

TerranearPMC Safety Share

Week of February 8, 2016 – Zika Virus

Up until very recently, information on the Zika virus has been heavily overshadowed by political debates, caucuses and primaries taking center stage. As a result many of the specifics surrounding this disease have not been disseminated in the manner in which it needs to be. Questions such as, “what is Zika Virus and how is it transmitted? Who is at risk?” and “How can people protect themselves and what are the treatment options?” are valid concerns, yet have escaped proper presentation in our media.

Zika virus is spread to people through mosquito bites. The most common symptoms of Zika virus disease are fever, rash, joint pain, and conjunctivitis (red eyes). The illness is usually mild with symptoms lasting from several days to a week. Severe sickness requiring hospitalization is uncommon. It is transmitted to people primarily through the bite of an infected *Aedes* species mosquito (Note: this is the same mosquito that spread dengue and chikungunya viruses; both considered tropical diseases, with dengue being an extremely dangerous condition). According to the Centers for Disease Control and Prevention (CDC) the greatest health threat is believed to be in pregnancy, to the unborn child, where there is risk of **microcephaly**: a rare neurological condition in which children have unusually small heads. In many cases it also means a baby's brain is smaller and may not have developed properly.

These mosquitoes typically lay eggs in and near standing water in things like buckets, bowls, animal dishes, flower pots and vases. They live indoors and outdoors where humans reside.

Zika Virus is not that new. It was first described by the Scottish scientist, Alexander John Haddow, who was studying diseases in the jungle outside Entebbe, Uganda where, in 1947, he observed this virus in the blood of a rhesus monkey that lived in the Zika Forest (rhesus monkeys were being observed for yellow fever studies – there was no cross transmission from monkeys to humans). Mosquitoes become infected when they feed on a person already infected with the virus. Infected mosquitoes can then spread the virus to other people through bites.

Prior to 2015, Zika virus outbreaks have occurred in areas of Africa, Southeast Asia, and the Pacific Islands. In May 2015, the Pan American Health Organization issued an alert regarding the first confirmed Zika virus infections in Brazil. Currently, outbreaks are occurring in many countries. Zika virus will continue to spread, while there will be difficulty to determine how the virus will spread over time.

While there are no locally transmitted Zika cases reported in the continental United States, cases have been reported in returning travelers. Recently, one woman in Hawaii who delivered an infant with microcephaly after being infected with the virus in Brazil last year. Locally transmitted Zika virus has been reported in the Commonwealth of Puerto Rico. According to the CDC, due to the recent outbreaks, the number of Zika cases among travelers visiting or returning to the United States will likely increase. Therefore, these imported cases could result in local spread of the virus in some areas of the United States. In addition, people living in the Commonwealth of Puerto Rico, the U.S. Virgin Islands, Caribbean or Pacific territories, and Central and South America are likely to see an increasing spread of Zika. In these areas, women who are pregnant need to protect themselves from mosquito bites by using repellants, permethrin-coated clothing, long sleeves and pants, and by staying indoors (ideally in places with air conditioning) as much as is practical. The CDC advises pregnant women to postpone travel to areas where Zika is spreading.

Evidence also suggests that the Zika Virus can spread via sexual transmission (this is based on a 2011 paper that focused on field studies in 2009 in Senegal). Therefore, while the contiguous United States may not provide the typical environment conducive to Zika virus, once this disease is present, it can be maintained and even increase through unprotected sexual activities.



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For a disease such as Zika to spread widely, two things are necessary. The first is the specific mosquito species that spreads the virus must be present and, the conditions in communities; places that are crowded and don't have air conditioning, enable viruses such as Zika to spread.

The CDC is anticipating that Puerto Rico and the U.S. Virgin Islands could have many infections with the Zika virus, and therefore, there is a considerable probability to see U.S. travelers returning from these places with Zika infections. There is also a chance we could see isolated cases and small clusters of infections in other parts of the country where the mosquito is present.

While the CDC does not expect widespread transmission in the contiguous United States, Zika virus can enter through persons getting infected in foreign locations, such as Rio de Janeiro, Brazil where the Summer Olympic Games will be hosted.

To date, there are no reports of infants getting Zika virus through breastfeeding. Because of the benefits of breastfeeding, mothers are encouraged to breastfeed even in areas where Zika virus is found. Spread of the virus through blood transfusion and sexual contact **have been** reported.

Here are the symptoms Associated with Zika Virus:

- About 1 in 5 people infected with Zika virus become ill (i.e., develop Zika).
- The most common symptoms of Zika are fever, rash, joint pain, or conjunctivitis (red eyes). Other common symptoms include muscle pain and headache. The incubation period (the time from exposure to symptoms) for Zika virus disease is not known, but is likely to be a few days to a week.
- The illness is usually mild with symptoms lasting for several days to a week.
- Zika virus usually remains in the blood of an infected person for a few days but it can be found longer in some people.
- Severe disease requiring hospitalization is uncommon.
- Deaths are rare.

Currently, there are no vaccine or medications are available to prevent or treat Zika infections. However, there are some important steps to take (including seeing a medical professional!) with regards to treating symptoms of the Zika Virus.

- Get plenty of rest.
- Drink fluids to prevent dehydration.
- Take medicine such as acetaminophen to relieve fever and pain.
- Do not take aspirin and other non-steroidal anti-inflammatory drugs (NSAIDs), like ibuprofen and naproxen. Aspirin and NSAIDs should be avoided until dengue can be ruled out to reduce the risk of hemorrhage (bleeding). If you are taking medicine for another medical condition, talk to your healthcare provider before taking additional medication.

Prevention will be key. Mosquito control is hard. States and cities that invest in mosquito control can track and fix many places where mosquitoes can breed to drive down mosquito populations. Air conditioning (providing a cool climate), window screens and modern plumbing (to prevent breeding environments for mosquitos) are effective controls. Without a doubt, this will take a concerted effort on the part of communities around the country as well as individuals to be on alert and act responsibly when visiting abroad.

It is far better to be alone, than to be in bad company - George Washington

