



Central Michigan District Health Department

Promoting Healthy Families, Healthy Communities



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West Nile Virus

What is West Nile virus (WNV) encephalitis?

Viruses and bacteria can cause encephalitis (an inflammation of the brain) in humans and animals. WNV encephalitis is an infection of the brain caused by WNV, a close relative of St. Louis encephalitis virus. People get WNV encephalitis from the bite of a mosquito that is infected with WNV. WNV is NOT spread from person to person.

How does the WNV spread?

Mosquitoes become infected with WNV when they feed on infected birds that carry the virus in their blood. After 10 to 14 days, the mosquito's salivary glands become infected. The infected mosquitoes can then transmit WNV to humans and other animals while biting them to take blood. During blood feeding, the mosquito injects the virus into the animal or human, where it multiplies and may cause illness.

What are the symptoms of infection?

Most people infected with WNV have no symptoms of illness, but some may become ill 3 to 15 days after the bite of an infected mosquito. Studies have shown that about 1 in 4 infected persons will have mild illness with fever, headache, and body aches, sometimes with skin rash and swollen lymph glands. More severe infection (encephalitis) is less common and may be marked by headache, high fever, stiff neck, unconsciousness, disorientation, coma, tremors, convulsions, muscle weakness, and paralysis. In a few cases, mostly among the elderly, death can occur. ***Persons with severe or unusual headaches should seek medical care as soon as possible.***

What is the risk of getting WNV encephalitis?

The risk of getting WNV encephalitis is limited to persons in areas where virus activity occurs and is higher in persons 50 years of age and older. Overall, the risk of WNV is low. However, we recommend that everyone take precautions to prevent mosquito bites.

Is there treatment for WNV?

There is not specific treatment for WNV encephalitis. In more severe cases, intensive supportive therapy is indicated: hospitalization, intravenous (IV) fluids, airway management, respiratory support (ventilator) if needed, prevention of secondary infections (pneumonia, urinary tract, etc.), and good nursing care.

How do I protect myself from WNV?

There is no human vaccine yet available for WNV encephalitis. However, you can reduce the risk of becoming infected in these ways:

- Avoid activities in areas where large numbers of mosquitoes are present.

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- Wear long sleeves when outdoors, especially at dusk and at dawn.
- Apply insect repellent to exposed skin. An effective repellent will contain the active ingredient DEET. When applying DEET to young children, spray DEET on a cloth, and then wipe it on a child's skin so that the eyes and hands are not sprayed.
- Spray clothing with repellents containing DEET because mosquitoes may bite through thin clothing. Whenever you use an insecticide or insect repellent, be sure to read and follow the label for use. NOTE: Vitamin B and "ultrasonic" devices are NOT effective in preventing mosquito bites.
- In addition to DEET products, Picaridin or Oil of Lemon Eucalyptus have become EPA approved and can be used.
- Drain standing water in your yard or cover with sand. Empty water from potential mosquito breeding sites, including flowerpots, pet bowls, clogged rain gutters, swimming pool covers, discarded tires, buckets, cans, and similar items in which mosquitoes can lay eggs.
- Empty bird baths every week.
- Make sure roof gutters are clear and water can drain easily.
- Make sure your window screens are kept in good repair and that all your doors are shut tightly.
- Keep your lawn mowed.
- Reduce time outdoors at dusk, especially during mosquito season.

What do I do if I find a dead or sick bird?

WNV is most found in crows, blue jays, and starlings. If you do find one of these dead birds, please leave it alone. If you decide to dispose of the dead bird, use gloves to double-bag the bird and throw it in your trash outdoors. Report dead birds at <https://www2.dnr.state.mi.us/ORS/Survey/4>.

By reporting dead birds, you can help experts determine when WNV risk is increasing. A rapid rise in dead bird numbers precedes an increase in risk to humans.

Why aren't you testing dead birds anymore?

We know that WNV is present in Michigan. We feel our citizens are best served if we try to prevent people from becoming infected. However, State of Michigan is still monitoring the numbers of dead birds and mammals through a database.