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What is West Nile virus (WNV)?

WNV is an arboviral (arthropod-borne virus) disease that was first discovered in the West Nile Region of Africa and is transmitted by mosquitoes. WNV became established in the United States in 1999. In Virginia, WNV is the most common mosquito-borne infection and occurs during the mid-summer months when mosquitoes are most active. Other mosquito-borne arboviruses in Virginia include La Crosse encephalitis virus, St. Louis encephalitis virus, and eastern equine encephalitis virus.

Who gets WNV infections?

Anyone can become infected with WNV and suffer a severe illness, but persons older than 50 years of age are far more susceptible to illness and account for most of the serious illness cases.

What are the symptoms of WNV infection?

Most people infected with WNV do not have any symptoms. When WNV develops into illness, symptoms can include a mild fever, headache, body aches, vomiting, or diarrhea. Serious illness is rare, but more severe symptoms can occur including high fever, severe headache, nausea and vomiting, stiff neck, muscle weakness, confusion, disorientation, paralysis, seizures, or coma. Death occurs in about 10% of persons with serious illness.

How soon after exposure to WNV do symptoms occur?

Symptoms may occur 3 to 14 days after exposure to an infective mosquito.

How are WNV infections spread?

WNV is mostly spread to people by the bite of infected mosquitoes. Mosquitoes become infected when they feed on infected birds, and then spread WNV to people and animals by biting them. Among the 60 species of mosquitoes that occur in Virginia, there are only five species that potentially transmit WNV. The most important species are the northern house mosquito (*Culex pipiens*), and based on extensive mosquito testing data, the Asian tiger mosquito (*Aedes albopictus*) can also be a WNV vector. Northern house mosquito populations may sometimes develop infection rates of as high as 5%, but these mosquitoes primarily bite birds. Asian tiger mosquito populations typically have very low infection rates (less than 0.01%) but they frequently bite people. Migrating birds may carry WNV from one region to another, but people are unlikely to become infected with WNV from contact with infected birds. Transmission between people does not occur.

Does past infection with WNV make a person immune?

Yes, a past infection with WNV is thought to provide a life-long immunity to the virus.

What is the treatment for a WNV infection?

There is no vaccine or specific treatment available for WNV infections. Non-prescription pain relievers can help with symptoms during minor illness. Hospitalization and supportive care (intravenous fluids, nursing care) are often needed during severe illness.

How can WNV infections be prevented?

Avoid mosquito bites by using insect repellents when outdoors in mosquito-infested areas. Home doors and windows should be well screened to prevent entry of mosquitoes. Eliminate mosquito breeding sites from yards by removing old tires, buckets, tubs, toys and other items that hold rainwater. Dump ornamental containers (e.g., bird baths) on a weekly basis, or use mosquito larvicide pellets or dunks periodically to treat larger containers (e.g., ornamental ponds, stagnant swimming pools). Communities or municipalities may establish mosquito surveillance and control programs to reduce mosquito populations by spraying insecticides, treating storm sewers and puddles with larvicides, and draining stagnant water from ditches.

How can I learn more about WNV?

- If you have concerns about WNV, contact your healthcare provider.
- Call your local health department. A directory of local health departments is located at the [VDH Local Health Districts page](#).
- Visit the Centers for Disease Control and Prevention website at [the CDC page on West Nile virus](#).

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