Prevention of Sexually Transmitted Zika, Zika Action Plan (ZAP) Post-Summit Teleconference

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Objectives

- Review what is known and what is not known about the sexual transmission of Zika virus
- Describe CDC activities, materials, and resources available for clinicians, health departments, and consumers
- Identify what state and local programs can do to reduce the risk of sexual transmission of Zika

Transmission of Zika virus

Documented

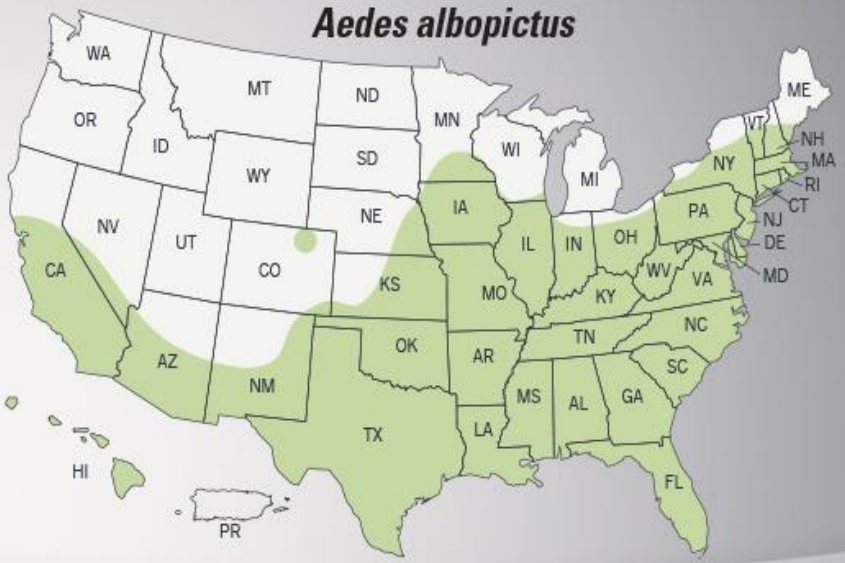
- Bite of an *Aedes aegypti or Ae. albopictus* mosquito
- Intrauterine and perinatal transmission
- Sexual transmission from infected men

Plausible

- Blood transfusion/tissue transplantation
- Breast milk
- Laboratory exposure

***Aedes aegypti* mosquito**

Estimated range of *Aedes aegypti* and *Aedes albopictus* in the United States, 2016*



Aedes aegypti mosquitoes are more likely to spread viruses like Zika, dengue, chikungunya than other types of mosquitoes such as _Aedes albopictus_ mosquitoes.

- These maps show CDC's best estimate of the potential range of *Aedes aegypti* and *Aedes albopictus* in the United States.
- These maps include areas where mosquitoes are or have been previously found.
- Shaded areas on the maps do not necessarily mean that there are infected mosquitoes in that area.

**Maps have been updated from a variety of sources. These maps represent CDC's best estimate of the potential range of Aedes aegypti and Aedes albopictus in the United States. Maps are not meant to represent risk for spread of disease.*

SOURCE: Zika: Vector Surveillance and Control. www.cdc.gov/zika/vector/index.html

Populations of Greatest Concern

- Pregnant women
  - Infection at conception or during pregnancy[1]
  - Microcephaly and other severe fetal brain defects[1]
- Women of reproductive age (age 14-55 years)
  - 37% of pregnancies in the US are unplanned[2]

[1]Rasmussen SA, Jamieson DJ, Honein MA, Petersen, LR. Zika virus and birth defects – Reviewing the evidence for causality. (2016) New England Journal of Medicine; 374:1981-1987. 2016.

[2]Mosher WD, Jones J, Abma JC. (2012) Intended and unintended births in the United States: 1982–2010. National health statistics reports; no 55. Hyattsville, MD: National Center for Health Statistics.

What we know and what we don't know

What We Know	What We Don't Know
1. **Zika virus can be found in a man's semen longer than in his blood.**	We do not know: • How long the virus can stay in the semen of men who have had Zika virus or be transmitted to sex partner. • The pattern or frequency of shedding in semen, for instance, if it's intermittent (sheds some days, other days not) or if it declines then how it declines (rapidly, slowly, linearly logarithmically. • If Zika virus can be spread from other body fluids exchanged during sex, such as saliva and vaginal fluid.

What we know and what we don’t know

What We Know	What We Don’t Know
2. Zika virus can be spread through sex by a man who has the virus to his male and female partners through vaginal sex, anal sex, and oral (mouth-to-penis) sex.	We do not know if women with Zika can spread the virus to their sex partners.

What we know and what we don't know

What We Know	What We Don't Know
3. In all known cases of sexual transmission, the men developed Zika symptoms. Men have transmitted Zika shortly before, during, and after symptoms developed.	We do not know if men who never develop Zika symptoms (asymptomatic): • Can have Zika virus in their semen and transmit it to partners during sex. • Shed virus in semen with the frequency, duration, and pattern as symptomatically infected men.

April 1, 2016

Morbidity and Mortality Weekly Report

Update: Interim Guidance for Prevention of Sexual Transmission of Zika Virus — United States, 2016

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On March 25, 2016, this report was posted as an MMWR *Early Release on the* MMWR *website (http://www.cdc.gov/mmwr).*

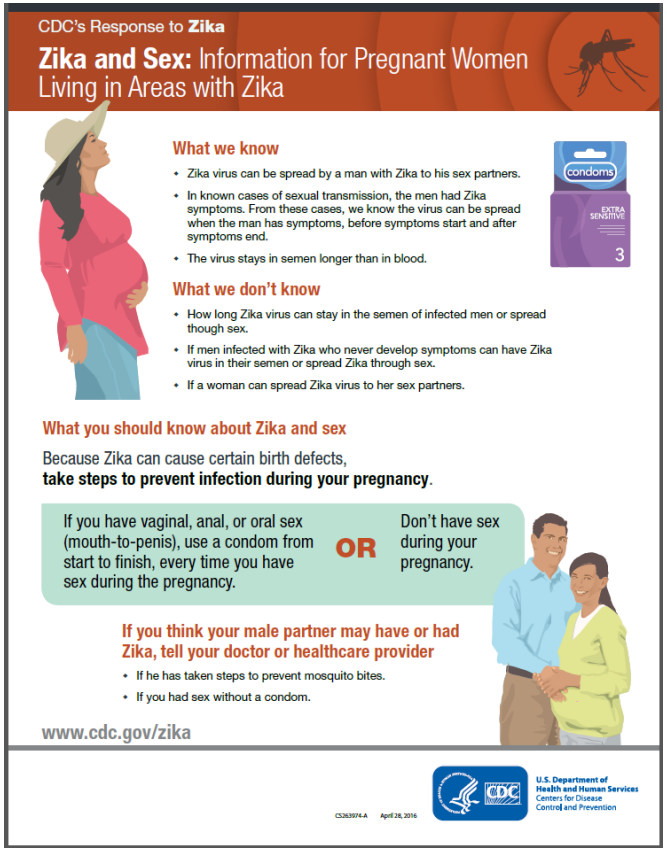
CDC issued interim guidance for the prevention of sexual transmission of Zika virus on February 5, 2016 (*1*). The following recommendations apply to men who have traveled to or reside in areas with active Zika virus transmission* and their female or male sex partners. These recommendations replace the previously issued recommendations and are updated to

onset; RT-PCR of blood at that time was negative (*7*). Because serial semen specimens were not collected for these three cases, the duration of persistence of infectious Zika virus in semen remains unknown.

All reported cases of sexual transmission involved vaginal or anal sex with men during, shortly before onset of, or shortly after resolution of symptomatic illness consistent with Zika virus disease. It is not known whether infected men who never

Recommendations: Risk Groups Addressed

- Pregnant women and their male partners
- Other concerned couples
  - Couples trying to conceive
  - Couple not trying to conceive



CDC's Response to **Zika**

Zika and Sex: Information for Pregnant Women Living in Areas with Zika

What we know

- Zika virus can be spread by a man with Zika to his sex partners.
- In known cases of sexual transmission, the men had Zika symptoms. From these cases, we know the virus can be spread when the man has symptoms, before symptoms start and after symptoms end.
- The virus stays in semen longer than in blood.

What we don't know

- How long Zika virus can stay in the semen of infected men or spread though sex.
- If men infected with Zika who never develop symptoms can have Zika virus in their semen or spread Zika through sex.
- If a woman can spread Zika virus to her sex partners.

What you should know about Zika and sex

Because Zika can cause certain birth defects,
take steps to prevent infection during your pregnancy.

If you have vaginal, anal, or oral sex (mouth-to-penis), use a condom from start to finish, every time you have sex during the pregnancy.

OR

Don't have sex during your pregnancy.

If you think your male partner may have or had Zika, tell your doctor or healthcare provider

- If he has taken steps to prevent mosquito bites.
- If you had sex without a condom.

www.cdc.gov/zika

CS263974-A April 28, 2016

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

Recommendations: Pregnant Women and Their Male Partners

- Applies to couples in which a man has traveled to or resides in an area with active Zika virus transmission
- Couples in which a woman is pregnant
  - Use condoms consistently and correctly or abstain from sex for the duration of the pregnancy.
  - Sex includes vaginal, anal, and oral (mouth-to-penis) sex.
- This recommendation is our strongest recommendation and does not change based on whether the woman lives in a Zika affected area, has a male partner who travels to or lives in a Zika affected area, whether the male partner has symptoms or if he tests positive/negative for Zika.

Recommendations: Couples Trying to Conceive

Suggested timeframes to wait before trying to get pregnant		
	Women	**Men**
Traveled to an area with Zika or sex with a man who has been in an area with Zika		
Symptoms	Use condoms or abstain after symptoms start:	
	at least **8 weeks**	at least **6 months**
No symptoms	Use condoms or abstain:	
	at least **8 weeks**	at least **8 weeks** Talk to doctor or healthcare provider
Living in area with Zika		
Symptoms	Use condoms or abstain after symptoms start:	
	at least **8 weeks**	at least **6 months**
No symptoms	Talk to s doctor or healthcare provider	

http://www.cdc.gov/zika/pregnancy/thinking-about-pregnancy.html

Recommendations: Couples Not Concerned about Pregnancy

Recommendations for protecting partners from sexually transmitted Zika		
	Women	**Men**
Traveled to an area with Zika or sex with a man who has been in an area with Zika		
Symptoms	• No known risk of sexual transmission to sex partners • Assess risk of acquiring Zika from male sex partners	Use condoms or abstain at least **6 months** after symptoms start
No symptoms		Use condoms or abstain at least **8 weeks** after return
Living in area with Zika		
Symptoms	• No known risk of sexual transmission to sex partners • At risk of acquiring Zika from male sex partners	Use condoms or abstain at least **6 months** after symptoms start
No symptoms		Use condoms or abstain while Zika is in the area

http://www.cdc.gov/mmwr/volumes/65/wr/mm6512e3.htm?s_cid=mm6512e3_w

Recommendations: Time Frames

- CDC applied a conservative approach recognizing
  - Exact incubation period of Zika unknown
  - Duration of Zika persistence in semen not fully known
  - Some couples are seeking to achieve conception
- 8 weeks: For situation where persistence not known to be a concern
  - Took upper limit of the incubation period of 14 days
  - Added 3 times the longest published period of viremia (3 x 11 days)
  - Additional time for variability of individuals' immune system.
- 6 months: For situation where persistence known to be a concern
  - Multiplied by 3 the longest documented persistence of detectable Zika virus RNA particles in the semen (62 days)

Testing

- Recommended to establish diagnosis of infection
- Who?
  - Persons with Zika symptoms
  - Pregnant women (symptomatic or asymptomatic)
- Under what circumstances
  - Traveled to or lives in areas with Zika
  - Had sex with a man who has been in areas with Zika (exception: no testing if neither person has symptoms)

Testing

- NOT recommended to establish *risk of sexual transmission in men* until we know more about Zika shedding in semen
- Negative results might be *falsely reassuring* since Zika can persist in semen after it's no longer detectable by RT-PCR in blood
- A negative serum IgM might represent
  - Falsely negative test
  - Tested before IgM developed or after than waned
- A negative semen test (RT-PCR or culture) might represent intermittent shedding
  - RT-PCR testing of semen not validated

Sperm and Oocyte Donation

- Sperm and egg donation regulated by FDA
- FDA guidance in place to prevent Zika transmission from gametes
- Directed donations may not be covered by FDA guidance in some circumstances
- Incumbent on providers to review risk/benefit with patients
- If concerned:
  - Contact entity providing sperm or oocytes and inquire about policies
  - For directed donation, consider risk of Zika for donor (e.g., travel history, symptoms) to make informed choice
  - Wait
- Testing of egg and sperm donors *not recommended* at present because of possibility of falsely reassuring negative results

Challenges

Talking about the sexual transmission of Zika virus can be complicated

- Clear and unambiguous instructions
  - If concerned about Zika, couples can use condoms or choose not to have sex
    - *Highly* recommended during pregnancy
  - To be effective, condoms must be used correctly from start to finish, every time during sex
  - Sex includes vaginal, anal and oral (mouth-to-penis) sex
- Couples who do not desire pregnancy should use the most effective contraceptive methods that can be used correctly and consistently *in addition to* condoms, which can prevent transmission of Zika and are also effective against STDs

Challenges

Condom skills

- Practice makes (almost always…) perfect.
- Use proper lubricant (water- and silicone-based, **not** oil-based).

Availability and access to condoms

- There may be barriers to accessing and using condoms including availability, price, and a person's ability to convince their partner to use condoms.

Social norms and religious beliefs

- Religious and cultural beliefs may restrict a person's ability to use condoms or other contraception.

What is CDC Doing to Better Understand Shedding of Zika Virus in Semen and Other Body Fluids?

1. **U.S. study of returned male travelers diagnosed with Zika**
   - Semen and urine testing
   - Every 2 weeks up to 6 months after onset
   - Self-collection, self-mailer
   - Project Director: Alison Hinckley, cue0@cdc.gov/970-221-6400
2. **Puerto Rico study of men and women diagnosed with Zika (ZIPER)**
   - Blood, saliva, urine, semen, and vaginal secretions testing every 2 weeks
   - Symptomatic and asymptomatic men and women
   - Specimens weekly for 4 weeks then biweekly until negative twice
   - Recruiting 350 patients with up to 5 household contacts each
   - Email ZIPER@cdc.gov

What is CDC Doing to Better Understand Shedding of Zika Virus in Semen and Other Body Fluids?

- Case reports matter!
  - **Please report all suspect cases to state or local health department**
  - Timely reporting increases opportunity to:
    - Collect relevant samples among willing male volunteers.
    - Manage changes in recommendations faster, if indicated.

What You Can Do?

- Communicate about sexual risk and how to prevent sexual transmission of Zika.
- Make condoms available and accessible.
  - Assess potential demand and current stock.
  - Prepare plan to acquire, distribute, and promote if they are needed.
- Provide resources and information for pregnancy prevention.
- Refer cases of infected men for U.S. viral persistence study.

CDC Resources and Materials

- CDC Sexual Transmission webpage - www.cdc.gov/zika/transmission/sexual-transmission.html
- Fact Sheets/Posters - www.cdc.gov/zika/fs-posters/index.html
- Infographics - www.cdc.gov/zika/comm-resources/infographics.html
- How to use a male condom www.cdc.gov/condomeffectiveness/male-condom-use.html

For Reference

- Update: Interim Guidance for Prevention of Sexual Transmission of Zika Virus — United States, 2016
  - http://www.cdc.gov/mmwr/volumes/65/wr/mm6512e3.htm?s_cid=mm6512e3_w
- Update: Interim Guidance for Health Care Providers Caring for Women of Reproductive Age with Possible Zika Virus Exposure — United States, 2016
  - http://www.cdc.gov/mmwr/volumes/65/wr/mm6512e2.htm?s_cid=mm6512e2_w
- Zika Information for State and Local Health Departments
  - http://www.cdc.gov/zika/public-health-partners/index.html

Thank you!

For more information, contact CDC
1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348 www.cdc.gov

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.