COUNTY OF IMPERIAL
PUBLIC HEALTH DEPARTMENT

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PUBLIC HEALTH ADVISORY
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Zika Causes Microcephaly and Other Birth Defects

Centers for Disease Control Investigations Continue

Scientists at the Centers for Disease Control and Prevention (CDC) have concluded that Zika virus is a cause of microcephaly and other severe fetal brain defects. The study findings were published in the New England Journal of Medicine.

The finding that Zika virus infection can cause microcephaly and other severe fetal brain defects means that a woman who is infected with Zika during pregnancy has an increased risk of having a baby with these health problems. It does not mean, however, that all women who have Zika virus infection during pregnancy will have babies with problems. As has been seen during the current Zika outbreak, some infected women have delivered babies that appear to be healthy.

Establishing this causal relationship between Zika and fetal brain defects is an important step in driving additional prevention efforts, focusing research activities, and reinforcing the need for direct communication about the risks of Zika. While one important question about causality has been answered, many questions remain. Answering these will be the focus of ongoing research to help improve prevention efforts, which ultimately may help reduce the effects of Zika virus infection during pregnancy.

At this time, CDC is not changing its current guidance as a result of this finding. Pregnant women should continue to avoid travel to areas where Zika is actively spreading. If a pregnant woman travels to or lives in an area with active Zika virus transmission, she should talk with her health-care provider and strictly follow steps to prevent mosquito bites and to prevent sexual transmission of Zika virus.

The CDC also recommends continuing to encourage women and their partners in areas with active Zika transmission to engage in pregnancy planning and counseling with their health-care providers so that they know the risks and the ways to mitigate them.

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Zika and Other Birth Outcomes

In addition to microcephaly, other problems have been detected among fetuses and infants infected with Zika virus before birth, such as absent or poorly developed brain structures, defects of the eye, hearing deficits, and impaired growth. Researchers are collecting data to better understand the extent of the impact of Zika virus on mothers and their children.

Future Pregnancies

Based on the available evidence, Zika virus infection in a woman who is not pregnant would not pose a risk for birth defects in future pregnancies after the virus has cleared from her blood. From what is known about similar infections, once a person has been infected with Zika virus, he or she is likely to be protected from a future Zika infection.

From the Centers for Disease Control:

What we know

- **Pregnant women can be infected with Zika virus.**
  - The primary way that pregnant women get Zika virus is through the bite of an infected mosquito.
  - Zika virus can be spread by an infected man to his sex partners when the man has symptoms, before symptoms start, and after symptoms resolve.
- **A pregnant woman can pass Zika virus to her fetus.**
  - Zika virus can be passed from a pregnant woman to her fetus during pregnancy or at delivery.

What we do not know

- **If a pregnant woman is exposed**
  - We don't know how likely she is to get Zika.
- **If a pregnant woman is infected**
  - We don't know how the virus will affect her or her pregnancy.
  - We don't know how likely it is that Zika will pass to her fetus.
  - We don't know if the fetus is infected, if the fetus will develop birth defects.
  - We don't know when in pregnancy the infection might cause harm to the fetus.
  - We don't know whether her baby will have birth defects.
  - We don't know if sexual transmission of Zika virus poses a different risk of birth defects than mosquito-borne transmission.

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Zika Testing Guidelines

Diagnostic testing for Zika virus, as well as dengue and chikungunya, is done at the California Department of Public Health-Viral and Rickettsial Disease Laboratory (VRDL). This is the only lab in California doing Zika testing at this time. The state laboratory requires specimens to be submitted through the local Public Health Department. The Epidemiology section will help guide health-care providers through the process of submitting specimens for testing. Zika virus testing will be done by VRDL as described below.

RT-PCR Testing: Testing performed on symptomatic cases only.

- Serum or CSF: Collect within 7 days of illness onset.
- Collect at least 2 ml of serum (5-10 ml of blood) in a red top or serum separator tube. For CSF, at least 1 ml is required.
- Urine: (Serum must be submitted with a urine sample.) Collect within 30 days of illness onset. Collect 3-5 ml only of urine. Urine specimen cups leak and are not recommended for shipping. To avoid leakage of the urine sample, transfer 3-5 ml to a small sterile screw-cap tube (e.g., 15 ml conical tube) and use parafilm to seal. Place the tube in a Ziploc bag with absorbent material. o It is not necessary to spin or process the urine.

Serology - IgM and PRNT testing

- Asymptomatic pregnant women: A blood sample should be collected between 2 and 12 weeks after return of travel. *NOTE:* A negative serology test obtained 2-12 weeks after travel cannot definitively rule out Zika virus infection.
- Symptomatic cases: Optimal collection of acute blood is >3 days after illness onset, although serum collected any time after onset will be accepted. Serum collected within 7 days of illness onset may be falsely negative.
- If initial IgM testing is negative and Zika is strongly suspected, a second convalescent serum should be collected. IgM antibodies against Zika virus, dengue viruses, and other flaviviruses (e.g., yellow fever virus, West Nile virus) can cross-react possibly generating false positive results in serological tests; therefore, all IgM-positive samples will be reflexed to PRNT to discriminate among these viruses.

For more information or to report a suspect case, contact the Imperial County Public Health Department Epidemiology section at (442) 265-1350.

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