

Zika Virus Fact Sheet

The rapid spread of Zika virus through the Americas, together with the possible association of the infection with microcephaly and the Guillain-Barré syndrome have propelled this previously ignored virus into the limelight. Zika virus is transmitted to people through the bite of infected mosquitoes in the tropics and subtropics.

General Information

Virology

Zika virus has a lipid-containing envelope which makes it relatively fragile and also easy to kill by disinfectants. It is a member of the Flavivirus family, which also includes the yellow fever virus, dengue virus, Japanese encephalitis virus, and West Nile virus. Its single-stranded RNA genome is enclosed in a capsid coat surrounded by an envelope. The envelope helps in the attachment of the virus to the host cell to initiate infection. Antibodies against the envelope are likely important for protection against re-infections.



Clinical manifestations

Most individuals infected with the Zika virus experience mild or no symptoms. About 25% of those infected develop symptoms 2-10 days after infection, including rash, fever, joint pain, red eyes, and headache; fatalities are rare.

There are two types of serious long-term damage believed to be associated with Zika virus infection. The first is the development of the Guillain-Barré syndrome, a progressive weakening of the muscles due to peripheral nerve damage. The other is congenital microcephaly which, a rare neurological condition leading to abnormally small heads of babies born of Zika virus-infected mothers.

Epidemiology of transmission

Zika virus is transmitted among humans by the bites of infected mosquitoes. The virus has been found in various mosquitoes of the genus *Aedes*. The virus circulates in the blood of an infected host during infection and also for a few weeks after recovery. Therefore, transfusion of blood collected during this phase may be unsafe. There is also a risk of perinatal transmission as Zika virus is known to circulate in the mother's blood and infect the developing fetus causing microcephaly. The transient presence of virus in semen may pose a risk for sexual transmission.

Basic Prevention

There are currently no antiviral drugs or vaccines that can be used to treat or prevent infection with Zika virus. Mosquito control and avoiding mosquito bites are the best options for restricting Zika virus infection. Measures such as wearing clothes that cover the body, sleeping under a bed nets, eliminating mosquito breeding sites (standing water), and targeted use of insecticides, can be highly effective preventive strategies. Pregnant woman, and those likely to become pregnant, should avoid travelling to regions where the Zika virus is circulating. If you or your partner have suspected or confirmed Zika virus infection, practice safe sex.



Zika Virus Fact Sheet

Infection Prevention and Control Measures

Zika Virus Treatment

There are currently no specific antiviral drugs or vaccines against this virus. Symptomatic treatments include:

- Get plenty of rest
- Drink fluids to prevent dehydration
- Take medicine such as acetaminophen to reduce fever and pain
- Do not take aspirin or other non-steroidal anti-inflammatory drugs
- If you are taking medication for any another medical condition, talk to your healthcare provider

Environmental control measures

There is currently no Health Canada, EPA or FDA approved disinfectant efficacy test method against Zika virus. Consequently, disinfectant companies cannot make a Zika virus claim on their product labels. However, as an enveloped virus, products with proven efficacy against non-enveloped viruses would be expected to be effective. It is imperative to recognize that fomites and environmental surfaces do not play a role in Zika virus transmission as the virus is insect vector-borne. Therefore, the best infection control measure against the Zika virus is to protect yourself and your family from being bitten by mosquitoes.

Here's how:

- Wear long-sleeved shirts and long pants
- Stay in places with air conditioning or that use window and door screens to keep mosquitoes out
- Use EPA-registered insect repellents
- Treat clothing and gear with permethrin or purchase permethrin-treated items
- Sleep under a mosquito bed-net if you are overseas or outside and are not able to protect yourself from mosquito bites

References:

1. Zika Virus, World Health Organization, 2016. http://www.wpro.who.int/mediacentre/factsheets/fs_05182015_zika/en/
2. Zika Virus, Virology Blog, 2016. <http://www.virology.ws/2016/01/28/zika-virus/>
3. Microcephaly, Mayo Clinic. <http://www.mayoclinic.org/diseases-conditions/microcephaly/basics/definition/con-20034823>
4. Zika Virus Disease Q &A, CDC, 2016. <http://www.cdc.gov/zika/disease-qa.html>

