

Zika in the ED: How Emergency Care Staff Can Take Action

**Clinician Outreach and
Communication Activity
(COCA) Call
November 1, 2016**



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Objectives

At the conclusion of this session, the participant will be able to:

- ❑ **Outline the importance of screening protocols for Zika.**
- ❑ **Review nursing assessment and clinical interventions as it relates to Zika.**
- ❑ **Describe the process for reporting Zika cases.**
- ❑ **Discuss patient education and discharge teaching for any people who may be at risk for, exposed to, or diagnosed with Zika.**

TODAY'S MODERATOR



Satish Krishna Pillai, MD, MPH

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Zika Update: What Emergency Care Providers Need to Know



Presented by:

Jon Mark Hirshon, MD, PhD, MPH

November 1, 2016

Mosquito-Borne Viruses

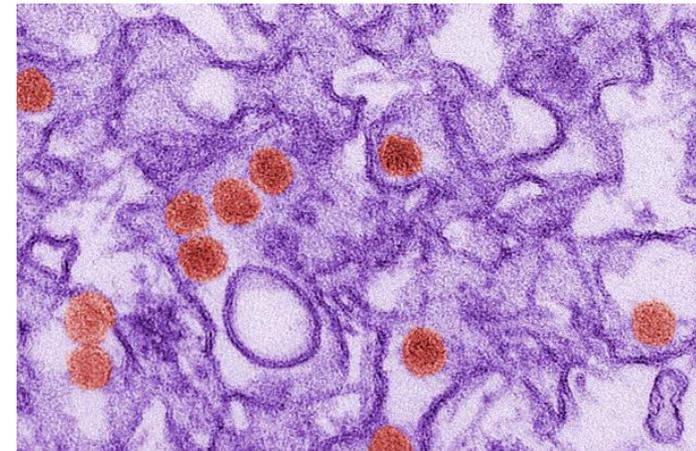
- West Nile Virus
- Dengue
- Zika Virus
- Chikungunya
- Yellow Fever
- St. Louis Encephalitis
- Jamestown Canyon Virus
- Western Equine Encephalitis
- Eastern Equine Encephalitis
- La Crosse Encephalitis

And many others...

Terms

- **Arboviruses:**
 - **AR**thropod-**BO**rne virus
- **Arthropods**
 - E.g: mosquitos, ticks, sandflies
- **Flaviviridae (family)**
 - Flavivirus (genus)
 - Single stranded RNA viruses

Zika Virus



<http://www.cdc.gov/media/images/dpk/2016/dpk-zika/zika-virus-microscope-1000px.jpg>

Arboviruses

- Transmitted by arthropods
- Can have rare person-to-person transmission
 - Blood borne
 - Transfusion, sharing needles
 - Organ transplantation
 - Breast feeding
 - Intrauterine
 - Sexual transmission

Aedes aegypti



http://phil.cdc.gov/phil/details_linked.asp?pid=9261

Major Arbovirus Viral Families

- Family [Bunyaviridae](#)
 - *Rift Valley, Crimean–Congo hemorrhagic*
- Family [Flaviviridae](#)
 - *Dengue, West Nile, Zika, Yellow Fever*
- Family [Reoviridae](#)
 - *Equine encephalosis*
- Family [Togaviridae](#)
 - *Chikungunya, Western equine encephalitis*

Zika Virus

Virus genus	Flavivirus
Transmission	Mosquito-borne: <i>Aedes aegypti, Aedes albopictus</i>
Amplifying host	Humans/primates
Global Distribution	Tropical
U.S. Continental Distribution	Florida (currently)
Vaccine	None available
Treatment	Symptomatic

Who is at risk?

- Travelers to parts of
 - Central and South America
 - Oceania/Pacific Islands
 - Check the CDC for the most up to date information
 - <https://www.cdc.gov/zika/geo/active-countries.html>
- In the United States:
 - Puerto Rico
 - Localized areas around Miami, Florida
- Partners of patients with Zika

Clinical Disease

- Most individuals with Zika are asymptomatic
- If symptomatic, typical complaints include:
 - Maculopapular rash
 - Typically pruritic
 - Fever (usually $< 38.5^{\circ}\text{C}$)
 - Arthralgia/myalgia
 - Conjunctivitis- nonpurulent
 - Conjunctival hyperemia
 - Headache/retro-orbital pain
 - Peri-articular edema

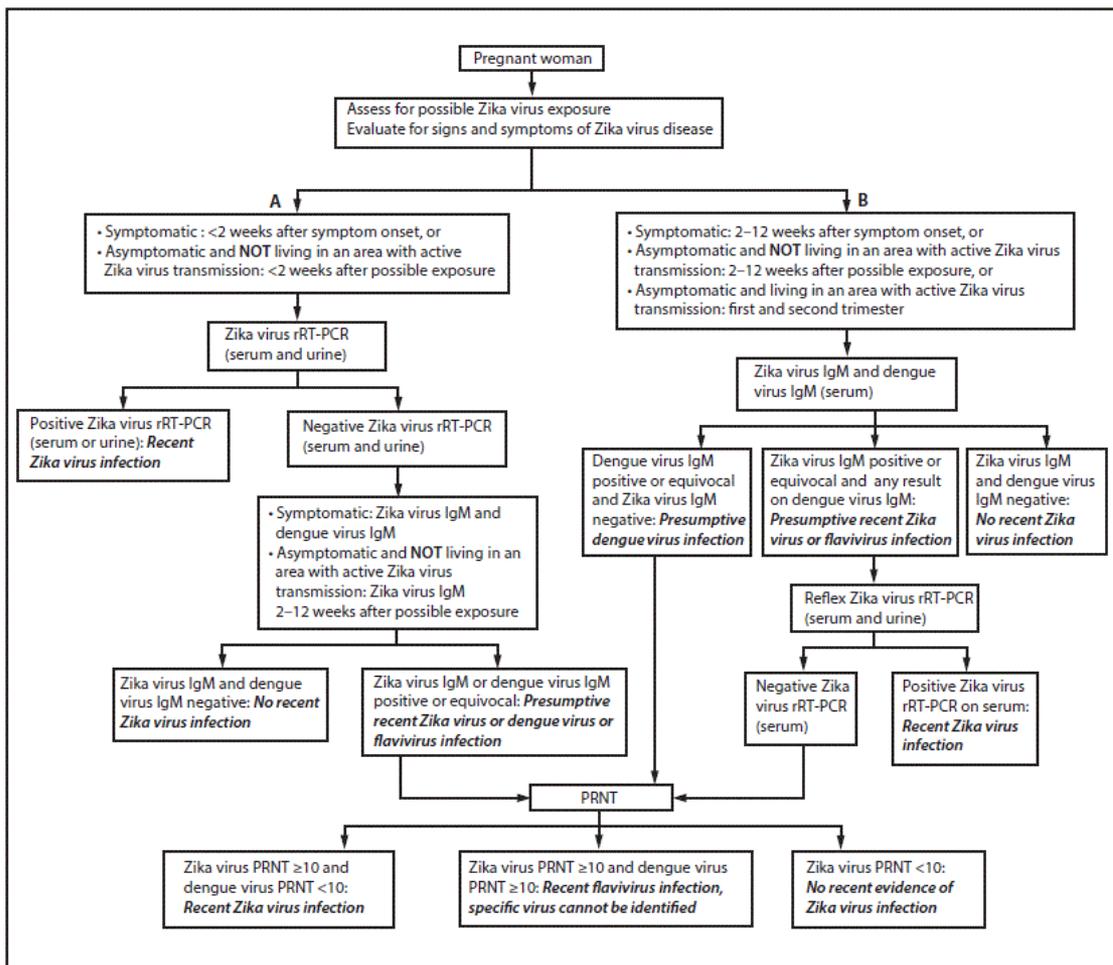
Serious Complications

- Can cause Guillain- Barre (rare)
- Pregnant women infected with Zika
 - Serious congenital malformations (e.g.: microcephaly)
 - Pregnancy complications (e.g.: miscarriage)

Diagnosis

- Diagnosis based upon travel history and symptoms
- Testing for Zika
 - CDC and several state/local health departments are testing for Zika virus
 - No currently available approved commercial test
 - RT-PCR assay and MAC-ELISA available
 - FDA has authorized the use of this test under an Emergency Use Authorization (EUA)
 - For updated information, visit the CDC website:
<http://www.cdc.gov/zika/hc-providers/testing-for-zikavirus.html>

Updated Interim CDC Guidance For Testing Pregnant Women



Complicated testing algorithm

- Test cross-reactivity with other Flaviviruses

Bottom line:

- Check CDC website for updated guidance
- Communicate with:
 - Hospital's infection control specialists
 - Local health department

Treatment

- Treatment is symptomatic and supportive
 - Rest
 - Fluids
 - Acetaminophen
 - Not aspirin or other non-steroidal anti-inflammatory drugs (NSAIDs)

What to tell a concerned patient

- Zika is generally asymptomatic or a mild disease
- Individuals are at risk if
 - Travelled to an area with Zika transmission
 - Have sex with someone who has been infected with Zika
 - Someone who has travelled to an endemic area
- Patients should take measures to prevent transmission

What to tell a pregnant patient

- If a patient is pregnant and may have Zika, they can contact: <http://mothertobaby.org/>
 - Call: 1-866-626-6847 (both English and Spanish)



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MotherToBaby Launches New Zika Virus Educational Tools
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Welcome

Fact Sheets

Pregnancy Studies

Find A Service Near You

Welcome To MotherToBaby

MotherToBaby, a service of the non-profit Organization of Teratology Information Specialists, is dedicated to providing evidence-based information to mothers, health care professionals, and the general public about medications and other exposures during pregnancy and while breastfeeding. Talk directly to the experts behind the most up-to-date research!

Health Professionals

Fact Sheets

F.A.Q's

Prevention Measures: Travelers

- If traveling to an endemic area
 - Wear pants and long sleeved shirts
 - Use approved mosquito repellants
 - Stay in places with screening/air-conditioning
- Pregnant women should avoid travel to Zika endemic areas

Preventive Measures: Sexual Partners

- For patients at risk for sexual transmission
 - Abstain from sex or use a barrier method
 - At least 8 weeks after illness onset if a female partner is likely to have Zika
 - At least 6 months after illness onset if a male partner is likely to have Zika

Conclusion

“Zika is not contagious in the way that Ebola is, nor is it as lethal (fever, rash, joint pain) but it appears to strike in an especially cruel way – depressing brain growth in babies born to infected mothers. And like so many other pathogens that preceded it, **the Zika virus has seemingly whirled out of nowhere, reinforcing how difficult it is to predict confidently which ones will go rogue.**”

Monica Escalante Kolbuk, MSN, RN, CEN
Senior Associate
Institute for Quality, Safety and Injury
Prevention



What is screening?

- A strategy to identify unrecognized disease
- Occurs in various settings
- Enables early detection of disease
- Allows early response for intervention



Importance of Zika Screening

- Helps to identify exposed persons earlier
- Enables early intervention and treatment
- Reduces the possibility of further disease transmission
- Allows for public health surveillance



Who Should be Screened for Zika Virus?



Screening for Zika Virus



- Chief complaint
- Exposure history
 - Have you had any recent travel?
 - Has anyone close to you recently travelled?
- Understand areas that are impacted
 - <https://www.cdc.gov/zika/geo/index.html>
- Updated Interim Pregnancy Guidance Testing Algorithm
 - http://www.cdc.gov/zika/pdfs/testing_algorithm.pdf

Triage Tips:

- Identify exposure history and at-risk patients
- Has the patient recently traveled to or lived in an area where Zika virus transmission is ongoing?



Visit [CDC Zika Geographic Distribution](#) online for updates.

- Identify Zika signs and symptoms
- Isolate patient and determine necessary personal protective equipment (PPE)
- Inform hospital infection control and other staff at risk of exposure

ZIKA VIRUS

What Emergency Nurses Need to Know

What is Zika?

A mosquito-borne viral disease that is transmitted by *Aedes* mosquitos, which are also responsible for the spread of dengue and chikungunya viruses. Zika virus can be transmitted perinatally, in utero, and possibly through transfusions and sexual intercourse.



What are the signs and symptoms?

Fever



Conjunctivitis



Headache



Joint pain



Maculopapular rash



How is it treated?

- There is no specific antiviral treatment available
- Treatment is generally supportive. Recommendations include:

Rest

Analgesics and antipyretics

Fluids

- To reduce the risk of hemorrhage, avoid aspirin and other non-steroidal anti-inflammatory drugs (NSAIDs) until dengue virus can be ruled out as the infectious agent

The illness is usually mild with symptoms lasting several days to a week. Severe disease is uncommon. There is currently no vaccine available, but Zika is preventable.

What should I tell my patients?

- Always give your patients the most up-to-date information from reputable sources
- If your patient has recently returned from a Zika-affected country, instruct him or her to watch for signs and symptoms of Zika for two (2) weeks and seek medical care if symptoms appear
- Educate patients infected with Zika to protect themselves from further mosquito exposure, especially during the first few days of illness to prevent other mosquitoes from becoming infected. This helps reduce the risk of local transmission.

- Instruct your patients to take precautions to avoid getting bitten by mosquitoes
- Inform pregnant patients to follow the CDC travel advisory and consider postponing travel to Zika-affected countries



Triage Tips:

- Identify exposure history and at-risk patients
- Has the patient recently traveled to or lived in an area where Zika virus transmission is ongoing?



Visit [CDC Zika Geographic Distribution](#) online for updates.

- Identify Zika signs and symptoms
- Isolate patient and determine necessary personal protective equipment (PPE)
- Inform hospital infection control and other staff at risk of exposure

Can Zika be transmitted to me by an infected patient?

- Zika virus is primarily transmitted through the bite of an infected *Aedes* mosquito
- It is unlikely that you will contract the Zika virus while caring for an infected patient
- There have been reports of transmissibility through infected blood and sexual transmission. Therefore, to reduce the risk of transmission:



- Use standard precautions to reduce the risk of blood and bodily fluid exposures



- Follow your institution's infection control policies for appropriate personal protective equipment (PPE)



Fast Facts:

- Zika virus was first identified in Uganda in 1947
- Zika virus is transmitted by the same type of mosquito that carries dengue, yellow fever, and chikungunya
- Mosquitoes that spread Zika virus bite mostly during the daytime
- Onset of symptoms occur

2 to 7 days after being bitten

- 1 in 5 people with Zika virus will become symptomatic



- There may be a link between the Zika virus and a birth defect, microcephaly



For more information:

www.ena.org

www.cdc.gov/zika/

www.who.int/mediacentre/factsheets/zika/en/



February 3, 2016



Nursing Assessment

- **Identify exposure history**
 - Primary screening
 - Travel history
- **Identify signs and symptoms**
 - Fever
 - Rash
 - Joint pain
 - Conjunctivitis
 - Muscle pain
 - Headache

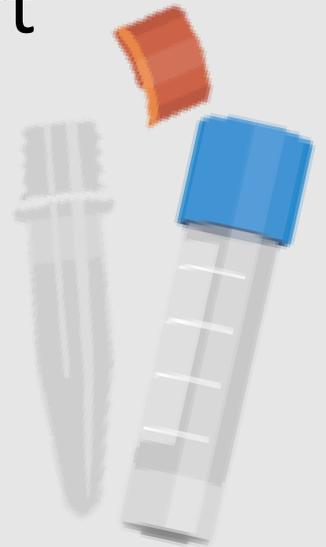


Nursing Assessment-Infection Control

- **Isolate**
 - Standard precautions
 - Body fluids, including blood, vaginal secretions, and semen, have been implicated in transmission of Zika virus.
- **Occupational exposure that requires evaluation includes:**
 - Percutaneous exposure
 - Exposure of non-intact skin or mucous membranes to any of the following: blood, body fluids, secretions, and excretions.
- **Inform**
- **Further evaluation and management**

Clinical Interventions

- Supportive care for symptoms
- Patient education & bereavement support
- Blood testing
- Ultrasound
- Zika Pregnancy Hotline 770-488-7100



Reporting of Zika Cases

- Zika virus disease is a nationally notifiable condition
- Laboratory testing will not be completed in the emergency department
- Contact, state, local, or territorial health departments to facilitate diagnosis



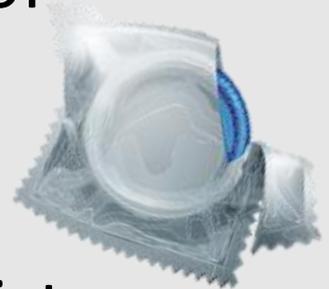
Patient Education and Discharge Teaching

- Target education
- Up-to-date information from reputable sources
- Use CDC Zika Communication Toolkits and Resources
- Follow-up with OBGYN



Patient Education and Discharge Teaching Continued

- What to expect after testing
- Caution about mosquito exposure
- Abstaining from sexual intercourse or use of condoms
- Pregnancy planning
- Referral to maternal fetal medicine specialists
- Questions about possible infection/diagnosis refer to Mother To Baby 1-866-626-6847



Conclusion

- Treat immediate symptoms
- Provide psychosocial support
- Ensure appropriate patient education, discharge information, and referrals are provided
- Visit the CDC website for updates and information

References

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- “Click” in the white space
- “Type” your question
- “Click” ask

□ On the Phone

- Press Star (*) 1 to enter the queue
- State your name
- Listen for the operator to call your name
- State your organization and then ask your question

Thank you for joining!



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What: All call recordings (audio, webinar, and transcript)

Where: On the COCA Call webpage

http://emergency.cdc.gov/coca/calls/2016/callinfo_110116.asp

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**Advancing the One Health Concept
through Collaborations that Connect,
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- **Date: Thursday, November 17, 2016**
- **Time: 2:00-3:00 pm (Eastern Time)**

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