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Zika Virus Infection: Current Recommendations for Orange County Medical Providers

- **Zika virus** is a mosquito-borne flavivirus, in the same genus as the yellow fever, dengue fever, and West Nile viruses. About 80% of Zika virus infections are asymptomatic. For those that develop illness, symptoms generally occur 3 to 7 days after infection, are usually mild, and last several days to a week. Aside from congenital infection, serious illness is rare. Symptoms include some combination of acute onset of fever, maculopapular rash, arthralgia, or conjunctivitis. Other commonly reported symptoms include myalgia and headache.
- **Zika virus and pregnancy:** A large outbreak of Zika virus infection in Brazil in 2015 was temporally related to a dramatic increase in the number of infants born with microcephaly in that country. Zika virus has been isolated in fetal brain tissue in the setting of microcephalic disease (NEJM 2016 Feb 10) and in amniotic fluid of pregnant women with microcephalic fetuses (Lancet Infect Dis. 2016 Feb 17). Ongoing research is evaluating the nature of association between Zika virus infection during pregnancy and development of fetal microcephaly.
- **Sexual transmission of Zika virus** has been documented, and is of particular concern during pregnancy. Men who reside in or have traveled to an area of active Zika virus transmission and who have a pregnant partner should abstain from sexual activity or consistently and correctly use condoms during sex (i.e., vaginal intercourse, anal intercourse, or fellatio) for the duration of pregnancy.
- **Reports have linked Zika virus infection with Guillain-Barre Syndrome (GBS).** CDC is working with the Brazilian Ministry of Health to further study whether there is an association. All cases of GBS in persons with a history of travel to countries with Zika spread should be reported to the Orange County Health Care Agency.

Zika Virus Infection and Travel

- **The CDC has issued a travel alert** for people visiting regions where Zika virus transmission is ongoing: <http://wwwnc.cdc.gov/travel/page/zika-travel-information>. The vast majority Latin American countries currently have evidence of local spread. Pregnant women should consider postponing travel to these areas, and those who must travel should be counseled on the risk and steps to avoid mosquito bites. For the latest review of affected countries visit: http://www.paho.org/hq/index.php?option=com_content&view=article&id=11669&Itemid=41716&lang=en.

Zika Virus and Aedes Mosquitoes

- **Zika virus is transmitted** primarily by the bite of *Aedes aegypti* or *Aedes albopictus* mosquitoes. Currently, there is no local transmission of Zika virus in the continental US and the risk of imported Zika virus causing a local outbreak is low. However, both *Aedes* species have been identified in Orange County in the last year, and local spread could occur if an infected traveler returns home and is bitten by a mosquito that could then carry the virus to other people. People with suspected infection with Zika, chikungunya or dengue viruses should avoid mosquito exposure during the first week of illness to reduce the risk of local transmission.

For comments or suggestions on this newsletter, please contact Sandra Okubo, MPH, or Matt Zahn, MD at (714) 834-8180. To receive this newsletter by email, please contact us at epi@ochca.com.

Zika Virus Testing

- **All laboratory testing for Zika virus currently must occur in concert with local public health. No private clinical laboratories offer Zika testing at present. To report suspect/confirmed cases of Zika, or for information on testing, contact the Orange County Health Care Agency Epidemiology and Assessment Program at 714-834-8180.**

Testing for Symptomatic Patients

- When ≤ 7 days from symptom onset, Zika serum PCR and serum IgM and PRNT (Plaque-reduction neutralization) testing should be performed. When more than 7 days have elapsed from onset, only Zika serum IgM and PRNT testing are indicated. A positive IgM result does not always indicate Zika virus infection and can be difficult to interpret since cross-reactivity can occur with related flaviviruses (e.g., dengue, Japanese encephalitis, West Nile, yellow fever). PRNT testing can help confirm Zika virus disease in this situation.
- CDC is assessing the utility of testing urine for Zika virus. Urine PCR testing should be performed for persons who are tested within 30 days of developing symptoms.
- Zika virus infection symptoms overlap with those of dengue and chikungunya. All symptomatic persons tested for Zika should be tested for all three infections.

Testing for Specific Populations

- **Testing for Zika virus infection is recommended for pregnant women** who have a history of travel to an area with Zika virus transmission during pregnancy AND report two or more symptoms* consistent with Zika virus disease within two weeks of return; OR have an ultrasound finding of fetal microcephaly or intracranial calcifications.
- **Asymptomatic pregnant women** who have a history of travel to an area where Zika virus spread has been identified can be tested at the discretion of their provider. Serologic testing within 2 to 12 weeks after travel is considered most reliable (validity of test results outside of the 2-12 week travel window is uncertain for asymptomatic individuals).
- **Men and nonpregnant women with a history of symptoms* within two weeks of travel** to a region with Zika virus spread may be considered for testing based on risk of infection in consultation with public health.
- **Testing of infants with possible congenital Zika virus infection** who were born to mothers who traveled to or resided in areas affected by Zika virus during pregnancy should be guided by 1) whether the infant had microcephaly or intracranial calcifications detected prenatally or at birth and 2) the mother's Zika virus testing results. Testing should also be performed for infants who have 2 or more symptoms of acute infection* in the first 2 weeks of life and whose mother traveled to or resided in an affected area within 2 weeks of delivery.

*fever, rash, arthralgia, or conjunctivitis

CDC Interim Guidelines for Medical Providers:

- Caring for pregnant women and women of reproductive age with possible Zika virus exposure: www.cdc.gov/mmwr/volumes/65/wr/pdfs/mm6505e2er.pdf.
- Caring for infants and children with suspected Zika virus infection: http://www.cdc.gov/mmwr/volumes/65/wr/mm6507e1er.htm?s_cid=mm6507e1.htm_w.
- Prevention of sexual transmission of Zika virus: www.cdc.gov/mmwr/volumes/65/wr/mm6505e1er.htm?s_cid=mm6505e1.htm_w.