



**HEALTH ADVISORY**  
**ZIKA VIRUS DISEASE and**  
**Current Travel-Associated Viral Diseases of Concern**  
January 29, 2016

**SITUATION**

As of January 4, 2016, Alameda County Public Health Department (ACPHD) is no longer monitoring travelers from West Africa for Ebola symptoms, and health care providers no longer need to screen patients upon first contact with a health care facility for travel history, but should continue to conduct thorough histories that include exposure and travel history when assessing patients. The recent reports of Zika virus in Brazil and increases in microcephalic infants and other potential adverse fetal outcomes has led to CDC travel precautions and increased awareness about Zika Virus disease, and are a good reminder of the importance of travel history and recent outbreaks of mosquito-borne diseases when evaluating febrile patients. As of January 26, 2016, 24 countries and territories in Latin America, the Caribbean, and Oceania/Pacific Islands have reported active Zika virus transmission. See <http://wwwnc.cdc.gov/travel/notices/> for travel notices.

**ACTIONS REQUESTED OF CLINICIANS:**

1. **OBTAIN TRAVEL HISTORY** from patients with a febrile illness.
2. **CONSIDER TESTING** for dengue fever, chikungunya, or Zika virus disease in persons with compatible clinical presentation and a history of travel to Latin America, the Caribbean, or the Pacific Islands in the 14 days before symptom onset.
3. **FAX the ZIKA VIRUS TESTING FORM to PUBLIC HEALTH at 510-268-2111** to obtain approval prior to sending specimens.
4. **COUNSEL PATIENTS** who are pregnant or who are attempting to become pregnant about special travel precautions and preventing mosquito bites.
5. **REPORT** suspected or confirmed cases of dengue, chikungunya, or zika virus disease to Public Health Acute Communicable Disease Unit (ACD) by faxing a Confidential Morbidity Report form to 510-268-2111.

**CLINICAL PRESENTATION**

**Acute Zika virus disease:** An estimated 80% of persons infected with Zika virus are asymptomatic. If symptoms occur, they usually begin 3-7 days after the person is bitten by an infected mosquito, and commonly include acute onset of fever, maculopapular rash, joint pain, and/or nonpurulent conjunctivitis. **To meet clinical criteria for Zika virus testing, 2 or more of these symptoms must be present within 14 days of travel to a country with Zika transmission.** Symptoms are generally mild and last several days to a week. There is no specific treatment, only supportive care. Aspirin and nonsteroidal anti-inflammatory drugs should be avoided until dengue can be excluded, to reduce the risk for hemorrhage. As symptoms of Zika, dengue and chikungunya overlap, all 3 diseases should be considered in a returning traveler from Latin America or the Caribbean.

**Congenital Zika virus infection:** Zika virus maternal infections have been confirmed in infants with microcephaly. In the current outbreak in Brazil, an unusual increase in the number of microcephalic infants has been reported and cerebral calcifications have been described in some cases. However, the number of microcephaly cases that are associated with Zika virus infection, pathologic mechanisms, and the role of other contributory factors is unknown. A causal relationship between Zika virus infection and adverse fetal outcomes, including fetal loss has not been confirmed. The full spectrum of clinical outcomes that may be associated with Zika virus infections during pregnancy is unknown.

**Other syndromes:** Guillain-Barré, meningitis/encephalitis, and myelitis have been associated with Zika infection.



**ALAMEDA COUNTY HEALTH CARE SERVICES AGENCY  
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## **TRANSMISSION**

Zika virus is a flavivirus that is transmitted by *Aedes aegypti* (which also transmit dengue and chikungunya viruses) and *Aedes albopictus* mosquitoes, which are found throughout much of the Americas and some parts of the United States. Although not native to California, these mosquitoes have been detected in 12 California counties; *Aedes aegypti* mosquitoes have been found in Alameda County but are not established. Thus far, Zika virus infections in California have only been reported in returning travelers. No local transmission has been documented in the continental United States, but transmission has been reported in Puerto Rico. Local spread of the virus is possible if an *Aedes* mosquito bites an infected returning traveler, then bites another person. As noted above, Zika virus may be transmitted from mother to fetus.

## **LABORATORY TESTING**

**Obtain public health approval:** Zika testing is only available at the Centers for Disease Control and Prevention (CDC) and the California Department of Public Health (CDPH). ACD must approve Zika virus testing for patients who are residents of Alameda County (for City of Berkeley residents, Berkeley Public Health must be consulted). To request approval, fax the Alameda County Zika Virus Testing Request Form to 510-268-2111. **Specimens that are shipped directly to CDC and CDPH will not be tested for Zika without (1) ACD approval and (2) notification of the Alameda County Public Health Laboratory (ACPHL).** Testing will be considered for patients with:

- Symptoms meeting clinical criteria for acute Zika virus disease (described above) AND
- History of travel to a region with active Zika virus transmission AND
- An Alameda County Zika Virus Testing Request Screening Form that is completed by the clinician and faxed to ACD at 510-268-2111.
- In addition, testing is recommended for women who traveled to an area with ongoing Zika virus transmission during pregnancy and who developed symptoms suggestive of Zika within 2 weeks of travel. Testing should also be considered in these returned travelers if there is ultrasound evidence of fetal microcephaly or cerebral calcifications.

Test requests will be reviewed by ACD and the clinician will be contacted with further instructions. **If testing is approved, the requester must call the ACPHL at 510-382-4300 prior to specimen shipping.**

**Specimen collection:** For suspect cases of acute Zika virus disease, submit at least 2 mls of serum, but preferably 2 separate tubes with 2 mls each. For testing of amniotic fluid, CSF or tissue, please consult with ACD prior to collection.

**Specimen storage and shipping:** Specimens should be stored in refrigeration until shipped on cold packs to the ACPHL. Specimens must be received between 8:30 am and 5 pm, Monday-Friday and will be sent to CDPH's Viral and Rickettsial Diseases Laboratory (VRDL). Specimens must be accompanied by 2 request forms. These forms should also be emailed to: [monica.bender@acgov.org](mailto:monica.bender@acgov.org) and [acutedc@acgov.org](mailto:acutedc@acgov.org):

- CDPH VRDL General Submittal Form  
[https://www.cdph.ca.gov/programs/vrdl/Documents/VRDL\\_General\\_Human\\_Specimen\\_Submittal\\_Form\\_Lab300.pdf](https://www.cdph.ca.gov/programs/vrdl/Documents/VRDL_General_Human_Specimen_Submittal_Form_Lab300.pdf)
- CDC specimen submission form, CDC Form 50.34: <http://www.cdc.gov/laboratory/specimen-submission/form.html> (the test to order is "Arboviral Serology"); or available from ACD or ACPHL after testing has been approved

## **TRAVEL PRECAUTIONS & PREVENTION**

**Travel precautions and pregnancy:** The CDC and the CDPH recommend that:

- Pregnant women should postpone travel to areas where Zika virus transmission is ongoing. Pregnant women who must travel to these areas should talk to their health care provider first and strictly follow steps to avoid mosquito bites during the trip.
- Women trying to become pregnant should consult with their healthcare provider before traveling to these areas and strictly follow steps to avoid mosquito bites.



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**Prevention:** There are no vaccines to prevent Zika, dengue, or chikungunya infection. Preventing mosquito bites is the best way to avoid infection.

- Use insect repellents containing DEET, picaridin, IR3535, oil of lemon eucalyptus, or para-menthane-diol for long lasting protection. If using both sunscreen and insect repellent, apply the sunscreen first and then the repellent.
- **Using insect repellent is safe and effective. Pregnant women and women who are breastfeeding can and should choose an EPA-registered insect repellent and use it according to the product label.**
- When weather permits, wear long-sleeved shirts and long pants.
- Use air conditioning or window/door screens to keep mosquitoes outside, or sleep under a mosquito bed net.
- Empty standing water from containers such as flowerpots or buckets to reduce mosquitoes near residences.

**Infection Control:** Standard precautions should be implemented for suspect and confirmed cases of ZikaVirus Disease, dengue fever, or chikungunya virus disease.

### **REPORT CASES**

Suspected or confirmed Zika Virus Disease and chikungunya virus disease are reportable to Public Health as Unusual Occurrence of Disease. Dengue fever is also reportable to Public Health. Fax a Confidential Morbidity Report (<http://www.acphd.org/media/127468/cdph110a.pdf>) to the ACPHD ACD at (510) 268-2111 immediately upon identification.

### **RESOURCES**

CDC Zika Virus general information: <http://www.cdc.gov/zika/>

CDC list of Zika-affected areas: <http://www.cdc.gov/zika/geo/index.html>

Travel notices related to Zika virus: <http://wwwnc.cdc.gov/travel/notices>

CDC Interim Guidelines for Pregnant Women During a Zika Virus Outbreak – United States, 2016:

<http://www.cdc.gov/mmwr/volumes/65/wr/mm6502e1.htm>

CDC Interim Guidelines for the Evaluation and Testing of Infants with Possible Congenital Zika Virus Infection – United States, 2016: <http://www.cdc.gov/mmwr/volumes/65/wr/mm6503e3.htm>

Instructions for completing the CDC Arbovirus Diagnostic Laboratory submission form:

<http://www.cdc.gov/ncezid/dvbd/specimensub/arboviral-shipping.html>

CDPH Health Advisory, Zika Virus in Latin America:

<http://www.cdph.ca.gov/HealthInfo/discond/Documents/CDPHZikaVirusHealthAdvisory.pdf>