**ZIKA Virus**

**General Description**

The Zika virus is a member of the Flavivirus family, and is a small, enveloped virus (easy to kill with a hospital disinfectant). Zika virus is an emerging mosquito-borne virus that was first identified in Uganda in 1947 in rhesus monkeys. It was subsequently identified in humans in 1952 in Uganda and the United Republic of Tanzania. Since Brazil reported the first cases of local transmission of the virus in May 2015, it has spread to 21 countries and territories of the Americas (as of January 23, 2016). There are two main reasons for the virus's rapid spread: (1) the population of the Americas had not previously been exposed to Zika and therefore lacks immunity, and (2) Aedes mosquitoes—the main vector for Zika transmission—are present in all the region's countries except Canada and continental Chile.

**Significance**

Nonhuman and human primates are likely the main reservoirs of the virus, and anthroponotic (human-to-vector-to-human) transmission occurs during outbreaks.

Geographic Risk of Exposure - Outbreaks of Zika virus disease have been recorded in Africa, Southeast Asia, the Pacific Islands (Samoa) and more recently in the Americas (Central America including El Salvador, Guatemala, Honduras, Mexico, and Panama; South America including Bolivia, Brazil, Columbia, Ecuador, French Guiana, Paraguay and Suriname; and the Caribbean including Barbados, Dominican Republic, Guadeloupe, Guyana, Haiti, Martinique, Puerto Rico, and Saint Martin.)
Symptoms

About 1 in 5 people infected with Zika virus become symptomatic. The incubation period (the time from exposure to symptoms) of Zika virus disease is not clear, but is likely to be a few days. Characteristic clinical findings are:

- acute onset of fever with rash,
- arthralgia (joint pain), or
- conjunctivitis (red eyes).

Other commonly reported symptoms include:

- myalgia (muscle aches)
- headache.

Clinical illness is usually mild with symptoms lasting for several days to a week. Severe disease requiring hospitalization is uncommon and case fatality is low. However, there have been cases of Guillain-Barre syndrome reported in patients following suspected Zika virus infection. The Brazil Ministry of Health is also investigating the possible association between Zika virus and a reported increase in the number of babies born with microcephaly.

Due to concerns of microcephaly associated with maternal Zika virus infection, fetuses and infants of women infected with Zika virus during pregnancy should be evaluated for possible congenital infection and neurologic abnormalities.

Diagnosis

Based on the above typical clinical features, the differential diagnosis for Zika virus infection is broad. In addition to dengue, other considerations include leptospirosis, malaria, rickettsia, group A streptococcus, rubella, measles, and parvovirus, enterovirus, adenovirus, and alphavirus infections (e.g., Chikungunya, Mayaro, Ross River, Barmah Forest, O'nyong-nyong, and Sindbis viruses).

Preliminary diagnosis is based on the patient’s clinical features, places and dates of travel, and activities. Laboratory diagnosis is generally accomplished by testing serum or plasma to detect virus, viral nucleic acid, or virus-specific immunoglobulin M and neutralizing antibodies.

In 2016, Zika virus disease became a nationally notifiable condition in the USA. Healthcare providers are encouraged to report suspected cases to their state or local health departments to facilitate diagnosis and mitigate the risk of local transmission. State health departments are encouraged to report laboratory-confirmed cases to CDC through ArboNET, the national surveillance system for arboviral disease.

CleanPath - Preventing Transmission of Healthcare Pathogens
Many of the initial symptoms likely to present early in the illness are often seen in patients with other diseases as discussed above. Diagnosis and treatment should only be performed by a trained physician who can rule out other potential diseases.

**Transmission**

Zika virus is transmitted to people primarily through the bite of an infected female Aedes species mosquito. These are the same mosquitoes that spread dengue and chikungunya viruses.

These mosquitoes typically lay eggs in and near standing water in things like buckets, bowls, animal dishes, flower pots and vases. They are aggressive daytime biters, prefer to bite people, and live indoors and outdoors near people.

Additionally, for a week after being infected, Zika virus can be detected in the infected person’s blood and can be passed to another mosquito through a mosquito bite. The infected mosquito can subsequently infect others through mosquito bites.

A mother already infected with Zika virus near the time of delivery can pass on the virus to her newborn around the time of birth, but this is rare.

It is possible that Zika virus could be passed from mother to fetus during pregnancy. This mode of transmission is being investigated.

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.

There has been one report of possible spread of the virus through blood transfusion and one report of possible spread of the virus through sexual contact. Since the virus has been followed since the 1950’s, this form of transmission appears to be extremely rare.

**Treatment**

No specific antiviral treatment is available for Zika virus disease. As the disease is usually relatively mild, treatment is generally supportive and can include rest, fluids, and use of analgesics and antipyretics. Because of similar geographic distribution and symptoms, patients with suspected Zika virus infections should also be evaluated and managed for possible dengue or chikungunya virus infection. Aspirin and other non-steroidal anti-inflammatory drugs (NSAIDs) should be avoided until dengue can be ruled out to reduce the risk of hemorrhage. People infected with Zika, chikungunya, or dengue virus should be protected from further mosquito exposure during the first few days of illness to prevent other mosquitoes from becoming infected and reduce the risk of local transmission. As with diagnosis, treatment should only be performed by a trained physician.
Prevention

• There is no vaccine to prevent or medicine to treat Zika. Travelers can help protect themselves by preventing mosquito bites:

• Cover exposed skin by wearing light colored, long-sleeved shirts and long pants.

• Use EPA-registered insect repellents containing DEET, picaridin, oil of lemon eucalyptus (OLE), or IR3535. Always use as directed.

• Reduce breeding areas for mosquitoes by eliminating standing water in and around houses and yards. Keep mosquitoes out of a home by using screens on windows and doors, repairing any holes in screens, and using air conditioning when available.

• Use of physical barriers such as screens, closed doors and windows; and sleeping under mosquito nets when sleeping outdoors or in a room that is not well screened. If traveling to other countries, consider taking a bed net if you will not be staying in an air conditioned hotel.

• Pregnant women should be especially cautious when traveling to a region known to have Zika outbreaks as they can become infected in any trimester and while under further investigation, there is some limited evidence that Zika infections during pregnancy may result in microcephaly (incomplete brain development) for the baby. CDC currently recommends that pregnant women consider postponing travel to an area with ongoing Zika virus transmission.

• Pregnant and breastfeeding women can use all EPA-registered insect repellents, including DEET, according to the product label. Most repellents, including DEET, can be used on children aged >2 months. Use permethrin-treated clothing and gear (such as boots, pants, socks, and tents). Pre-treated clothing and gear is available, or can be sprayed with the appropriate repellents.

Guidelines are available from the WHO, NAHO and CDC to aid in better understanding of the disease and its prevention. These references from World Health Organization (WHO), Pan American Health Organization (PAHO) and Centers for Disease Control and Prevention (CDC) were used in the preparation of this document.


**Cleaning and Disinfection**

At this time, there are no EPA- or Health Canada-registered disinfectants against the Zika virus. Based on that, it is recommended to use a disinfectant that is effective against enveloped viruses. The following Diversey Care products are effective against enveloped viruses:

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<th>Product</th>
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<th>Avert™ Sporicidal Disinfectant Cleaner</th>
<th>Virex® Tb</th>
<th>Virex® Plus</th>
<th>Oxivir® Five 15</th>
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![Product Images](image1.png)

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<th>Virex® AHP5 (Concentrate, RTU &amp; Wipes)</th>
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