

Public Health Impacts of Zika Virus for Washington Residents

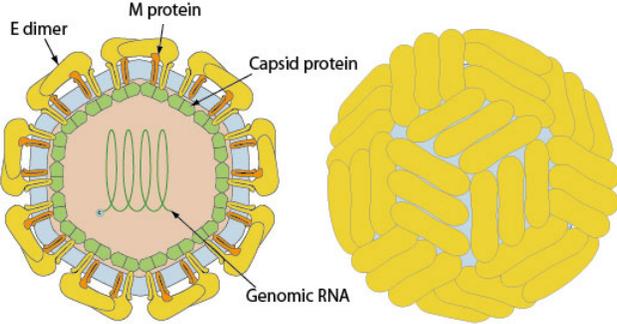
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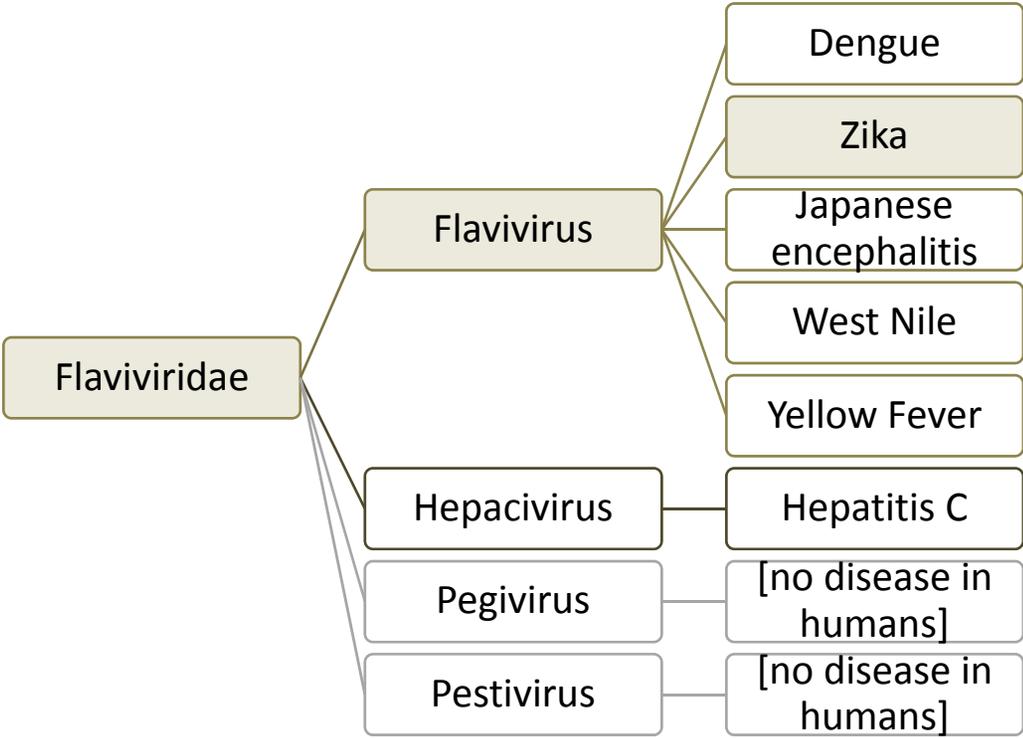
Zika Virus

Genus Flavivirus



© ViralZone 2011
Swiss Institute of Bioinformatics
T=3-like organization of surface dimers

Source: microbewiki



FAMILY

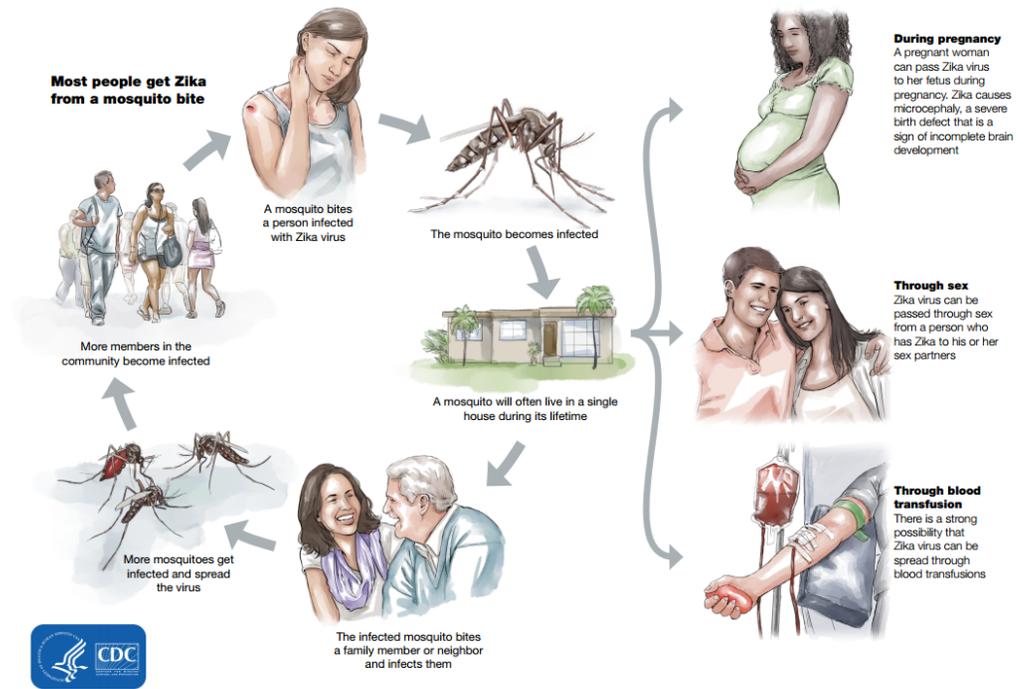
GENUS

SPECIES

Transmission

1. Vectorborne
2. Congenital
3. Perinatal
4. Sexual
5. Laboratory exposure
6. Blood transfusion, organ and tissue transplant
7. Other??

PROTECT YOUR FAMILY AND COMMUNITY: HOW ZIKA SPREADS



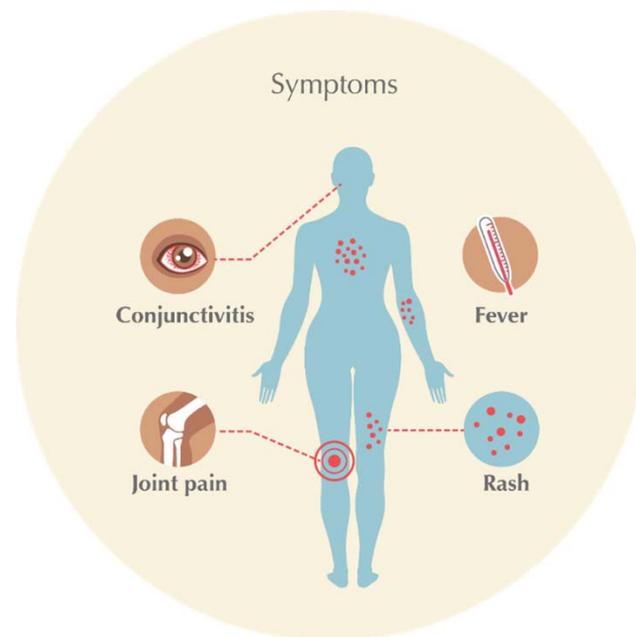
Aedes aegypti

Aedes albopictus



Clinical Presentation

- Only 20% of persons infected experience illness
- Incubation generally 2-14 days after exposure
- Illness is generally mild, complications are rare
- Guillain-Barre associated, but the risk is small
- Clinical overlap with dengue and chikungunya



History of Zika

- Before 2015, Zika outbreaks occurred in Africa, Southeast Asia, and the Pacific Islands
- Very few cases were reported in the literature
- Connection between Zika and birth defects was not established





Date: 8/29/16 <http://www.cdc.gov/zika/geo/active-countries.html>

Zika in Washington

- Washington State does not have the type of mosquitoes known to carry Zika virus. Therefore residents of Washington are only at risk of being infected if:
 - they travel to areas with ongoing mosquito transmission
 - they have unprotected sex with an infected person (infected people do not necessarily show symptoms of disease but can still transmit it)
- Other rare methods of transmission: lab work, blood transfusion



The screenshot shows the Washington State Department of Health website. The header includes the logo and navigation links: Home, Newsroom, Publications, and About Us. Below the header is a search bar and a 'Topics A-Z' menu. The main navigation bar contains categories: You and Your Family, Community and Environment, Licenses, Permits and Certificates, Data and Statistical Reports, Emergencies, and For Public Health and Healthcare Providers. The breadcrumb trail reads: Home > You and Your Family > Illness and Disease > Zika Virus. A 'Print' button is visible. The page title is 'Zika Virus' and the state is identified as 'Washington State'.

WA Epidemiology Update: 9/19/16

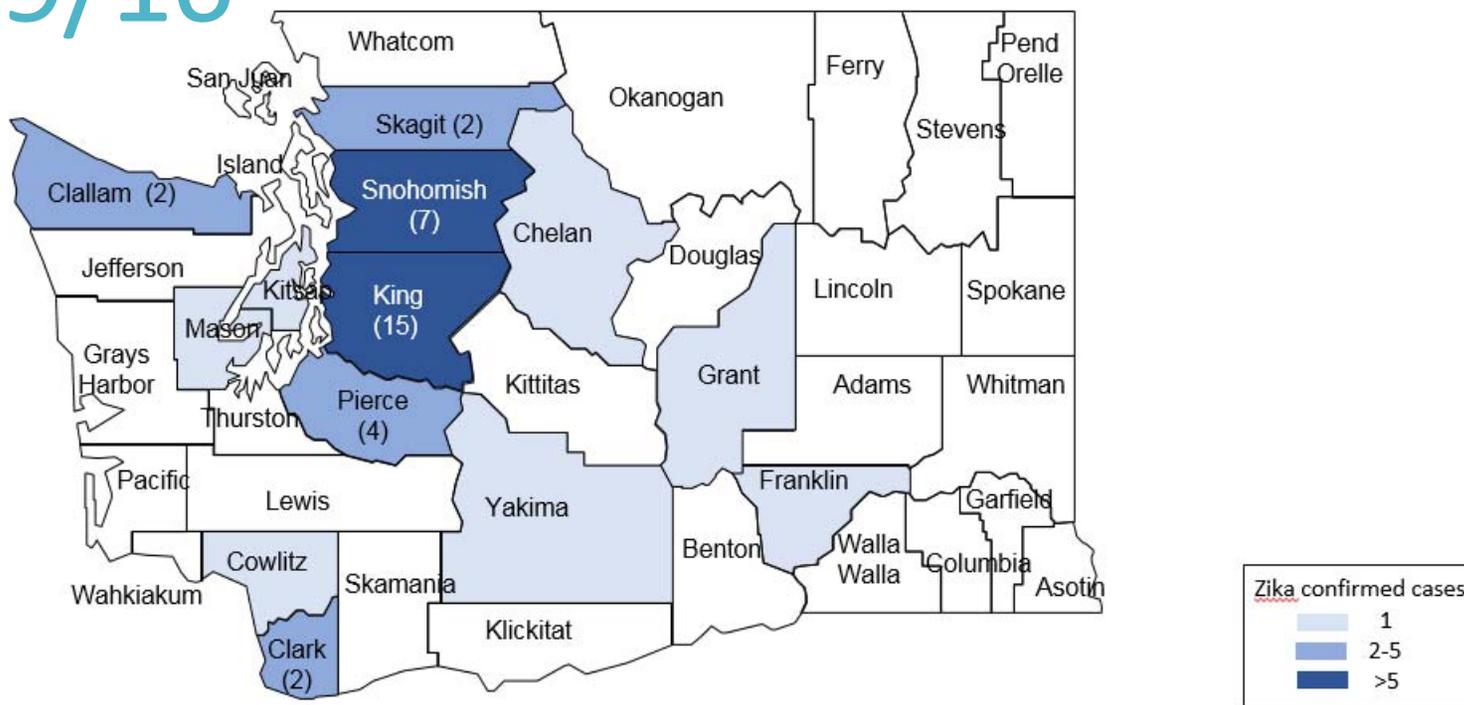
- WA residents reporting possible Zika virus exposure and tested through public health:

- 678

Number of patients with specimens shipped for Zika testing through public health by month, 2016



WA Epidemiology Update: 9/19/16



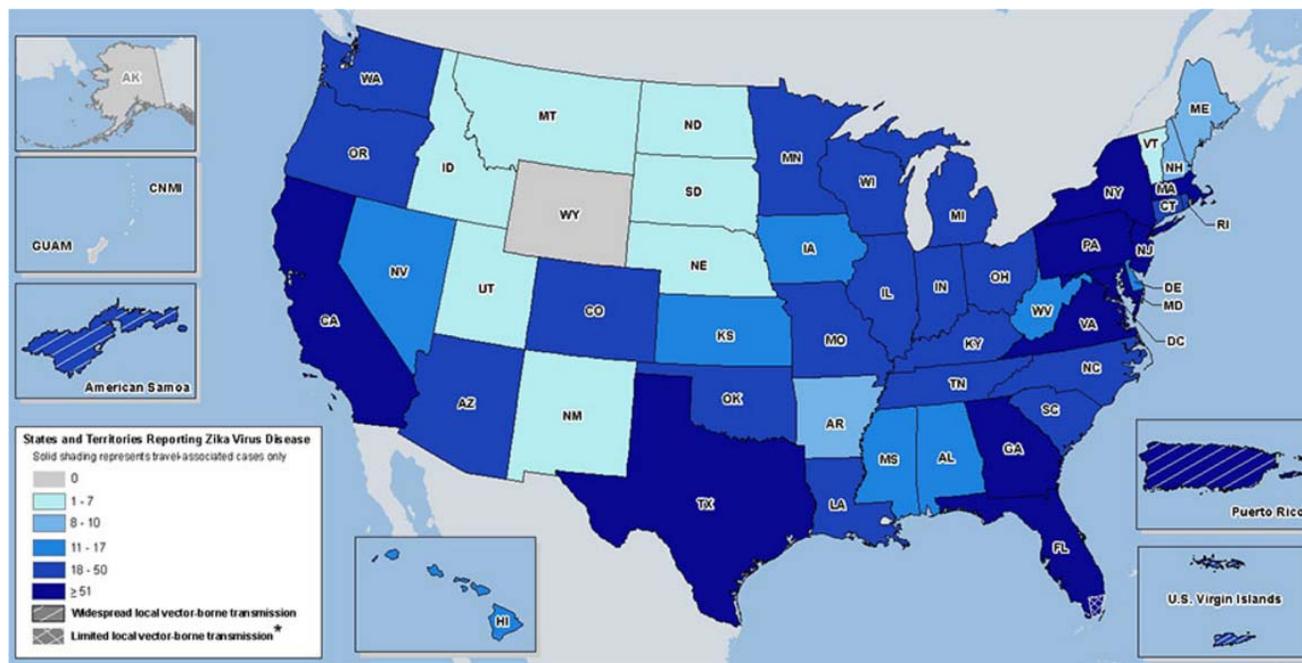
- 39 travel-associated cases
- 0 GBS
- 0 cases of sexual transmission

WA Epidemiology Update: 9/19/16

- WA pregnant women with any lab evidence of infection: 5
 - All 5 were living in Zika affected countries for at least part of their pregnancy prior to moving to WA
 - 4 unspecified flavivirus infections
 - 1 asymptomatic Zika virus infection
 - *No pregnant women with confirmed Zika virus disease*
 - 4/5 have delivered infants
 - No abnormalities associated with Zika infection identified to-date

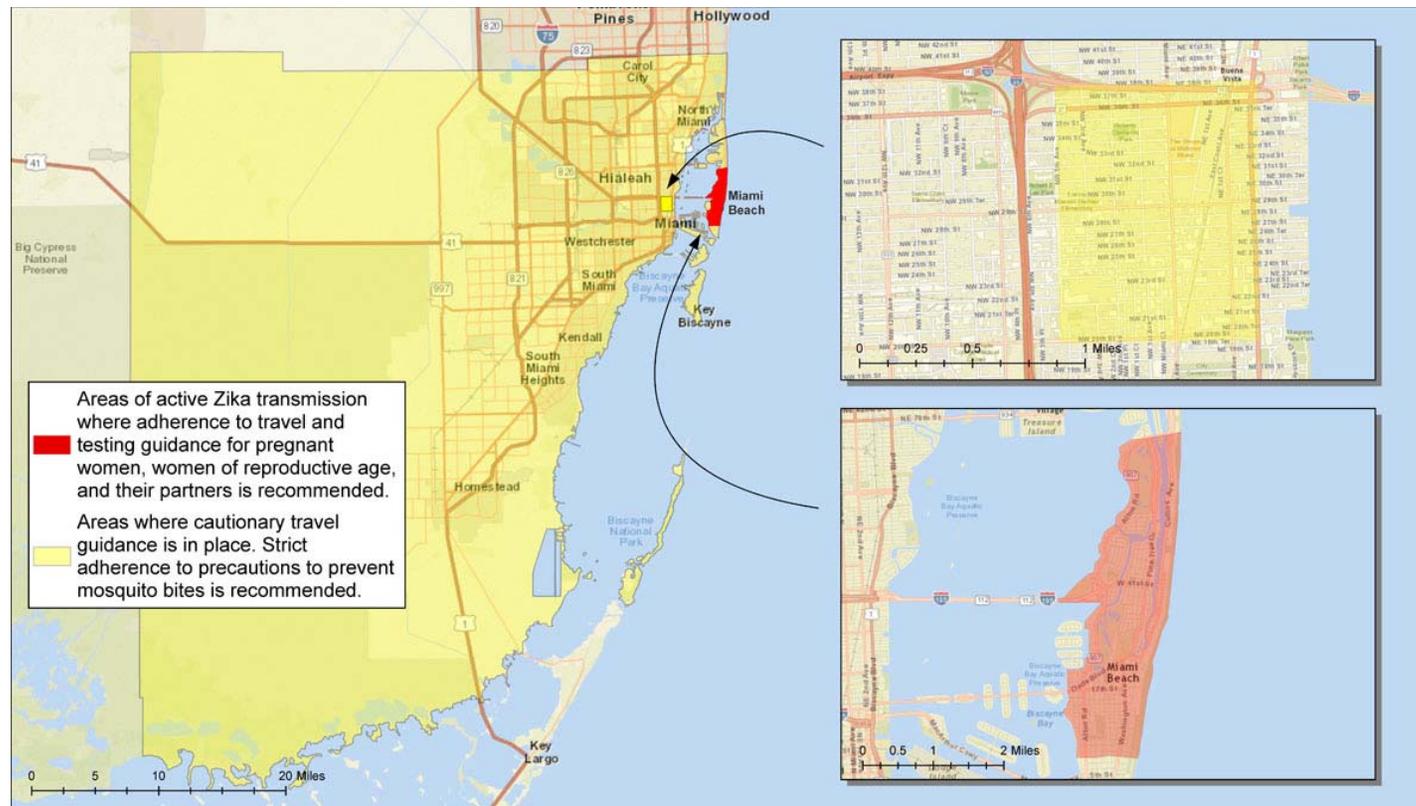
U.S. Epidemiology Update: 9/14/16

- US: 3,132 travel associated cases
- 8 cases GBS
- 26 cases sexual transmission
- US pregnant women with any lab evidence of infection: 731



U.S. Epidemiology Update: 9/14/16

➤ US: 43 locally-acquired mosquito-borne cases



Concern for Zika virus infection during pregnancy

- What we know:
- Zika infection in pregnancy can cause microcephaly and other severe fetal brain defects
- Other problems have been detected in fetuses and infants infected with Zika before birth
 - *Absent or poorly developed brain structures, eye defects, hearing deficits, and impaired growth*
- Other adverse pregnancy outcomes
 - *Miscarriage, stillbirth*



Baby with Typical Head Size



Baby with Microcephaly



Baby with Severe Microcephaly



Unknowns: Zika and Pregnancy

- Exact risks by areas of travel
 - *Many countries affected, large variations in cases, seasonal changes*
- Risks by timing of infection
 - *1st or early 2nd trimester*
- Magnitude of possible risk
 - *1-13% reported*
- Risk variation by symptom status
- Other effect modifiers
 - *e.g. hx of dengue infection*
- Other adverse pregnancy outcomes
- Any developmental effects later in life
- Mechanism – lots of recent research
 - *Zika appears to attenuate growth of neural progenitor cells*

Primary Prevention: Screening

- Screening for prevention of Zika virus infection in women of reproductive age:
 - Assess pregnancy intentions
 - *Availability of long-acting reversible contraception (LARC)*
 - Assess Zika awareness
 - *Education about Zika virus infection during pregnancy*
 - Assess risk of Zika virus exposure
 - *Travel plans*
 - *Sexual partner travel plans*
 - *Delay in conception*

Primary and Secondary Prevention:

- Screening for pregnant women:
 - Ask every pregnant woman at every visit about travel, plans to travel, unprotected sex with a partner who traveled, and sexual partner plans to travel
 - Discuss prevention while traveling if it cannot be avoided
 - *Pregnant women can and should use EPA-registered insect repellents*
 - Discuss prevention of sexual transmission (barrier methods or abstinence) if sexual partner travels
- If a pregnant woman had possible exposure to Zika virus, specimens should be collected for laboratory screening

Tools for healthcare providers and patients

PRECONCEPTION COUNSELING

For Women and Men Living in Areas with Ongoing Spread of Zika Virus Who Are Interested in Conceiving

This guide describes recommendations for counseling women and men living in areas with Zika who want to become pregnant and have not experienced clinical Zika. This material includes recommendations from CDC's updated guidance¹, key questions to ask patients, and sample scripts for discussing recommendations and content is outlined for discussion, questions are included throughout the sample script to make sure patients understand what they are being told.

Recommendation	Key Issue	Questions to Ask	Sample Script
Assess pregnancy intentions	Introduce importance of pregnancy planning	<p>Have you been thinking about having a baby?</p> <p>Would you like to become pregnant in the next year?</p> <p>Are you currently pregnant?</p>	<p>If you are thinking of having a baby, I would like to help you understand the Zika virus outbreak, planning pregnancy is more important than ever. A healthy pregnancy means getting as healthy as you can before you get pregnant.</p>
Assess risk of Zika virus exposure	Environment	<p>Do you have a job that involves travel?</p> <p>Do you have a job that involves working in an area with Zika?</p> <p>Do you have a job that involves working in an area with Zika?</p> <p>Do you live in an area with Zika?</p>	
	Personal measures to prevent mosquito bites	<p>Are you willing to wear long pants and long sleeves?</p> <p>Do you dip or soak your clothes in permethrin before you wear them?</p> <p>Do you use insect repellent? How often? How do you apply it?</p> <p>Do you have a job that involves working in an area with Zika?</p> <p>Do you empty your water containers?</p>	
	Personal measures to prevent sexual transmission	<p>After you become pregnant, will you be able to avoid sex with your partner for the duration of your pregnancy?</p>	

References:
 1. Petersen EE, Polan K, Mosney-Delman D, et al. Update: Interim Guidance for Zika Virus Infection—United States, 2016. *Morbidity and Mortality Weekly Report*. 2016;65(22):475-480.
 2. In some places, such as Puerto Rico, there is widespread permethrin resistance in mosquitoes.

The screenshot shows the CDC Zika Virus website. The main heading is 'Zika Virus'. Below it, there are navigation links for 'Zika Virus Home', 'About Zika', 'Prevention', 'Transmission', and 'Symptoms, Testing, & Treatment'. The 'Women & Their Partners' section is highlighted, featuring social media icons for Facebook, Twitter, and a plus sign. The text below the icons reads: 'If you aren't pregnant, but you're thinking about having a baby, here's what you can do.' Below this, there are numbered steps: '1. Talk with your doctor or healthcare provider.' and '2. Take steps to prevent mosquito bites.' and '3. Take steps to prevent getting Zika through sex.'

CDC's Response to Zika

Doctor's Visit Checklist: For Pregnant Women Who Traveled to an Area with Zika*



If you are pregnant and traveled to an area with Zika, you should talk to your doctor or other healthcare provider, even if you don't feel sick.

Bring this checklist to your visit to make sure you don't forget to discuss anything important.

Here are some topics and questions you may want to discuss with your doctor or other healthcare provider:

- ✓ When did you travel to an area with Zika?
 - » Where did you travel?
- ✓ In what trimester was your pregnancy when you traveled to an area with Zika?
- ✓ Did you have any symptoms of Zika during your trip or within 2 weeks of returning?
 - » The most common symptoms of Zika are fever, rash, joint pain, and red eyes.
- ✓ Should you be tested for Zika virus?
 - » If you have symptoms of Zika, testing for Zika should be done within 7 days of when the symptoms began.
 - » In some cases, if you do not have symptoms of Zika, testing for Zika can be offered.

Online materials available in English and Spanish

CDC Studies

- Zika Pregnancy Registry (WA n=5)
 - Update recommendations for clinical care
 - Plan for services for pregnant women and families affected by Zika
 - Improve prevention of Zika infection during pregnancy
- Persistence in semen study (WA n=15 recruited)
 - Determine the frequency and duration of Zika virus shedding in urine and semen from infected men
 - Better inform recommendations on prevention of sexual transmission

Resources

CDC Zika Training for Providers: <https://www.cdc.gov/zika/hc-providers/training/training.html>

Washington local health jurisdictions:
<http://www.doh.wa.gov/AboutUs/PublicHealthSystem/LocalHealthJurisdictions>

CDC Zika overview: <http://www.cdc.gov/zika/index.html>

Areas with Zika: <http://www.cdc.gov/zika/geo/>

Updated guidelines for pregnant women:
http://www.cdc.gov/mmwr/volumes/65/wr/mm6529e1.htm?s_cid=mm6529e1_e

Updated guidelines for infants: http://www.cdc.gov/mmwr/volumes/65/wr/mm6533e2.htm?s_cid=mm6533e2_w

Prevention of sexual transmission: <http://www.cdc.gov/mmwr/volumes/65/wr/mm6512e3.htm>

Specimen submissions: <http://www.cdc.gov/zika/hc-providers/tissue-collection-submission.html>

Travel information: <http://wwwnc.cdc.gov/travel/page/zika-information>

Insect repellents: <http://www.epa.gov/insect-repellents>

Bed nets: http://www.cdc.gov/malaria/malaria_worldwide/reduction/itn.html

DOH website: <http://www.doh.wa.gov/YouandYourFamily/IllnessandDisease/ZikaVirus>

OSHA/NIOSH: OSHA/NIOSH guidance:

http://www.cdc.gov/niosh/topics/outdoor/mosquito-borne/pdfs/osha-niosh_fs-3855_zika_virus_04-2016.pdf

Questions?

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Next Up!

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