are present in many states. The Centers for Disease Control and Prevention (CDC) reports less than 20 travel-related cases in the past ten

years, however Zika is not a nationally notifiable disease, and this number is likely under-reported.

Clinical Disease

Infection with Zika virus is usually mild. About one in five people develop symptoms; hospitalization and fatalities are rare. The incubation period is typically 3–12 days following the bite of an infected mosquito. The most common symptoms are acute onset of fever with maculopapular rash, arthralgia or conjunctivitis. Other symptoms may include headache, myalgia, retro-orbital pain and vomiting, and symptoms typically last several days to a week.

Zika and Pregnancy

In late November 2015, the Ministry of Health of Brazil posited a relationship between an increase in cases of the congenital birth defect microcephaly in newborns and Zika virus infections in the country's northeast region. The research into this link is preliminary; the PAHO/WHO is reporting a possible risk of microcephaly and fetal malformations in pregnant women during the first trimester. As such, it is prudent for pregnant women and women of childbearing age to avoid mosquito bites when residing in or visiting areas where Zika may be present. In addition, pregnant woman should consult with their health care provider before traveling to areas where Zika, dengue and chikungunya are present, to discuss preventive measures and evaluate the risk of traveling to these areas.

Diagnosis and Testing

Diagnosis of Zika is based on clinical features, travel history and exposure activities. The differential diagnosis for Zika is broad and may include other diseases relevant to travel, such as dengue, leptospirosis, malaria, rickettsia, group A streptococcus, rubella, measles, parvovirus, enterovirus, adenovirus and alphavirus infections (e.g., chikungunya). Laboratory testing is available through NJDOH at the CDC and includes testing serum to detect virus, viral nucleic acid, or virus-specific immunoglobulin M (IgM) and neutralizing antibodies. During the first few days of illness, Zika viral RNA can be identified in serum; virus antibodies typically develop toward the end of the first week of illness. Cross-reaction with related flaviviruses, such as dengue, is common and may be difficult to discern. Clinicians considering a diagnosis of Zika in travelers returning from areas where the virus is circulating should contact the NJDOH Vectorborne Disease Program at (609) 826-5964 to discuss laboratory testing; the CDC will not accept specimens sent without pre-approval from state health departments. A list of geographic areas with Zika may be found online at <http://www.cdc.gov/zika/geo/index.html>.

Reporting and Public Health Investigations

Zika is a reportable condition in New Jersey, under the N.J.A.C. 8:57 category “Arboviral diseases.” Confirmed cases must be reported within 24 hours of diagnosis to the LHD where the person resides. Cases should be reported using the NJDOH online, secure Communicable Disease Reporting and Surveillance System (CDRSS); health care providers without access to CDRSS should report cases directly to the appropriate LHD. Contact information for LHDs can be found at www.localhealth.nj.gov. Timely reporting of cases is required to facilitate diagnosis and mitigate the risk of local transmission.

LHDs investigating suspect cases of Zika should obtain the following information: symptom onset date, list of clinical signs and symptoms, travel history including dates and location, co-morbidities and pregnancy status, and relevant laboratory testing. Given the possible link between infection with Zika and microcephaly, pregnant woman should be advised to consult with their OB/GYN to discuss further evaluation. In the months when mosquitoes are active in New Jersey, viremic cases of Zika (i.e., the first week of infection) pose a risk of transmission to local mosquito populations. As such, during the spring, summer and fall, LHDs are asked to investigate Zika cases in a timely manner and work with health care providers to counsel suspect cases on the importance of avoiding further mosquito exposure by staying indoors or wearing insect repellent during the first week of symptoms.

Treatment

No specific antiviral treatment is available for Zika. Treatment is generally palliative and can include rest, fluids, and use of analgesics and antipyretics. Because of similar geographic distribution and symptoms, patients with suspected Zika should also be evaluated and managed for possible dengue virus infection. In patients with suspected Zika and travel to an area where dengue is present, health care providers should avoid recommending aspirin or other NSAIDs until dengue has been ruled out, as these analgesics can increase the risk of hemorrhage in patients with dengue.

Prevention

No vaccine or preventive drug is available. The best way to prevent becoming infected with Zika is to avoid mosquito bites when traveling to an area where Zika is present.

- Pregnant women and women of childbearing age should consult with their health care provider or OB/GYN before traveling, to evaluate the possible risk of Zika, dengue, chikungunya and other mosquito-borne diseases.
- Use insect repellent. Repellents containing DEET, picaridin IR3535 and oil of lemon eucalyptus PMD provide long lasting protection against mosquitoes that may transmit virus such as Zika, dengue and chikungunya.
- When indoors, use air conditioning, window screens or insecticide-treated mosquito netting to keep mosquitoes out of the home.
- Reduce the number of mosquitoes outside the home or hotel room by emptying or routinely changing standing water from containers such as flowerpots, pet dishes and bird baths.
- Weather permitting, wear long sleeves and pants when outdoors.

For information on how best to be protected against all diseases related to travel, a visit to a clinician with expertise in travel medicine is recommended prior to a planned trip.

Additional Information

- Contact the NJDOH Vectorborne Disease Program by phone at (609) 826-5964 or email at shereen.semple@doh.nj.gov
- General information about Zika virus disease can be found at <http://www.cdc.gov/zika/>
- Protection against mosquitoes for travelers can be found at <http://wwwnc.cdc.gov/travel/yellowbook/2014/chapter-2-the-pre-travel-consultation/protection-against-mosquitoes-ticks-and-other-insects-and-arthropods>
- CDC health advisories on Zika and other travel-related health risks can be found at <http://wwwnc.cdc.gov/travel/notices>