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Zika Update (3)

INTRODUCTION

Between January 1, 2015 and April 13, 2016, there were 358 travel-associated cases of Zika Virus Disease (ZVD) reported in the nation. Of 358 cases, 31



(9%) were pregnant, 7 (2%) were sexually transmitted, 1 (0.3%) had Guillain-Barré syndrome. Four travel-associated and 471 locally acquired cases were reported in the US territories, i.e., American Samoa, Puerto Rico and US Virgin Islands. Three confirmed cases have been reported in Nevada to date and one of them is a Washoe County resident. To date, 12 individuals in Washoe County have been approved for testing and eight of them are pregnant women who traveled to affected areas but no illnesses were reported. This issue of Epi-News will focus on a summary of the most current updates from CDC.

ALL COUNTRIES AND TERRITORIES WITH ACTIVE ZIKA VIRUS TRANSMISSION

As of April 13, 2016, CDC listed 42 countries and territories with active Zika virus transmission. They are:

AMERICAS (Aruba, Barbados, Bolivia, Bonaire, Brazil, Colombia, Commonwealth of Puerto Rico, US territory, Costa Rica, Cuba, Curacao, Dominica, Dominican Republic, Ecuador, El Salvador, French Guiana, Guadeloupe, Guatemala, Guyana, Haiti, Honduras, Jamaica, Martinique, Mexico, Nicaragua, Panama, Paraguay, Saint Lucia, Saint Martin, Saint Vincent and the Grenadines, Sint Maarten, Suriname, Trinidad and Tobago, U.S. Virgin Islands, Venezuela.

OCEANIA/PACIFIC ISLANDS (American Samoa, Fiji, Kosrae, Federated States of Micronesia, Marshall Islands, New Caledonia, Samoa, Tonga)

AFRICA (Cape Verde).

It is highly recommended that you check the CDC's website <http://www.cdc.gov/zika/geo/active->

[countries.html](#) to obtain the most current list of affected countries and territories.

DEFINITIONS

- **Possible Primary Exposure**
 - Travel to or residence in an area of active Zika virus transmission
 - Sex (vaginal, anal, or oral [Penis-to-mouth]) without a condom with a man who traveled to or resided in an area of active transmission.
- **Zika virus infection:** Laboratory-confirmation of Zika virus, including asymptomatic persons.
- **Zika virus disease (ZVD):** Having at least one of the following signs or symptoms: acute onset of **fever, rash, arthralgia, conjunctivitis** and laboratory-confirmation of Zika virus infection.

TRANSMISSION MODES

- *Aedes aegypti* and *Aedes albopictus* mosquito bites – this is a primary transmission mode
- Intrauterine and perinatal transmission
- Sexual transmission
- Laboratory exposure
- Other theoretical modes of transmission include blood transfusion, organ or tissue transplantation, breast milk, fertility treatment.

LABORATORY TESTS UPDATES

Who Should Be Tested?

- All individuals with Zika compatible symptoms AND a history of travel to a Zika-affected area within 2 weeks prior to the illness onset.
- Asymptomatic pregnant woman with a history of travel to an area with ongoing Zika virus transmission
- Pregnant woman residing in an area with ongoing Zika virus transmission
- Infants born to mothers with positive or inconclusive test results for Zika virus infection.
- Children with microcephaly whose mothers were in an affected area during their pregnancy since the outbreak began in March 2015.
- An infant during the first 2 weeks of life 1) whose mother traveled to or resided in an affected area within 2 weeks of delivery and 2) who has ≥ 2 of

the following manifestations: fever, rash, conjunctivitis, or arthralgia.

- Pregnant woman who had initial negative Zika test result but subsequent fetal ultrasound detected fetal abnormalities consistent with ZVD.

How?

- RT-PCR and serology including IgM and PRNT testing are the two primary tests for Zika virus.
- RT-PCR tests for viral RNA in serum collected ≤ 7 days after symptom onset. This test should not be used for asymptomatic screening.
- Serology for IgM in serum collected ≥ 4 days after illness onset. This test is used for both asymptomatic pregnant screening and symptomatic individuals with exposure.
- Testing is **NOT** currently recommended for pregnant women with possible sexual exposure to Zika virus if both partners are **ASYMPTOMATIC**.
- Both tests with appropriate timing of specimen collections should be ordered for symptomatic persons with exposure(s).
- RT-PCR is now performed at the Nevada State Public Health Laboratory. However, serology is currently only available at CDC and some other state labs.
- Healthcare providers (HCPs) wishing to arrange testing for Zika virus must contact WCHD at 775-328-2447 for a consultation and approval. Please **DO NOT** send any symptomatic individuals with a travel history to WCHD clinics for care or testing.

ZIKA AND PREGNANCY

Limited information demonstrates¹:

- No evidence of increased susceptibility during pregnancy.
- Infection can occur in any trimester
- Incidence of Zika virus infection in pregnant women is not known
- No evidence of more severe disease compared with non-pregnant people

In the recently published 2016 Brazil study, of 42 women with laboratory-confirmed Zika virus infection with prenatal ultrasound, 12 (29%) abnormalities were detected, including 2 intrauterine fetal deaths; 7 (17%) structural brain anomalies (microcephaly, calcifications, cerebella atrophy, ventriculomegaly)². In another recently published study, during a 2013-2015 outbreak in French Polynesia, modeling estimated infection with Zika during the 1st trimester of pregnancy resulted in microcephaly risk of $\approx 1\%$.³

ZIKA AND SEXUAL TRANSMISSION⁴

What we know:

- Zika virus can be sexually transmitted by a man to his sex partners (female and male), and this is of particular concern during pregnancy
 - All reported cases of sexual transmissions involved sex without a condom with men who had or developed symptoms
 - Zika virus can be transmitted when the man has symptoms, before symptoms start, and after symptoms end
- Sexual transmission of many infections, including those caused by other viruses, is reduced by consistent and correct use of latex condoms

What we do not know:

- Whether infected men who never develop symptoms can transmit Zika virus to their sex partners
- How long Zika virus persists in the semen? But we do know the following:
 - Infectious virus has been cultured in semen at least 14 days after symptoms of infection began.
 - Viral particles (RT-PCR) have been found in semen at least 62 days after symptoms of infection began.
- Whether women with Zika infection can transmit Zika virus to their sex partners
- Whether Zika can be transmitted from oral sex
 - It is known that Zika is infectious in semen
 - It is unknown if Zika is infectious in other body fluids exchanged by oral sex, including saliva and vaginal fluids.

CDC updated its interim guidance for prevention of sexual transmission of Zika virus on March 25, 2016. Here are recommendations for men who live in or traveled to an area of active Zika virus transmission:

- Couples in which a women is pregnant:
 - Use condoms consistently and correctly or abstain from sex for the duration of the pregnancy.
- Other couples concerns about sexual transmission
 - If male partner is asymptomatic - consider using condoms or abstaining from sex for at least **8 weeks** (asymptomatic) after departure from an affected area;
 - If male partner has symptoms - use condoms for at least **6 months** after symptom onset.

ZIKA AND PRECONCEPTION⁵

On March 25, 2016, CDC also updated the Interim Guidance for Health Care Providers Caring for Women of Reproductive Age with Possible Zika Virus Exposure. Several key updates pertaining to local healthcare providers (HCPs) are listed as follows:

¹ CDC COCA Call, April 12, 2016.

² <http://www.nejm.org/doi/10.1056/NEJMoa1602412>

³ [http://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736\(16\)00651-6.pdf](http://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736(16)00651-6.pdf)

⁴ <http://www.cdc.gov/mmwr/volumes/65/wr/mm6512e3.htm>

⁵ <http://www.cdc.gov/mmwr/volumes/65/wr/mm6512e2.htm>

- **Recommendations for WOMEN interested in conceiving**
 - HCPs should discuss signs and symptoms and potential adverse outcomes associated with Zika
 - If woman is diagnosed with ZVD, wait at least **8 weeks** after symptom onset to attempt conception
 - If NO symptoms develop, wait at least **8 weeks** after last date of exposure before attempting conception

- **Recommendations for MEN interested in conceiving**
 - If man is diagnosed with ZVD, wait at least **6 months** after symptom onset
 - If NO symptoms develop, wait at least **8 weeks** after exposure.
 - Discuss contraception and use of condoms.

- **Special considerations for women and couples seeking infertility treatment.**
 - Transmission through donated gametes or embryos is theoretically possible. FDA has issued guidance for donated tissues during Zika outbreak.
 - No known Zika virus transmission during infertility treatment has occurred.
 - Zika virus is unlikely to be destroyed by cryopreservation.
 - Couples using their own gametes or embryos should follow recommendations for men and women attempting conception.

- **Minor modifications to the pregnancy guidance/algorithm have been made to appropriately reflect exposures and fetal abnormalities terminology (See following chart).**

U.S. ZIKA PREGNANCY REGISTRY

CDC has created a national Zika pregnancy registry system. The purpose of this registry is to monitor pregnancy and infant outcomes following Zika virus infection during pregnancy and to inform clinical guidance and public health response. Three groups of people are or will be included in this registry:

- Pregnant women with laboratory evidence of Zika virus infection
- Exposed infants born to above women
- Infants with laboratory evidence of congenital Zika virus infection and their mothers.

As of April 13, 2016, there are 31 pregnant women with Zika virus infection in the nation. *NONE* has been reported in Nevada to date. The Washoe County Health District will voluntarily participate in this national registry system when we have such a case.

ERRATUM

In the previously published issue of Epi-News on "Screening for Child Abuse Means Screening the Parent" on April 8, 2016, the SEEK parent questionnaire can be used to screen parents if the healthcare provider is concerned the child is at risk for abuse and neglect, NOT intended for universal screening.

Figure 1.

Interim Guidelines (3/25/16): Pregnant Women With Possible Zika Virus Exposure NOT Residing in an Area With Active Zika Virus Transmission

