

Zika Virus Update

How much risk is there for us in the United States?

By: Patricia Hottel, BCE

Zika virus has received an enormous amount of attention in the press. Although there is potential for people to get the virus when travelling to certain active Zika countries, it has not been found yet in mosquito populations in the United States. In addition, the main vector mosquito for the virus is not found in all states. If U.S. mosquitoes do become carriers for the disease, there may be limited geographic locations at high risk. So, although there is great concern about the virus, we need to keep the risks in the proper perspective. This is especially true for residents in Midwestern U.S.



THE FACTS

- The current major mosquito carrier for Zika virus is considered *Aedes aegypti*. This mosquito is found in many countries and is the major carrier for other diseases like dengue and chikungunya. It is particularly effective in being able to transmit diseases. In the continental United States, it is primarily found in the southern states. Distribution maps show it has been found as far north as southern Indiana.
- A second mosquito, the Asian tiger mosquito is a close relative and there is concern that perhaps this mosquito has the potential to vector the disease. The mosquito has a much broader range of distribution throughout the United States. Data has not shown this mosquito to vector this disease yet. Researchers are also looking at other mosquitoes in the Culex group as potential vectors. Again, some of these mosquitoes may be more common and have broader ranges than *Aedes aegypti* in the U.S. but have not been confirmed vectors. These mosquitoes tend to have less human interaction than *Aedes aegypti*.
- U.S. residents who have contracted the disease, have travelled to countries where mosquitoes have tested positive for the Zika.
- There is evidence that in addition to getting the disease through the bite of an infected mosquito, the virus can be transmitted through sexual contact and blood transfusions.
- Most individuals who contract the disease will either show no symptoms or relatively mild symptoms which may last several days to one week. These symptoms may include: fever, rash, joint pain and conjunctivitis or reddening of the eyes. Hospitalization is rare. There have been fatalities but again rare. A birth defect call microcephaly is of major concern.

WHAT CAN YOU DO?

- All individuals should take precautions when travelling to countries where Zika is found in mosquito populations and are experience Zika outbreaks. This includes countries in the Caribbean, South America, Central America and Mexico.
- If you travel to a country under Zika virus alert, take steps to avoid being bitten by mosquitoes when you return to the U.S. even if you do not feel sick. This can help prevent spreading the disease to mosquito populations here in the states.
- Pregnant women should consult with their physician and consider avoiding travel to countries with active Zika outbreaks.

GENERAL GOOD PRACTICES FOR MOSQUITO BITE PREVENTION AND CONTROL

- Mosquitoes carry diseases other than Zika and it always good to take precautions including the use of repellents like DEET. Long sleeved shirts and pants can also act as deterrents as are modifying outdoor activities during prime mosquito biting times. The house mosquito, *Culex pipiens* in general bites at dusk and night. It is the carrier of West Nile virus. Modifying outdoor activity during these times of the day, can reduce the potential for bites. *Aedes aegypti* is a daytime biter.
- Reduce mosquito breeding sites around your property. Mosquitoes will breed in standing water. Both the mosquito responsible for Zika virus transmission and the mosquito vector for west Nile virus have a preference for breeding in containers such as catch basins, flower pots rain barrels and tire piles. Empty containers which may collect water like flower pots, kid toys, and bird baths at least once a week. Keep rain gutters clean and free of organic material which might allow water to collect in the gutter.
- Keep mosquitoes out of structures by keeping unscreened doors closed, checking door and window screens for proper fit and rips. Repair screens as needed. Many public health experts credit the low incidence of mosquito borne diseases in the United States to the use of screens, air conditioning and good mosquito exclusion practices.
- Use mosquito larvicides to treat areas of standing water that cannot be emptied such a ditches, ruts in soil and ponds. Larvicides target the immature larval stage that is found living in standing, undisturbed water.
- Treat areas of high vegetation with residual insecticides where adult mosquitoes may rest during the day. Only the female mosquito feeds on blood. Males are nectar feeders and both will be found resting in dense vegetation out of the sun during the day.

What we do know is that more research regarding Zika is needed. Researchers are studying the disease and the potential for multiple species of mosquitoes to carry the disease. We really are not sure how much at risk we are at in the U.S. Following good mosquito management techniques, prevention and personal protection is always advised. An added level of precaution is needed in areas where Zika is active whether inside or outside the U.S.

About the Author

Patricia Hottel is technical director at McCloud Services and has over 35 years of pest management industry experience. Hottel is a board certified entomologist and a member of the National Pest Management Association's Commercial and Fumigation Committees. She is also a former member of the board of directors of the National Pest Management Association (NPMA) and the Illinois Pest Control Association (IPCA). She has served on the board of directors for the professional pest management fraternity, Pi Chi Omega, is a past chair and current member of the Copesan Technical Committee, is a past chair of NPMA's exam review board, and the NPMA Technical Committee. Hottel holds a bachelor's degree in entomology from the University of Georgia and a master's degree in instructional technology from the University of Central Missouri.

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