



**Date:** January 29, 2016  
**To:** CAHAN San Diego Participants  
**From:** Public Health Services, Epidemiology Program

## Zika Virus

This health advisory provides a summary of the epidemiology, clinical findings, testing requirements, treatment, and prevention of Zika virus infection and links to resources for further information.

## Background

In May 2015, [Zika virus](#) started circulating in the Western Hemisphere. The first locally-acquired case in the Americas was reported in [Brazil](#). Zika virus is transmitted by the bite of infected *Aedes aegypti* and *Aedes albopictus* mosquitoes, which are also the vectors of [dengue](#), [chikungunya](#), and [yellow fever](#) viruses.

On January 15, 2016, the Centers for Disease Control and Prevention (CDC) began issuing [travel advisories](#) for people, particularly [pregnant women](#), traveling to places where ongoing Zika virus transmission has been documented. To date, local transmission of the virus has been reported in 24 countries and territories in the Americas, including the U.S. Virgin Islands and Puerto Rico, and [Mexico](#). There is also on-going Zika virus transmission in [Samoa](#) and [Cape Verde](#). Up-to-date information on locations with local transmission of Zika virus may be found at the [CDC Zika travel website](#).

**NO local transmission** has been documented in the continental United States at this time; however, cases with Zika virus have been reported in travelers returning to the United States. There have been no reported cases of locally transmitted Zika in Mexico City or in the northern border region of Mexico, including Baja California.

Two travelers returning to San Diego have been diagnosed with Zika virus in the past: an individual who was in the Cook Islands in July 2014 and an individual who visited Christmas Island in July 2015. Both travelers developed fever, rash and arthralgias within a week of returning to San Diego. Initial serology testing in each patient had elevated immunoglobulin M (IgM) levels for dengue from commercial laboratories, but subsequent testing at CDC confirmed Zika virus instead.

The *Aedes* vectors for Zika virus have recently been found in [San Diego County](#) and other counties of [California](#). Unlike most native mosquito species, *Aedes aegypti* and *Aedes albopictus* bite during the day. Both species are small black mosquitoes with white stripes on their back and on their legs. The public is encouraged to contact the [San Diego County Vector Control Program](#) at (858) 694-2888 or [vector@sdcounty.ca.gov](mailto:vector@sdcounty.ca.gov) whenever day-biting mosquitoes are observed.

## Clinical Findings

Up to 80% of Zika virus infections may be asymptomatic. Clinical illness usually develops 3-7 days after a mosquito bite (range 2 to 12 days) with fever, arthralgia, maculopapular rash, and conjunctivitis. These usually mild symptoms last several days to a week. Severe cases requiring hospitalization are rare and fatalities are very rare. Clinical features that distinguish Zika virus infection from chikungunya and dengue may be found in the CDC slide set [What Clinicians Need to Know –Zika Virus](#).

A possible association between [Zika virus infection and microcephaly](#) has been reported in Brazil. [Guillain-Barré syndrome](#) has also been reported in patients following Zika virus infection. The causal relationships between Zika virus infection and these conditions are unknown at this time.

## 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 the [San Diego Public Health Laboratory](#) (SDPHL) at the California Department of Public Health (CDPH) Viral and Rickettsial Diagnostic Laboratory (VDRL) and the CDC. This includes testing serum, CSF, or amniotic fluid to detect virus, viral nucleic acid, or virus-specific 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 and West Nile virus, 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 discuss testing with the [San Diego County Epidemiology Program](#); **the CDC will not accept specimens sent without pre-approval from local and state health departments.**

## Treatment

No specific treatment for Zika infection exists; the only treatment option available is supportive care of rest, fluids, and use of analgesics and antipyretics. Because it may be difficult to clinically distinguish Zika virus infection from dengue, it is important not to miss possible cases of severe dengue, which can benefit from early, aggressive supportive care. Aspirin and nonsteroidal anti-inflammatory drugs should be avoided unless dengue is ruled out. Consultation with an infectious disease physician may be useful in individual cases.

## 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 obstetrical/gynecological healthcare provider before traveling to evaluate the possible risk of Zika, dengue, chikungunya, and other mosquito-borne diseases.

Repellents containing DEET, picaridin, IR3535, and oil of lemon eucalyptus provide long lasting protection against mosquitoes that may transmit virus such as Zika, dengue, and chikungunya. Air conditioning, window screens or insecticide-treated mosquito netting can keep mosquitoes out of the home. The number of mosquitoes outside the home or hotel room can be reduced by emptying or routinely changing standing water from containers such as flowerpots, pet dishes, and bird baths. Wearing long sleeves and pants when outdoors is also protective.

## Actions Requested of Healthcare Providers:

- **Suspect** Zika (also consider dengue and chikungunya) in travelers with acute onset of fever, maculopapular rash, arthralgia, or conjunctivitis within 2 weeks after return from a place with local Zika transmission. Patients with Guillain-Barré syndrome after travel to Zika-affected areas should also be evaluated for the virus.
- **Report** suspected cases of Zika virus with appropriate symptomology and travel history to the Epidemiology Program by phone at 619-692-8499 during business hours Monday-Friday, or 858-565-5255 after-hours on

evenings, weekend and County-observed holidays, and by faxing a [Confidential Morbidity Report Form](#) to 858-715-6458.

- **Test** patients with appropriate symptomology and travel history by arranging testing through the SDCPHL. Specimen guidance and the laboratory requisition form can be found [here](#).
- **Advise** patients to avoid mosquito bites. Refer travelers, particularly pregnant women, to [CDC Travel Advisories](#) for current information.
- **Evaluate** pregnant women who traveled to areas with Zika virus transmission while pregnant using the CDC [Interim Guidelines for Pregnant Women During a Zika Virus Outbreak](#).
- **Evaluate** fetuses and infants of women infected with Zika virus during pregnancy for possible congenital infection and microcephaly using the CDC [Interim Guidelines for Evaluation & Testing of Infants with Possible Congenital Zika Virus Infection](#).

## Useful Resources

- [Aedes aegypti and Aedes albopictus Mosquitoes in California \(CDPH\)](#)
- [Center for Infectious Disease Research and Policy Zika Resource Webpage \(University of Minnesota\)](#)
- [Continuing Medical Education: What Clinicians Need to Know – Zika Virus \(CDC\)](#)
- [Fact Sheets and Posters in English and Spanish \(CDC\)](#)
- [Questions and Answers for Obstetrical Healthcare Providers \(CDC\)](#)
- [Questions and Answers for Pediatric Healthcare Providers \(CDC\)](#)
- [Zika Virus Information and Guidance for Clinicians \(CDC\)](#)
- [Zika Virus – Pan American Health Organization](#)

## CAHAN San Diego

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