Zika Virus—What Every Woman Needs to Know

Carrie L. Byington, MD
The Jean and Thomas McMullin Professor and Dean of Medicine
Senior Vice President Health Science Center
Vice Chancellor for Health Services
Texas A&M University
Today’s Presentation

• Zika: The Basics
• Zika: Pregnancy and Congenital Zika Syndrome
• Zika: Virus and Children
• What Can You Do?
University of Utah Team Zika
First time in history...

“Never before in history has there been a situation where a bite from a mosquito could result in a devastating malformation.”
   – Dr. Tom Frieden, CDC Director
   *Fortune*, April 13, 2016

“...the last time an infectious pathogen (rubella virus) caused an epidemic of congenital defects was more than 50 years ago...”
Zika: The Basics
What is Zika Virus?

• Closely related to dengue, yellow fever, Japanese encephalitis, and West Nile viruses

• Primarily transmitted by two *Aedes* species mosquitoes
  • *Aedes aegypti* and *Aedes albopictus* mosquitoes

• Additional modes of transmission
  • Intrauterine and perinatal transmission (mother to fetus)
  • Sexual transmission
  • Laboratory exposure
  • Probable: Blood transfusion
Where is Zika now?

US States at Risk for Zika

Approximate distribution of *Aedes aegypti* in the United States

Approximate distribution of *Aedes albopictus* in the United States

Source: Centers for Disease Control and Prevention
Signs and symptoms

• Clinical illness is usually mild
• Most common symptoms are:
  • Fever
  • Rash
  • Joint pain
  • Conjunctivitis
• Symptoms last several days to a week
• Severe disease is uncommon
• Fatalities are rare
• Once a person has been infected, likely to be protected from future infections
Clinical Management

- No vaccine or specific antiviral treatment
- Treat the symptoms
  - Rest
  - Drink fluids to prevent dehydration
  - Take medicine such as acetaminophen to reduce fever and pain
- Avoid aspirin and other non-steroidal anti-inflammatory drugs (NSAIDS) until dengue can be ruled out to reduce the risk of bleeding
Zika, Pregnancy, and Congenital Zika Infection

• Pregnant women can be infected
  • Through a mosquito bite
  • Through sex without a condom with an infected partner
• If a woman is infected around conception
  • Zika might present risk to fetus
• If infected during pregnancy
  • Zika can be passed to the fetus
Zika Virus in Pregnancy

- Incidence of Zika virus infection in pregnant women is not known
- Infection can occur in any trimester
- No evidence of increased susceptibility to Zika virus
- The clinical course is similar in pregnant women and in non-pregnant people

Centers for Disease Control and Prevention, *CDC Health Advisory: Recognizing, Managing, and Reporting Zika Virus Infections in Travelers Returning from Central America, South America, the Caribbean and Mexico*, 2016.
Congenital Zika Virus Syndrome
Congenital Zika Syndrome

- Recently recognized pattern of congenital anomalies associated with Zika virus infection during pregnancy that includes
  - **Severe microcephaly** resulting in a partially collapsed skull
  - **Decreased brain tissue** with brain damage (as indicated by a specific pattern of calcium deposits)
  - **Damage to the back of the eye** with a specific pattern of scarring and increased pigment
  - **Limited range of joint motion**, such as clubfoot
  - **Too much muscle tone** restricting body movement soon after birth
Outpatient Management:
Infants with abnormalities consistent with congenital Zika syndrome and lab evidence of Zika

- Establish a medical home to facilitate coordination of care
- Provide routine preventive pediatric health care, including immunizations
- Conduct developmental monitoring at each routine visit
- Complete neurologic exam at age 1 and 2 months, then as needed
- Refer patients to developmental specialist and early intervention services
- Repeat ophthalmology exam with retinal assessment at 3 months
- Repeat ABR hearing assessment at age 4–6 months
- Conduct thyroid screening at age 2 weeks and age 3 months
- Provide family support services
Initial Evaluation & Outpatient Management:
Infants with lab evidence of Zika and **without** abnormalities consistent with congenital Zika syndrome

- Infants should receive
  - Routine care including monitoring of occipitofrontal circumference, length, and weight
  - Developmental monitoring at every visit
  - Age-appropriate standardized validated developmental screening at 9 months
- Medical home should be established
- Vision screening and assessment of visual regard should be performed at every well child visit.
- To evaluate hearing, consider repeat ABR testing at 4–6 months or perform behavioral diagnostic testing at age 9 months if ABR is not done at 4-6 months
- Any children identified with or suspected of delays should be referred to early intervention programs
- Family support services, such as counseling, need to be provided
Zika Virus and Children
Zika and Breastfeeding

- Transmission of Zika virus through breast milk has not been documented.

- Benefits of breastfeeding outweigh theoretical risk of Zika virus transmission through breast milk.

- CDC and the World Health Organization recommend that infants born to women with suspected, probable, or confirmed Zika virus infection, or who live in or have traveled to areas of Zika, should be fed according to usual infant feeding guidelines.
What Can You Do?
What Can You Do?

• Prepare for travel
  • Particularly important for pregnant women and those considering pregnancy
  • Know how to practice safer sex during and after travel
  • Wear mosquito repellent for 3 weeks after travel
  • Get Tested

• Protect your environment from mosquitoes
  • Eliminate standing water

• Protect yourself from mosquitoes
  • DEET—20%-30%
Active ingredient
Higher percentages of active ingredient provide longer protection

- DEET
- Picaridin (known as KBR 3023 and icaridin outside the US)
- IR3535
- Oil of lemon eucalyptus (OLE) or para-menthane-diol (PMD)
- 2-undecanone

Find the insect repellent that’s right for you by using EPA’s search tool.*
Tips for Parents and Caregivers

For babies and children

• Dress your child in clothing that covers arms and legs.
• For children older than 2 months, use insect repellent on exposed skin.
  • Do not use insect repellent on babies younger than 2 months.
• Cover crib, stroller, and baby carrier with netting.
Tips for Parents and Caregivers

Applying insect repellent for babies and children

• Do not apply repellent onto hands, eyes, mouth, and cut or irritated skin.

• Adults: Spray onto your hands and then apply to a child’s face.

• Do not use products containing oil of lemon eucalyptus or para-menthane-diol on children younger than 3 years old.
Resources for Families


Available in English, Spanish and other languages
QUESTIONS