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Harris County
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Building a Healthy Community

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Dear Harris County Providers:

As you know, Harris County Public Health (HCPH) has been closely monitoring Zika virus since confirming its first case in January of this year. With our recent confirmation of a Zika-related death in a newborn with microcephaly, and ongoing active Zika virus transmission in the Miami area, we want to ensure that you have the most current information as it relates to Zika in Harris County. For a listing of all areas with active Zika virus transmission, visit: <https://www.cdc.gov/zika/geo/index.html>.

There have been 30 travel-related cases of Zika virus confirmed in Harris County (including City of Houston), as of August 12, 2016. While we have not had any locally-acquired cases in our community to date, we continue to look for evidence of Zika in Harris County's *Aedes aegypti* mosquitoes.

Zika is a Flavivirus, related to Dengue, Yellow fever, and West Nile viruses. It is spread to humans primarily through the bite of an infected *Aedes aegypti* mosquito. *Aedes aegypti* mosquitoes are aggressive daytime biters, in addition to biting at night, and also transmit Yellow Fever, Dengue, and Chikungunya viruses. Zika virus is thought to be asymptomatic in up to 80% of individuals, and commonly causes mild symptoms such as fever, rash, conjunctivitis, and joint pain. Other symptoms may include: headache, nausea/vomiting, and muscle aches. Though rare, Zika virus has been associated with Guillain-Barre syndrome, and birth defects and fetal loss in some pregnant women.

With mosquito season in full swing, we want to remind Harris County healthcare providers:

- **Screen all pregnant women** for potential Zika virus exposure at every prenatal visit, including a travel history for both patients and their sexual partners. **Appropriate signage in clinics, hospitals, emergency departments, etc. as well as screening questionnaires** should be employed to raise awareness even in non-pregnant patients with particular emphasis given to pregnant women and their sexual partners. It should also be emphasized that pregnant women should wear daily insect repellent, and use barrier protection (or abstain from sex) if their sexual partners travel to or reside in areas with active Zika virus transmission, for the duration of their pregnancies. Pregnant women should avoid travel to areas with active Zika virus transmission. Remember to test all pregnant women with Zika virus symptoms and all asymptomatic pregnant women with appropriate exposure history.
- **Be vigilant. Test all individuals presenting with Zika virus symptoms**, especially if they have a history of travel or sexual exposure. Remind those you suspect of having Zika virus to wear insect repellent until 1 week after symptoms resolve, as test results often lag, in order to ensure that infected patients do not get bitten by mosquitoes. Symptomatically infected men and women should abstain from sex or use barrier protection (condoms) for 8 weeks (women) or 6 months (men) to prevent sexual transmission and potential adverse pregnancy outcomes.
- **Offer travel guidance** for patients traveling to areas with active Zika virus transmission. Counsel them on proper use of insect repellent, avoiding mosquito bites, safe sexual practices, as well as effective birth control methods. This includes patients with partners who travel to or

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reside in areas with active Zika virus transmission. Travelers who remain asymptomatic should wear insect repellent for 3 weeks after returning home, and should abstain from sex or use barrier protection for 8 weeks after return to prevent sexual transmission and potential adverse pregnancy outcomes, even if they are tested for Zika and receive a negative result.

- **Counsel all patients to avoid mosquito bites, eliminate mosquito breeding habitats, and present early for testing if they have Zika symptoms.** Remind patients to wear mosquito repellent, long-sleeves/pants, and get rid of all standing water around their homes. Air conditioning and properly fitted screens in good repair also deter mosquitoes from entering homes. *Know that Medicaid, Children's Health Insurance Program (CHIP), and Healthy Texas Women programs now cover mosquito repellent (with prescription) for all pregnant women, and non-pregnant women aged 10-45.* <http://www.hhsc.state.tx.us/news/release/2016/080316.shtml>
- **"Walk the walk":** Remind clinical staff and those responsible for operating your facilities that a thorough review of your clinical site and office building is important to ensure that mosquito breeding is not occurring at your facilities. Discuss mosquito control prevention efforts with your staff (and colleagues) to ensure a clear understanding of what can be done to prevent mosquito breeding from occurring at your place of employment.

If Zika virus testing is needed, follow current guidelines (see enclosure) and **contact the Harris County Epidemiology Program for testing coordination**, at 713-439-6000. Immediately report any positive or inconclusive Zika virus results to the health department, as Zika virus is a nationally notifiable condition.

For more information about Zika, please visit our website, www.hcphtx.org/zika. Our **Zika Toolkit** includes informational flyers and posters for patients, pregnant women, children, travelers, and healthcare providers. Additionally, you may email our epidemiology program with general questions, at Epidemiology_Program@hcphtx.org.

Other Zika virus resources include:

http://www.houstontx.gov/health/Epidemiology/Zika_Virus.html

<http://www.texaszika.org/>

<https://www.cdc.gov/zika/>

Please share this information with your colleagues and other healthcare providers. We see the importance of the intersection of healthcare delivery and public health – in this regard, we remain committed to working with you to ensure the health and safety of all members of the Harris County community. Thank you for the important work you do in our community.

Sincerely,



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TESTING FOR ZIKA VIRUS

Testing for Zika virus should always be coordinated with your local health department, even when using private labs. For Harris County residents, please call the Harris County Public Health Epidemiology Program at 713-439-6000. Note that Zika virus, like Dengue and Chikungunya, is a nationally reportable illness, and all positive test results must be reported to the local health department. [Link: CDC testing guidance: \[http://www.cdc.gov/zika/laboratories/lab-guidance.html\]](http://www.cdc.gov/zika/laboratories/lab-guidance.html)

Who Should be Tested for Zika?

There are 4 categories of individuals for whom testing is currently recommended. Testing of other individuals not listed is generally decided on a case-by-case basis depending upon epidemiologic assessment:

1. **Symptomatic individuals, including pregnant females**, (current or recent symptoms) with symptoms starting within 14 days of possible Zika virus exposure. They can be tested until 12 weeks after symptom onset.^{1,2,3} Exposures include:
 - A) travel to an area with active Zika virus transmission **-OR-**
 - B) sexual contact with someone who recently traveled to an area with active Zika virus transmission **-OR-**
 - C) sexual contact with someone with known Zika infection
2. **Asymptomatic Pregnant Females** who have either^{1,3}:
 - A) traveled to or reside in an area with active Zika virus transmission in the last 12 weeks **-OR-**
 - B) had sexual contact in the last 12 weeks with someone who recently traveled to an area with active Zika virus transmission **-OR-**
 - C) had sexual contact in the last 12 weeks with someone with known Zika infection
3. **Symptomatic Infants** with signs of possible Zika infection (microcephaly, intracranial calcifications, neurologic abnormalities, etc.) born to mothers who have either^{1,4}:
 - A) traveled to or reside in an area with active Zika virus transmission any time during the pregnancy **-OR-**
 - B) had sexual contact any time during the pregnancy with someone who traveled to an area with active Zika virus transmission **-OR-**
 - C) had sexual contact any time during the pregnancy with someone with known Zika infection
4. **Asymptomatic Infants** born to mothers with positive or inconclusive Zika virus infection¹

Specimen Collection and Testing:

All testing should be coordinated with your local health department. **Collect serum and urine are for all patients being tested.**

1. **Symptomatic, Non-Pregnant** individuals (current or recent symptoms) who meet above testing criteria:
 - I. *If symptoms began < 14 days after travel/exposure and testing is occurring within 14 days of symptom onset:*
 - Collect serum **and** urine - send for rRT-PCR testing for Dengue, Chikungunya, and Zika (note: urine will be tested only for Zika)^{3(1-2,11)}
 - If rRT-PCR results for all conditions are negative, serum will be used for Dengue and Zika virus IgM antibody tests. A second specimen may be necessary depending on the timing of the initial specimen.³⁽¹¹⁾
 - If any IgM test is positive or equivocal, PRNT will be performed³⁽¹¹⁾
 - II. *If symptoms began < 14 days after travel/exposure and testing is occurring 2-12 weeks after onset:*
 - Collect and send serum for Dengue, Chikungunya, and Zika IgM antibody tests^{3(2,12)}
 - If any IgM test is positive or equivocal, PRNT will be performed³⁽¹²⁾
 - III. *If symptoms began >14 days after travel/exposure, testing is not currently recommended*
2. **Symptomatic Pregnant Females** (current or recent symptoms) who meet above testing criteria:
 - I. *If symptoms began < 14 days after travel/exposure and testing is occurring within 14 days of symptom onset:*
 - Collect serum **and** urine - send for rRT-PCR testing for Dengue, Chikungunya, and Zika (note: urine will be tested only for Zika)^{3(1-2,11)}
 - If rRT-PCR results for all conditions are negative, serum will be used for Dengue and Zika virus IgM antibody tests. A second specimen may be necessary depending on the timing of the initial specimen.³⁽¹¹⁾
 - If any IgM test is positive or equivocal, PRNT will be performed^{3(11), 1(2-3)}
 - II. *If symptoms began < 14 days after travel/exposure and testing is occurring 2-12 weeks after onset:*
 - Collect serum **and** urine - send for Zika, Dengue, and Chikungunya virus IgM antibody test^{1(2-3) 3(12)}
 - If Zika IgM results are positive or equivocal, serum **and** urine will receive rRT-PCR testing for Zika.¹⁽³⁾ If Dengue IgM is positive or equivocal and Zika IgM is negative, PRNT will be performed¹⁽³⁾
 - If Zika rRT-PCR testing in serum is negative, PRNT testing will be performed¹⁽³⁻⁴⁾
 - III. *If symptoms began >14 days after travel/exposure, refer to guidance for asymptomatic pregnant females*
3. **Asymptomatic Pregnant Females** who meet above testing criteria:
 - I. *If last exposure to Zika area or if sexual contact was <14 days ago:*
 - Collect and send serum **and** urine for Zika rRT-PCR testing only³⁽¹³⁾
 - If both serum and urine rRT-PCR results are negative, collect and send an additional serum specimen for only Zika virus IgM antibody testing 2-12 weeks after exposure.³⁽¹³⁾ If Zika IgM is positive, PRNT will be performed¹⁽³⁾
 - II. *If last exposure was between 2 - 12 weeks ago:*
 - Collect serum **and** urine and send for Zika virus IgM antibody test^{1(1), 3(13)}
 - If serum IgM results are positive or equivocal, serum and urine will be used for Zika rRT-PCR testing^{1(1), 3(13)}
 - If serum and urine Zika rRT-PCR tests are negative, PRNT will be performed¹⁽³⁾
4. **Symptomatic & Asymptomatic Infants** meeting testing criteria: Seek immediate testing guidance from the Local Health Department.
 - Collect serum, cord blood, cerebrospinal fluid (if already collected for other reasons), placenta, fetal tissue (if applicable) within 48hrs of delivery, and send for testing⁴⁽¹⁸⁴⁾

REFERENCES:

1. MMWR Volume 65, Early Release, July 25th Pregnant
2. MMWR Volume 65, Early Release, July 25th Sexual Transmission
3. Guidance for US Lab Testing, July 22
4. MMWR Volume 65, No 7, February 26

Information current as of 8/12/16