



DEPARTMENT OF
HEALTH AND HUMAN SERVICES

Promoting and protecting health, well-being, self-sufficiency, and safety of all in Marin County.



PUBLIC HEALTH UPDATE

February 19, 2016

Zika Virus

Dear Colleagues:

This update provides information about recent Zika virus (ZIKV) activity, disease recognition, testing, reporting procedures, and additional resources for Marin County clinicians. Marin County Health and Human Services (H&HS) Communicable Disease Prevention and Control (CDPC) unit is closely monitoring the situation as it is rapidly evolving. As new information and evidence becomes available, updates will be made.

Current Situation

Since 2007, Zika virus has caused large outbreaks in Africa and the South Pacific. In 2015, endemic transmission was reported in Central and South America in co-circulation with other mosquito-borne diseases (i.e., malaria, dengue, chikungunya, and yellow fever). In late 2015, reports of an increase in the number of infants born with microcephaly in ZIKV-transmission areas heightened the global public health response. A map of countries and territories with active ZIKV transmission is available [at the Centers for Disease Control and Prevention's \(CDC\) Zika website](#).

In January 2016, the CDC released a [Health Advisory](#) cautioning pregnant women to postpone travel to any area with ongoing ZIKV transmission. On February 2, 2016, a case of sexual transmission of ZIKV was reported in Dallas County, Texas. On February 5, 2016, CDC released two new interim guidelines on ZIKV disease, [one for prevention of sexual transmission](#) and [the other for healthcare providers caring for pregnant women and women of reproductive age](#).

Actions requested of providers

1. Counsel pregnant women:

- a. to consider postponing travel to areas where ZIKV transmission is ongoing.
- b. to abstain from sexual activity or use condoms consistently with male partners who have traveled to or resided in areas with ongoing ZIKV transmission during the entire pregnancy.

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2. **Counsel male patients** who have been in a Zika transmission area:
 - a. to abstain from sexual activity with a pregnant partner or use condoms consistently and correctly with a pregnant partner.
 - a. to consider abstaining from sexual activity or using condoms consistently and correctly during sex until more is known about persistence of virus in semen and factors associated with sexual transmission.
3. **Counsel all travelers** to Zika transmission areas to strictly adhere to recommended precautions to avoid mosquito bites.
4. **Consider Zika testing per 2/5/16 updated CDC guidance:**
 - a. ZIKV testing is recommended for pregnant women who have a clinical illness consistent with ZIKV disease during or within 2 weeks of being in a ZIKV transmission area. Testing is also recommended if there are findings of fetal/newborn microcephaly with a relevant history of maternal travel.
 - b. ZIKV testing can be offered to asymptomatic pregnant women who have a relevant travel history. The testing window is 2-12 weeks after return from a ZIKV transmission area.
 - c. Consider testing of suspect (symptomatic) cases of ZIKV infection for Dengue and Chikungunya viruses.
5. **Contact Marin County H&HS Communicable Disease Prevention and Control (CDPC) unit for instructions for ZIKV testing** (Phone 415-473-7805).
 - a. All requests for ZIKV testing must be approved by CDPC staff who will coordinate testing with the Public Health Laboratory, California Department of Public Health (CDPH), and CDC.

Background Information

Zika virus disease is a mosquito-associated flaviviral disease caused by Zika virus (ZIKV). It is related to other *Flaviviridae*, including Japanese Encephalitis, West Nile, Yellow Fever, St. Louis Encephalitis, and Dengue viruses. The natural cycle of ZIKV involves mosquito vectors and vertebrate hosts. *Aedes aegypti* & *Aedes albopictus* are the primary vectors of ZIKV (as well as Dengue and Chikungunya virus); both species have been detected in California. However, neither species has been detected in Marin County as of December 2015. To date, there have been 84 reported cases of travel-associated Zika virus disease in the United States with no known local vector-borne cases. To date, there have been no confirmed cases of travel-associated Zika virus disease in Marin County.

Clinical Presentation

Asymptomatic infections are the norm; only one in four or five people (20-25%) infected with ZIKV are believed to develop clinical symptoms. Disease is generally mild, with symptoms that include: low-grade fever (<38.5°C), transient arthritis/arthralgia with possible joint swelling mainly in the smaller joints of the hands and feet, maculo-papular rash often spreading from the face to the body, conjunctival hyperemia or bilateral non-purulent conjunctivitis, and general non-specific symptoms such as myalgia and headaches..

The incubation period (i.e. the amount of time between exposure and symptom onset) is thought to range from 3 to 12 days. The disease symptoms usually last for

2 to 7 days. Most people recover fully without severe complications, and hospitalization rates are low. Viremia (the period when ZIKV is measurably present in the blood) has been estimated to last 3 to 5 days following symptom onset. Infection may go unrecognized or be misdiagnosed as Dengue, Chikungunya, or other viral infections causing fever and rash.

Although rare, neurological complications such as Guillain-Barré syndrome (GBS) have been reported. An association with GBS and other autoimmune neurological complications was suspected during the 2013–2014 outbreak in French Polynesia, and remains under investigation.

Treatment

Because of similar geographic distribution and symptoms, patients with suspected Zika virus infections should also be evaluated and managed for possible Dengue or Chikungunya infection. Similar to Dengue and Chikungunya infections, no specific antiviral treatment is available for Zika virus infection. Treatment is generally symptomatic and can include rest, fluids, and use of acetaminophen. Aspirin and other non-steroidal anti-inflammatory drugs (NSAIDs), like ibuprofen and naproxen, should be avoided until Dengue can be ruled out to reduce the risk of hemorrhage.

Zika Virus Infection and Pregnancy

There have been reports of congenital microcephaly and other poor pregnancy outcomes in babies of mothers who were infected with ZIKV while pregnant. The link between ZIKV and these outcomes is still under investigation. Health care providers should ask all pregnant women about recent travel. Pregnant women who develop symptoms consistent with ZIKV infection within two weeks of travel to an area with ongoing transmission should be evaluated by a health care provider and recommended for testing as described below. ZIKV serologic testing can also be offered to asymptomatic pregnant women 2–12 weeks after travel to areas with ongoing transmission.

The CDC and the American Congress of Obstetricians and Gynecologists (ACOG) recommend that an ultrasound evaluation be performed for asymptomatic pregnant women reporting travel at any time during pregnancy to an area with ongoing ZIKV transmission in order to detect fetal microcephaly or intracranial calcifications. There is limited information regarding timing or diagnostic accuracy of ultrasound for detection of fetal microcephaly or intracranial calcifications associated with ZIKV infection. Pregnant women who test positive for a history of ZIKV infection (positive or inconclusive IgM and/or PCR) should be referred to a maternal fetal medicine (MFM) specialist for further evaluation.

Infection Prevention and Control

Travel advisory:

Due to reports of microcephaly and other poor outcomes in babies of mothers who were infected with Zika virus while pregnant, the CDC recommends the following:

- Pregnant women should consider postponing travel to areas where ZIKV transmission is ongoing.

- Pregnant women and women trying to become pregnant who do travel to these areas should talk to their healthcare providers first and strictly follow steps to avoid mosquito bites during their trip.

Mosquito avoidance:

The mosquitoes responsible for most ZIKV transmission are not believed to be widespread in California and have not been identified in Marin County. However, Marin County residents should use personal protective measures to avoid exposure to mosquitoes. Marin County recommends counseling patients to prevent exposure to mosquito bites by practicing the “Three Ds”:

1. DEET – Apply insect repellent containing DEET, picaradin, oil of lemon eucalyptus, or IR3535 according to label instructions. Repellents keep the mosquitoes from biting you. DEET can be used safely on infants and children two months of age and older.
2. DAWN AND DUSK – Mosquitoes bite in the early morning and evening so it is important to wear proper clothing and repellent if outside during these times. Make sure that your doors and windows have tight-fitting screens to keep out mosquitoes. Repair or replace screens with tears or holes.
3. DRAIN – Mosquitoes lay their eggs on standing water. Eliminate all sources of standing water on your property, by emptying flower pots, old car tires, buckets, and other containers. If you know of a swimming pool that is not being properly maintained, please contact the Marin/Sonoma Mosquito and Vector Control District (1 (800) 231-3236 or (707) 285-2200).

Additional measures:

- Men who reside in or have traveled to an area of active ZIKV transmission who have a pregnant partner should abstain from sexual activity or consistently and correctly use condoms during sex for the duration of the pregnancy.
- Men who reside in or have traveled to an area of active ZIKV transmission and have non-pregnant sex partners might consider abstaining from sexual activity or using condoms consistently and correctly during sex until more is known about persistence of virus in semen and factors associated with sexual transmission.
- Refrain from donating any blood products until symptoms have resolved and until 28 days after travel to an area with ongoing transmission.

Revised Testing for Zika Virus in Marin County

Testing is recommended for the following situations:

- Pregnant women with a history of travel to a ZIKV-transmission area regardless of symptoms
- Infants born to mothers with positive or inconclusive test results for ZIKV infection
- Children with microcephaly whose mothers traveled to or resided in an area with ongoing ZIKV transmission during their pregnancy

Testing should be considered for the following situations:

- Non-pregnant patients with two or more compatible symptoms (fever, maculo-papular rash, arthralgia, or non-purulent conjunctivitis) and history of travel to a ZIKV-transmission area
- Patients diagnosed with Guillain-Barre Syndrome (GBS) with a history of travel to a ZIKV-transmission area

Testing is not recommended for asymptomatic non-pregnant persons.

All ZIKV testing must be coordinated and approved by CDC. Providers should have the following patient information ready before contacting CDC.

- Dates of travel and country/countries of travel
- Symptoms
- Date of onset
- If pregnant, gestational age
- History of previous infection with dengue, Chikungunya or West Nile virus, and,
- History of vaccination for Yellow Fever or Japanese encephalitis

Laboratory

Because of concurrent circulation of Zika, Dengue, and Chikungunya viruses, the similarity of illness presentation and cross-reactivity, the CDC recommends concurrent testing for all three viruses. Appropriate testing is determined based on how long after symptom onset the specimen is collected.

- Specimens collected <4 days after symptom onset will be subjected to molecular testing (RT-PCR) for all three viruses.
- Specimens collected 4–7 days after symptom onset will be subjected to molecular testing and serologic testing for virus-specific IgM antibodies. Because serum collected within 7 days of illness onset may not have detectable virus-specific IgM antibodies, IgM testing should be repeated on a convalescent-phase sample.
- Specimens collected >7 days after symptom onset and specimens from asymptomatic pregnant women collected 2–12 weeks after return from travel to areas of ongoing ZIKV transmission will be subjected to serologic testing for virus-specific IgM antibodies.

Reporting

Clinicians and laboratories must report suspected ZIKV cases to Marin County H&HS Communicable Disease Prevention and Control by phone (415-473-7805).

Additional Information

Centers for Disease Control and Prevention

- Zika homepage: <http://www.cdc.gov/zika>
- Travelers' Health: <http://wwwnc.cdc.gov/travel/notices>
- Zika and Pregnancy: <http://www.cdc.gov/zika/pregnancy/index.htm>

California Department of Public Health:

- Zika homepage:
<https://www.cdph.ca.gov/HealthInfo/discond/Pages/Zika.aspx>

American Congress of Obstetricians and Gynecologists:

- Practice Advisory: <http://www.acog.org/About-ACOG/News-Room/Practice-Advisories/Practice-Advisory-Interim-Guidance-for-Care-of-Obstetric-Patients-During-a-Zika-Virus-Outbreak>

Sincerely,

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