Zika Virus: An Introduction

WCCHD Environmental Health Services – Integrated Mosquito Management (IMM)
WCCHD Disease Control and Prevention
Zika virus (zee-ka)

Spread to people through the bite of an infected *Aedes* species mosquito (same vector for Chikungunya & Dengue)

- First identified in 1947
- Cases reported intermittently in Africa and SE Asia until 2007
- 2007 - Outbreak in Micronesia
- 2015 - Zika cases identified in South America
- Large-scale outbreaks in South, Central America, Caribbean
- Late 2015 - local transmission confirmed in Mexico, Puerto Rico
- Jan 2016 - 31 Imported cases arrive in the US (Texas, Florida, Hawaii, Illinois, NJ, NY, California)
- February 2, 2016 – First locally acquired case in Dallas, TX – sexual transmission
Transmission

During the first week of infection, Zika virus can be found in the blood and passed from an infected person to another mosquito through mosquito bites. An infected mosquito can then spread the virus to other people.
Clinical Signs & Symptoms

• About 1 in 5 people become symptomatic

• Incubation period = approximately 2-7 days

• If present, clinical illness is typically mild, with symptoms lasting several days to a week

• Severe disease requiring hospitalization is uncommon and case fatality is low
Clinical Signs & Symptoms

Common symptoms include:

• Acute onset of fever with rash (maculopapular)
• Conjunctivitis (red eyes)
• Myalgia (muscle pain)
• Headaches

Photo Credit: nphmedicalservices.com
Clinical Signs & Symptoms

Complications:

• Pregnant women are at especially high risk
  • Birth defects / poor pregnancy outcomes in women with Zika infection while pregnant

• Unknown association with Guillain-Barre Syndrome (GBS)
  • “The exact cause of Guillain-Barre syndrome is unknown, but it is often preceded by an infectious illness...”
Complications in Pregnancy

• Highly suspected correlation between Zika infection during pregnancy and infant microcephaly

• Brazil has seen 4,000 cases in <1 year, still rising

• Microcephaly results in brain damage, often death

• Brazil and Columbia have asked women to delay pregnancy

• CDC has issued an official health advisory and a Level 2 travel alert for pregnant women traveling to endemic regions ("Practice Enhanced Precautions")
Treatment

No vaccine or antiviral treatment is available, supportive care (rest, fluids, analgesics, antipyretics)

• PHP can assist in treating symptoms (limit use of aspirin/NSAIDs until Dengue ruled out)

• Voluntary quarantine for 7 days from first symptom

• Mosquito-person-mosquito transmission

• Can easily be spread to local mosquitoes
Is Texas at Risk?

Yes!

- Spread by *Aedes* mosquitoes
  - Mostly *Ae. aegypti*
- Aggressive day-time biters
- Prefer to feed on people
- Live indoors and outdoors
- Breed around homes (buckets, bird baths, flower pots, etc.)
- Same mosquitoes that transmit dengue, CHIKV

http://www.cdc.gov/chikungunya/pdfs/CHIKV_VectorControl.pdf
Preparedness - Zika

• Don’t panic!
• Targeted educational messaging
  • Already distributed on the PHIN
  • Travel-associated groups
• Zika information for the public:
  • CDC website
  • PAHO website
  • WHO website
Frieden added that studies on sexual transmission are not easy studies to do, but the CDC is continuing to explore that avenue of transmission. "What we know is the vast majority of spread is going to be from mosquitoes," Frieden added. "The bottom line is mosquitoes are the real culprit here."

The CDC said it will provide more guidance as more information on sexual transmission is learned, but in the meantime, "Sexual partners can protect each other by using condoms to prevent spreading sexually transmitted infections. People who have Zika virus infection can protect others by preventing additional mosquito bites."
Reminder

West Nile virus is still our biggest mosquito-borne threat in TX

• Prepare for CHIK/Zika/DEN, but keep focus on WNV

![Graph showing West Nile cases in Texas, 2002-2012. The graph indicates a peak in 2003 with 439 cases, and 2012 had 1,868 cases.](image)
PERSONAL RESPONSIBILITY!

- Private property is the #1 source for mosquito production
- 25% of complaints can be traced to the caller’s own property
- Mosquito control is cheap, easy and effective!
- WNV and Zika mosquitoes like to breed “domestically”