



San Joaquin County Public Health Services

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**Please distribute to
all providers and
relevant medical staff
in your office.**

HEALTH UPDATE Zika Virus Disease

Background

Zika virus is transmitted by the bite of infected *Aedes aegypti* and *Aedes albopictus* mosquitoes, which are aggressive day biters (also the vectors of: Dengue, Chikungunya, and Yellow Fever viruses). In the Americas, local transmission of the virus has been reported in Mexico, the Caribbean, Central America, and South America. An updated list of affected countries can be found at <http://www.cdc.gov/Zika/geo/index.html>. To date, NO local transmission has been documented in the United States. The mosquito vectors have been detected in 12 California counties, though not in San Joaquin County (SJC). Zika virus is also transmitted sexually.

What is New

Zika virus outbreaks continue to expand. Experts have established causality between Zika virus infection during pregnancy and birth defects. The risk for adverse pregnancy and birth outcomes is significant. The Centers for Disease Control and Prevention (CDC) has established a US Zika Pregnancy Registry. In addition to existing testing recommendations, the California Department of Public Health (CDPH) now also recommends testing urine for Zika virus up to 21 days after symptom onset. Zika testing within SJC continues to be coordinated through the Public Health Services Communicable Disease Control Program and the Public Health Laboratory.

Actions Requested of Clinicians:

Suspect Zika in a patient with acute onset of fever, maculopapular rash, arthralgia or conjunctivitis, who traveled to areas with ongoing transmission in the two weeks prior to illness onset.

Report suspect Zika cases immediately to SJC Public Health Services (PHS) by telephone (workday: 468-3822; after hours: 468-6000).

Test suspected cases. Call PHS to arrange testing through the SJC Public Health Laboratory (SJCPHL). Pregnant women who traveled to an area with ongoing Zika virus transmission during pregnancy should be evaluated for Zika virus infection.

Advise patients with suspected Zika to avoid mosquito bites. Counsel patients who intend to travel to areas with ongoing transmission about travel advisories, including a recommendation to delay travel for pregnant women or those trying to conceive. If travel is necessary, counsel about the need to take special precautions to prevent mosquito bites. Counsel patients, especially pregnant women and their partners about how to prevent sexual transmission of Zika virus. Offer CDC guidance to women and their partners who are thinking about pregnancy.

Situation

The outbreaks of Zika virus continue to spread and the number of cases in the US among returning travelers continues to grow. As of June 1, 2016, 60 countries and territories including Mexico report active Zika virus transmission and 618 travel-associated cases have been identified in the continental US. Eleven cases were sexually transmitted and one was associated with Guillain-Barré syndrome. No cases were locally acquired. Within the US territories (Puerto Rico, US Virgin Islands, American Samoa) there have been 1,110 locally acquired cases, four travel-associated cases and eight associated with Guillain-Barré. Within California, as of June 3, 2016, there have been 52 travel associated cases, one due to sexual transmission.

Upon review of all available evidence, the CDC determined Zika virus infection to be a direct cause of microcephaly and other severe brain anomalies. The full spectrum of adverse events and the risk of adverse pregnancy and birth outcomes are not well characterized but early reports document serious outcomes and significant risk. Zika Pregnancy Registries have been established for the US to gain a more complete picture of the impact of Zika infection during pregnancy. The CDC recently indicated it will report the total number of pregnant women monitored for Zika virus through the Registries which uses a slightly different (less strict) inclusion criteria than the currently used case definition for Zika infection. As of May 19, 2016, there are 310 pregnant women with any laboratory evidence of possible Zika virus infection in the US and territories. As of May 27, 2016, in California there are 11 confirmed or probable Zika virus infections in pregnant women.

Recently, urine was validated as an acceptable specimen for PCR testing in symptomatic cases and SJCPHL is now accepting specimens up to 21 days after illness onset. SJC will not accept urine samples alone; blood samples must also be submitted (see details below). Testing capacity through the public health laboratory system has expanded but is still limited and testing in SJC requires approval from the PHS Communicable Disease Control Program.

Clinical Presentation

Acute Zika virus disease: Characteristic clinical findings include acute onset of fever, maculopapular rash, arthralgia, and conjunctivitis. Symptoms usually begin 3-7 days after a person is infected and last several days to a week. Other common symptoms include muscle pain and headache. Severe disease requiring hospitalization is uncommon and fatalities are rare. About one in five people infected with Zika virus become symptomatic. There is no specific treatment for Zika virus disease. The only treatment option available is the provision of supportive care including rest, fluids, and use of analgesics and antipyretics. Aspirin and other non-steroidal anti-inflammatory drugs (NSAIDs) should be avoided until dengue can be ruled out to reduce the risk of hemorrhage.

Congenital Zika virus infection: Zika virus infections during pregnancy can cause birth defects and other serious brain anomalies. The reported spectrum of adverse events includes pregnancy loss, microcephaly, brain and eye abnormalities, poor intrauterine growth, and placental insufficiency. The precise level of risk is unknown but significant. The risk of microcephaly after 1st trimester infections is estimated to be between 1 – 13%. In a prospective study from Brazil, 29% of 42 pregnancies with infection at any time during pregnancy had serious abnormalities by ultrasonography.

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

Testing

Current testing remains focused on symptomatic individuals and exposed asymptomatic pregnant women. The type of specimen needed and the testing performed varies depending upon whether the individual is symptomatic as well as the estimated duration of time between potential infection and sample collection. Testing for symptomatic cases is now possible up to 21 days after symptom onset and includes PCR testing for Zika, dengue, and chikungunya. The turn-around time for test results is still 1 - 3 weeks, and interpretation of serological test results can be challenging due to cross-reactivity among flaviviruses.

Indications: Consider testing for Zika virus disease, dengue fever, and chikungunya in:

1. individuals with a compatible clinical presentation AND in the 14 days before symptom onset had:
 - a. travel to areas with active Zika virus transmission, OR
 - b. sexual exposure with a man who traveled to or resided in an area with active Zika transmission;
2. asymptomatic pregnant women 2 - 12 weeks after exposure (which can be up to eight weeks prior to conception):
 - a. through return from areas with active Zika virus transmission, OR
 - b. sexual exposure with a man who has a history of travel to, or resided in, an area with active Zika transmission and who has had diagnosed Zika virus disease or a clinical illness consistent with Zika virus disease;
3. infants
 - a. with microcephaly or intracranial calcifications born to women who traveled to or resided in an area with ongoing Zika virus transmission while pregnant; or
 - b. born to mothers with positive or inconclusive test results for Zika virus infection;
4. individuals with Guillain-Barré and a relevant travel or sexual exposure history;
5. other situations on a case-by-case basis in consultation with SJC Communicable Disease Control.

NOTE: These criteria may evolve over time.

Zika virus testing is currently only performed by public health laboratories; there are no commercially available diagnostic tests in California at this time.

- Call the Communicable Disease Control program to report and request testing at 209-468-3822.
- Upon approval
 - Collect 5-10 ml of blood in a red top vacutainer tube for both symptomatic and asymptomatic.
 - Symptomatic patients should also have 15 ml urine collected in a sterile container.
 - Blood should be kept refrigerated at 4° Celsius and transported to SJCPHL within 72 hours. Please ship with cold packs.
- Consult with PHS Communicable Disease Control for testing of specimens other than blood or urine.

Additional Information:

- CDC Zika webpage
<http://www.cdc.gov/Zika/index.html>
- CDC Clinical Guidance for Healthcare Providers:
<http://www.cdc.gov/zika/hc-providers/clinical-guidance.html>
- California Department of Public Health
<http://www.cdph.ca.gov/HealthInfo/discond/Pages/Zika.aspx>
- San Joaquin County Public Health Services
<http://www.sjcphs.org/>