

West Nile Virus

Viruses and bacteria can cause encephalitis (an inflammation of the brain) in humans and other animals. West Nile encephalitis is caused by West Nile virus which is commonly found in Africa, West and Central Asia, and the Middle East. In 1999 and 2000 it caused an outbreak of human encephalitis around New York City. It is not known how West Nile Virus was introduced to the United States.

Natural Transmission

Mosquitoes become infected with the virus when they feed on infected birds that carry the virus in their blood. Mosquitoes can then transmit West Nile Virus to humans and other animals while biting them to take blood. West Nile Virus is NOT transmitted from person to person or from animal to person

Human Symptoms

Most people infected with West Nile Virus do not show any signs of illness. However, some individuals may have “flu-like” symptoms 3 to 15 days after being bitten by an infected mosquito. Symptoms include fever, headache, body-aches, fatigue, and sometimes skin rash, and swollen lymph glands. More severe infection is less common and may be marked by headache, high fever, stiff neck, disorientation, coma, convulsions, muscle weakness, and paralysis. In a few cases, mostly among the elderly, death may occur. Most people recover from infection completely within two weeks.

Risk Factor

Even in areas where mosquitoes do carry the virus, very few mosquitoes (less than 1%) are infected. Less than 1% of people who become infected will get severely ill. Persons older than 50 years of age have the highest risk of severe disease but the chances that you will be bitten by an infected mosquito and become severely ill are extremely small.

Risk Factor (cont...)

If you or your family members develop symptoms such as high fever, confusion, muscle weakness, and severe headaches, you should contact your health provider immediately.

How To Prevent Infection

There is not specific treatment or known vaccine available for humans however, you can reduce the risk of becoming infected in these ways:

- Avoid shaded areas where mosquitoes may be present.
- Limit evening outdoor activity.
- Wear protective clothing such as long-sleeved shirts and long pants.
- Apply insect repellent to exposed skin and clothing. Effective repellents will contain DEET (N,N-diethyl-m-toluamide). Be sure to follow the manufacturer’s directions for use.
- Eliminate standing water in your yard which can be mosquito breeding areas.
- Maintain window and door screening to keep mosquitoes out of buildings.

Breeding Areas for Mosquitoes

Different species of mosquitoes prefer different types of standing water in which to lay their eggs. The presence of beneficial predators such as fish and dragonfly nymphs in permanent ponds, lakes and streams usually keep these bodies of water relatively free of mosquito larvae. However, portions of marshes, swamps, clogged ditches and temporary pools and puddles are all prolific mosquito breeding sites. Other sites in which some species lay their eggs include:

- Tree holes
- Old tires
- Buckets
- Toys
- Potted plant trays and saucers
- Plastic covers or tarpaulins
- Places as small as bottle caps

Remove Mosquito Habitats

An important part of mosquito control around your home is making sure that mosquitoes don’t have a place to lay their eggs. Because mosquitoes need water for two stages of their life cycle, it’s important to monitor standing water sources.

- Get rid of standing water in rain gutters, old tires, buckets, plastic covers, toys or any other container where mosquitoes can breed.
- Empty and change the water in bird baths, fountains, wading pools, rain barrels and potted plant trays at least once a week to eliminate potential mosquito habitats.
- Drain temporary pools of water or fill with dirt.
- Keep swimming pool water treated and circulating.

Special Note: The Culex species of mosquitoes are most frequently found in pools, ditches and ponds and play an active role in the transmission of the West Nile virus. They are most active at dusk, especially during August and September.

Zika Virus

The spread of the Zika virus is a mosquito-borne virus that has been associated with birth defects and a potentially severe neurological disorder in adults. Currently found in at least 33 countries, the virus causes relatively mild symptoms including fever, rash, joint pain and conjunctivitis. It is suspected of causing microcephaly and developmental problems in babies and in some adults, Guillain-Barre syndrome, a neurological disorder that can cause paralysis. There is no vaccine for the Zika virus. It is treated by rest. The **Centers for Disease Control and Prevention** has noted 52 travel-associated cases of the Zika virus in the United States as of February 10, 2016. It has advised pregnant women and those trying to conceive to delay traveling to areas where the Zika virus is spreading and to take precautions to avoid mosquito bites.

Thus far, Zika fever has been a relatively mild disease of limited scope, with only one in five persons developing symptoms, with no fatalities, but its true potential as a viral agent of disease is unknown.

Zika Virus (cont....)

As of February 2016, three reported cases indicate that Zika virus could possibly be sexually transmitted. It is unknown whether women can transmit Zika virus to their sexual partners. As of February 2016, the CDC recommends that men “who reside in or have traveled to an area of active Zika virus transmission who have a pregnant partner should abstain from sexual activity or consistently and correctly use condoms during sex for the duration of the pregnancy.” Men who reside in or have traveled to an area of active Zika virus transmission and their non-pregnant sex partners “might consider” abstinence or condom use.



For More Information Contact:

Macomb County Health Department
43525 Elizabeth Road
Mt. Clemens, MI 48043

Website:
www.michigan.gov/emergingdiseases/0,4579,7-186-76711,76752---,00.html

Centers for Disease Control and Prevention
P.O. Box 2087
Fort Collins, CO 80522
888-668-0869

Website:
www.cdc.gov/ncidod/dvbid/westnile/q&a.htm
www.cdc.gov/westnile/index.html



*For information on
cross connections, contact the
Water Division*

Tom Pawelkowski, Superintendent
David Koss, Asst. Superintendent

One City Square
Warren, MI 48093
Phone: 586-759-9200
Fax: 586-759-9249
www.cityofwarren.org

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