

# AU InforMed

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## Key Inforbits

- What is Zika virus?
- Transmission of virus
- Symptoms/Diagnosis/Treatment
- Where is Zika Virus?
- Pregnancy and Microcephaly
- Zika Virus Q & A



# ZIKA VIRUS

## What is Zika Virus?

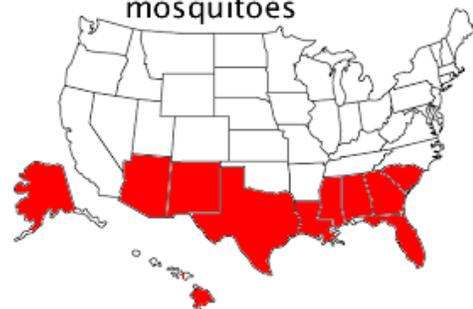
The Zika virus is an infection related to dengue, Yellow fever, and West Nile Virus. The virus was first identified in Uganda in 1947 and is common to Asia and Africa. Until recently, no human in the western hemisphere had been infected.<sup>1</sup> Now, the virus is infecting millions of people in numerous countries, including the United States. On February 1, 2016, the World Health Organization (WHO) declared a Public Health Emergency of International Concern (PHEIC) because of teratogenicity such as microcephaly and other neurological disorders in some areas affected by Zika.<sup>1,2</sup>

## Transmission

The Zika virus is primarily a mosquito-transmitted infection, specifically the *Aedes* species. When a mosquito bites, it picks up the virus in the blood. Next, the virus travels from their gut through the circulatory system to their salivary glands. When a mosquito bites again, the virus-infected saliva is injected into the victim.

While it is believed that mosquitoes are the main form of transmission, other forms of transmission are possible. Several cases of sexual transmission have been reported. Zika virus can also be transmitted from a pregnant mother to her fetus during pregnancy.<sup>1,2</sup>

U.S. states with known *Aedes* mosquitoes



References:



1. McNeil D, Louis C, and Fleur S. Short Answers to Hard Questions About Zika Virus. New York: New York Times, 2016 [updated 2016 Feb 12, cited 2016 Feb 23]. Available from: <http://www.nytimes.com/interactive/2016/health/what-is-zika-virus.html>
2. Centers for Disease Control and Prevention [Internet]. Atlanta (GA): Centers for Disease Control and Prevention; 2016. Zika Virus [updated 2016 Feb 21, cited 2016 Feb 23]. Available from: <http://www.cdc.gov/zika/>

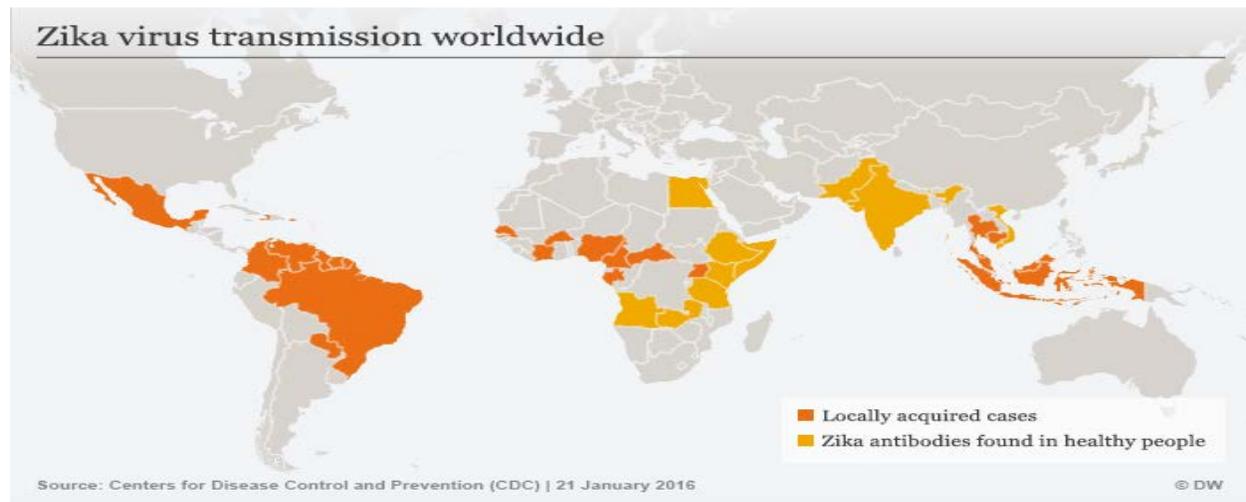
## Symptoms, Diagnosis, and Treatment

Symptoms:	Diagnosis:	Treatment:
<ul style="list-style-type: none"> <li>○ 1 in 5 infected people will develop symptoms</li> <li>○ Most common: fever, rash, joint pain, or conjunctivitis</li> <li>○ Others: headache and muscle pain</li> <li>○ Usually lasts several days to a week</li> <li>○ Usually aren't severe enough to require medical care</li> </ul>	<ul style="list-style-type: none"> <li>○ Requires a blood test and sophisticated molecular testing</li> </ul>	<ul style="list-style-type: none"> <li>○ No vaccine currently exists</li> <li>○ No specific medicine</li> <li>○ Supportive treatment of the symptoms: get plenty of rest and fluids</li> <li>○ Aspirin and NSAIDs should be avoided until dengue can be ruled out to avoid complications with bleeding</li> </ul>

References:

1. Centers for Disease Control and Prevention [Internet]. Atlanta (GA): Centers for Disease Control and Prevention; 2016. Zika Virus [updated 2016 Feb 21, cited 2016 Feb 23]. Available from: <http://www.cdc.gov/zika/>

## Where is Zika Virus?



[image: [http://www.dw.com/image/0,,18989569\\_401\\_00.png](http://www.dw.com/image/0,,18989569_401_00.png)]

This map shows the countries with active Zika infections. Currently, the United States reports no mosquito-borne Zika virus disease, but there have been 82 travel-associated cases.<sup>1</sup> Due to recent outbreaks, the number of Zika virus disease cases among travelers is likely to increase and could result in local spread. With only 1 in 5 people infected with Zika actually experiencing symptoms, tracking Zika virus becomes more difficult.



## Pregnancy and Zika

In the absence of another explanation for the recent clusters of microcephaly and other neurological disorders (i.e., Guillain-Barre Syndrome,) the International Health Regulations (IHR 2005) Emergency Committee recommended enhanced surveillance, research, and aggressive measures to reduce infection with Zika virus, particularly among pregnant women and women of childbearing age.<sup>1</sup>

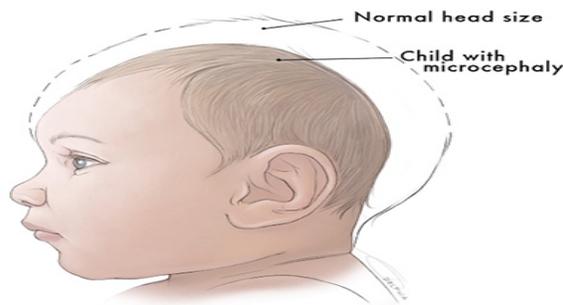
Colombia, Dominican Republic, Ecuador, El Salvador and Jamaica have all advised women to postpone getting pregnant until more is known about the virus and its rare but potentially serious complications. Latin American officials have launched public awareness campaigns; however, the effectiveness of these campaigns is unknown.<sup>1</sup>

The US CDC has also issued a level 2 travel warning, which includes recommendations that pregnant women consider postponing travel to any area with ongoing Zika virus transmission.<sup>1</sup>

Countries affected by Zika (and if microcephaly is confirmed to be associated with this virus) are encouraged to explore proactive special care for pregnant women, such as giving adequate repellent lotion and treated mosquito nets to pregnant women as well as to women of child bearing age.<sup>1</sup>

## What is Microcephaly?

Microcephaly is a condition where a baby's head is much smaller than expected. Babies born with microcephaly often have brains that might not have developed properly.:



[image from: <http://www.childrenshospital.org/conditions-and-treatments/conditions/microcephaly> ]

Problems associated with microcephaly include:

- Seizures
- Developmental delays
- Intellectual disability
- Problems with movement and balance
- Hearing loss
- Vision problems
- Feeding problems

While microcephaly can be caused by other factors (i.e., genetics, alcoholism) or viruses, Brazil has noted a surge in the number of babies born with microcephaly. About 3 million babies are born in Brazil each year. Normally, about 150 cases of microcephaly are reported; however, currently, Brazil reports investigating nearly 4,000 cases in the same time frame.<sup>2,3</sup>

### References:

1. Zika: Strategic Response Framework & Joint Operations Plan January-June 2016. World Health Organization. 2016 Feb. Available from: [http://apps.who.int/iris/bitstream/10665/204420/1/ZikaResponseFramework\\_JanJun16\\_eng.pdf?ua=1](http://apps.who.int/iris/bitstream/10665/204420/1/ZikaResponseFramework_JanJun16_eng.pdf?ua=1)
2. Centers for Disease Control and Prevention [Internet]. Atlanta (GA): Centers for Disease Control and Prevention; 2016. Zika Virus [updated 2016 Feb 21, cited 2016 Feb 23]. Available from: <http://www.cdc.gov/zika/>
3. McNeil D, Louis C, and Fleur S. Short Answers to Hard Questions About Zika Virus. New York: New York Times, 2016 [updated 2016 Feb 12, cited 2016 Feb 23]. Available from: <http://www.nytimes.com/interactive/2016/health/what-is-zika-virus.html>



## Zika Virus Q & A

- **Does it matter when in her pregnancy a woman is infected with Zika virus?**
  - *The most dangerous time is thought to be the first trimester.<sup>1</sup>*
- **Are you immune for life once infected with Zika?**
  - *Once a person is infected, they are likely protected from future infections.<sup>1</sup>*
- **Does Zika virus cause Guillain-Barre syndrome (GBS)?**
  - *It is difficult to determine an exact cause of GBS. Brazil has reported an increase in the number of people affected with GBS. The CDC is working to determine if having Zika makes one more susceptible to GBS.<sup>1</sup>*
- **What is the best protection against Zika virus?**
  - *Prevent mosquito bites: wear long-sleeve shirt and long pants, use EPA-registered insect repellents, and use mosquito nets to protect children.<sup>1</sup>*
  - *Pregnant women are advised to avoid areas with active Zika virus and women living in these areas should avoid becoming pregnant.<sup>1</sup>*
- **If a mother had Zika virus during pregnancy or currently has Zika virus infection, should she breastfeed her infant?**
  - *Zika virus infections have not been associated with breastfeeding. Current evidence suggests that the benefits of breastfeeding outweigh risks of Zika virus.<sup>1</sup>*
- **Why do only 1 in 5 people infected with Zika virus experience symptoms?**
  - *Researchers are not sure why only some people develop symptoms. Zika virus symptoms may be increased or decreased by the presence or absence of other previous virus exposures.<sup>2</sup>*
- **What is the difference between Zika, dengue, and chikungunya?**
  - *Dengue usually presents with higher fever and more severe muscle pain. When the fever breaks, bleeding is a typical warning sign.*
  - *Chikungunya presents with higher fever and more intense joint pain that affects the hands, feet, knees, and back. People may become disabled and not be able to perform simple tasks like walking.*
  - *Zika does not have any clear features, but most patients report a skin rash and some have conjunctivitis.<sup>3</sup>*

### References:

1. Centers for Disease Control and Prevention [Internet]. Atlanta (GA): Centers for Disease Control and Prevention; 2016. Zika Virus [updated 2016 Feb 21, cited 2016 Feb 23]. Available from: <http://www.cdc.gov/zika/>
2. McNeil D, Louis C, and Fleur S. Short Answers to Hard Questions About Zika Virus. New York: New York Times, 2016 [updated 2016 Feb 12, cited 2016 Feb 23]. Available from: <http://www.nytimes.com/interactive/2016/health/what-is-zika-virus.html>
3. Fauci A, Morens D, et al. Zika Virus in the Americas---Yet Another Arbovirus Threat. N Engl J Med. 2016;374(7):601-03.



### **The last "dose" ...**

**"If you think you are too small to make a difference, try sleeping with a mosquito."**

~Dalai Lama XIV [1935 - ]

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