
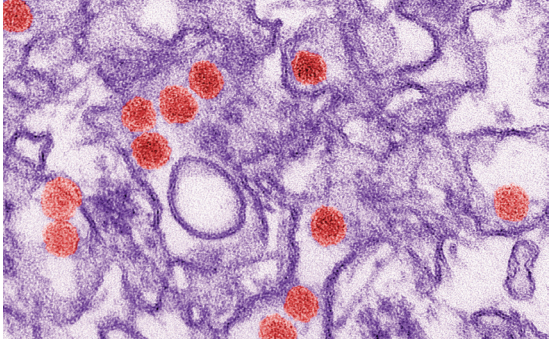


What You Should Know About Zika Virus

As of 3/1/2017

What is Zika virus and how does it spread?

Zika virus (ZIKV) was first discovered in 1947 in the Zika Forest of Uganda. ZIKV is a flavivirus similar to yellow fever, dengue, Japanese encephalitis, and West Nile virus. Prior to 2007, it had only been detected in central Africa and throughout Southeast Asia. However, in 2007, it was associated with a disease outbreak on Yap Island in the South Pacific, representing the first time it had spread outside of Asia. From there, it spread to South America with human cases first reported in 2014. ZIKV is transmitted by *Aedes* mosquitoes. In the Americas, it has only been linked to transmission by *Aedes aegypti*. *Ae. aegypti* is also responsible for the transmission of dengue virus, yellow fever virus, and chikungunya virus. Recently in Africa, the virus was detected in *Aedes albopictus* or the Asian tiger mosquito; hence, it is possible that *Ae. albopictus* could vector the virus in the Americas.

Symptoms of Zika Infection

- Most people who contract the Zika virus show no symptoms of the infection.
- When symptoms occur, they typically begin with a mild headache and fever.
- Within a day or two, a maculopapular rash may appear on parts of the body.
- Following the rash, most experience continued fever, malaise and body aches.
- Other symptoms can include diarrhea, constipation, abdominal pain, and dizziness.

Treatment of Zika Infection

- Currently, there is no vaccine or cure for ZIKV.
- Symptomatic treatment includes rest and acetaminophen to relieve fever.
- Patients should also drink plenty of fluids if diagnosed.
- If anyone has recently traveled to a known endemic area and are displaying any of the symptoms of Zika infection, they should consult their physician immediately.

Concerns with Pregnancy and Perinatal Infections

If a pregnant woman is infected with Zika virus, it may result in microcephaly, a birth defect causing underdevelopment of the head and brain in newborn children. The CDC has officially linked Zika virus to microcephaly; however, they are waiting for additional studies to confirm if cases of Guillain-Barré syndrome can also be linked to the virus. The World Health Organization has announced their belief that the virus can contribute to both diseases.

Know Your *Aedes* Mosquitoes

Aedes aegypti, the yellow fever mosquito, is characterized by a silvery-white "lyre-shaped" pattern of scales on its thorax. It is a peridomestic species found not far from human dwellings. They are primarily early morning or late afternoon feeders, but females can also take a bloodmeal at night under artificial illumination. Typically, *Ae. aegypti* fly only a few hundred yards from their breeding sites.

Aedes albopictus, the Asian tiger mosquito, is a black mosquito with distinctive silvery-white scales and a white "racing stripe" on its thorax. First reported in the U.S. in 1983, this species has become one of the most challenging mosquitoes to control and, unlike most mosquitoes, actively bites during full sunlight. Beyond being a daytime biting nuisance, the Asian tiger mosquito is also capable of transmitting several diseases, including dengue, West Nile virus, chikungunya, and several forms of encephalitis. The presence of this invasive species has become a major public health concern in many locations across the country.

Both species utilize containers to breed, and educating the public on how to eliminate their backyard larval habitats is one key to keeping these invaders under control. Larvae can be found in a variety of artificial containers, including buckets, tires, cans, and flower pots. Homeowners should also inspect rain gutters for clogs, gardening equipment, and backyard children's toys.

Zika and the United States

A portion of the United States is at a higher risk because of climate and the presence of *Aedes* mosquitoes.

Chart contains provisional data reported to ArboNET and located on the CDC website.				
Jan. 1, 2015 – Mar. 15, 2017	Total Cases	Local Cases	Travel-Related Cases	Acquired via Other Routes*
U.S. States	5,139	222	4,842	75
U.S. Territories	38,188	38,041	147	0

*Sexual transmission, congenital infection, laboratory transmission, person-to-person unknown route.

United States Areas of Risk

Approximate distribution of *Aedes aegypti* in the U.S.**

Approximate distribution of *Aedes albopictus* in the U.S.**

**These maps are courtesy of the Centers for Disease Control and Prevention (CDC) and were developed using currently available information. *Aedes aegypti* and *Ae. albopictus* populations may be detected in areas not shaded, and may not be consistently found in all shaded areas.

Controlling *Aedes aegypti/albopictus* and Zika virus: How VDCI can help

VDCI recommends a 4-pronged approach for an effective mosquito control strategy designed to target all phases of the mosquito's life cycle. **It is especially important to take action in communities where a Zika virus case has been imported by humans. Acting early may prevent local transmission of the disease in mosquitoes and further spread of the disease.**

1 Public Education

Community understanding of how to properly eliminate mosquito breeding habitat and take personal protective measures is critical. Furthermore, distribution of educational pieces is important for treating symptoms and aids public health officials in identifying ZIKV problem areas.

2 Surveillance

In order to understand the risk and address the threat appropriately, it is critical to determine the mosquito distribution, density, and species composition throughout the target area. Surveillance will also provide direct evidence of an increased transmission risk of Zika virus.

3 Larval Mosquito Control

When mosquito larvae are detected in an area, trained and experienced ground crews reduce breeding habitat when possible and preferentially apply Bacillus thuringiensis var israelensis (Bti) to remaining areas of standing water, stagnant pools, and water-holding containers. Aerial and ground application of larvicide via ULV equipment can provide control in hard to reach container habitats.

4 Adult Mosquito Control

VDCI recommends the deployment of two-person teams to conduct targeted ULV applications combined with residual "barrier" applications via backpack applicators to mosquito harborage areas near homes and other structures. In addition, when the disease risk warrants it, truck and aerial ULV applications should be utilized to reduce the adult mosquito population. When combined with our larvicide efforts, these methods have proven highly effective at significantly reducing local populations of the target mosquitoes.

For more information on mosquito surveillance, disease testing or adult control, contact Vector Disease Control International (VDCI) at **1-800-413-4445** and we will help you get started immediately.

Vector Disease Control International | 1.800.413.4445 | vdci.net