



West Nile Virus Information Sheet

NORAD-USNORTHCOM/SG

What is West Nile Virus ?

West Nile Virus is a flavivirus commonly found in Africa, West Asia, and the Middle East. It is closely related to St. Louis encephalitis virus which is also found in the United States. The virus can infect humans, birds, mosquitoes, horses and some other mammals. West Nile Fever is a mild disease in people, characterized by flu-like symptoms. West Nile fever typically lasts only a few days and does not appear to cause any long-term health effects. More severe disease due to a person being infected with West Nile virus can be West Nile encephalitis, West Nile meningitis or West Nile meningoencephalitis.

Why are we concerned with West Nile Virus as a bioweapon?

Currently it is not weaponized but could serve as an incapacitating agent.

Does this disease occur naturally?

Yes. West Nile virus has been commonly found in humans and birds and other vertebrates in Africa, Eastern Europe, West Asia, and the Middle East, but until 1999 had not previously been documented in the Western Hemisphere. It is not known from where the U.S. virus originated, but it is most closely related genetically to strains found in the Middle East.

Are there different forms of this disease? If yes, how are they different?

West Nile Fever is a mild disease in people, characterized by flu-like symptoms. West Nile fever typically lasts only a few days and does not appear to cause any long-term health effects. More severe disease due to a person being infected with West Nile virus can be West Nile encephalitis, West Nile meningitis or West Nile meningoencephalitis. Encephalitis refers to an inflammation of the brain, meningitis is an inflammation of the membrane around the brain and the spinal cord, and meningoencephalitis refers to inflammation of the brain and the membrane surrounding it.

Is the disease seasonal in its occurrence?

In the temperate zone of the world (i.e., between latitudes 23.5° and 66.5° north and south), West Nile encephalitis cases occur primarily in the late summer or early fall. In the southern climates where temperatures are milder, West Nile virus can be transmitted year round.

Where is the disease currently established?

West Nile virus has been commonly found in humans and birds and other vertebrates in Africa, Eastern Europe, West Asia, and the Middle East, but until 1999 had not previously been documented in the Western Hemisphere. It is not known how long it has been in the U.S., but CDC scientists believe the virus has probably been in the eastern U.S. since the early summer of 1999, possibly longer. The continued expansion of West Nile virus in the United States indicates that it is permanently established in the Western Hemisphere.

How does it spread?

The main route of human infection with West Nile virus is through the bite of an infected mosquito. Mosquitoes become infected when they feed on infected birds, which may circulate the virus in their blood for a few days. The virus eventually gets into the mosquito's salivary glands. During later blood meals (when mosquitoes bite), the virus may be injected into humans and animals, where it can multiply and possibly cause illness. Additional routes of human infection became apparent during the 2002 West Nile epidemic. It is important to note that these other methods of transmission represent a very small proportion of cases. Investigations have identified WNV transmission through transplanted organs and through blood transfusions. There is one reported case of transplacental (mother-to-child) WNV transmission. There is also one reported case of transmission of WNV through breast-milk. Although transmission of WNV and similar viruses to laboratory workers is not a new phenomenon, two recent cases of WNV infection of laboratory workers have been reported.

What is the risk of catching West Nile Virus?

Low. West Nile encephalitis is NOT transmitted from person-to-person. For example, you cannot get West Nile virus from touching or kissing a person who has the disease, or from a health care worker who has treated someone with the disease. All residents of areas where virus activity has been identified are at risk of getting West Nile encephalitis; persons over 50 years of age have the highest risk of severe disease. It is unknown if immunocompromised persons are at increased risk for WNV disease.

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What are the symptoms of West Nile Virus?

Most people who are infected with the West Nile virus will not have any type of illness. It is estimated that 20% of the people who become infected will develop West Nile fever: mild symptoms, including fever, headache, and body aches, occasionally with a skin rash on the trunk of the body and swollen lymph glands. The symptoms of severe infection (West Nile encephalitis or meningitis) include headache, high fever, neck stiffness, stupor, disorientation, coma, tremors, convulsions, muscle weakness, and paralysis. It is estimated that 1 in 150 persons infected with the West Nile virus will develop a more severe form of disease.

How soon do infected people get sick?

Usually 3 to 14 days.

How is West Nile Virus diagnosed?

Your physician will first take a medical history to assess your risk for West Nile virus. People who live in or traveled to areas where West Nile virus activity has been identified are at risk of getting West Nile encephalitis; persons older than 50 years of age have the highest risk of severe disease. If you are determined to be at high risk and have symptoms of West Nile encephalitis, your provider will draw a blood sample and send it to a commercial or public health laboratory for confirmation.

Is a vaccine available to prevent West Nile Virus infection?

No.

Can West Nile Virus be treated?

There is no specific treatment for West Nile virus infection. In more severe cases, intensive supportive therapy is indicated, often involving hospitalization, intravenous fluids, airway management, respiratory support (ventilator), prevention of secondary infections (pneumonia, urinary tract, etc.), and good nursing care.

Where will the medications/immunizations to treat infected individuals come from?

Regionally dependent resources based on national stockpiles when they become available.

Are there contraindications to vaccine, antibiotic therapy, other treatments (ie. Pregnancy, immunosuppression, etc)?

Not applicable as there is no vaccine, antibiotic, or specific treatment.

How long can West Nile Virus exist in the environment?

West Nile can continue in the environment as long as the vector chain is unbroken. One of the species of mosquitos found to carry West Nile virus is the *Culex* species which survive through the winter, or "overwinter," in the adult stage. That the virus survived along with the mosquitoes was documented by the widespread transmission the summer of 2000.

Are there ways to test for West Nile Virus in the environment?

No field expedient methods are available for testing. Samples must be sent to laboratory for testing.

What should someone do if they suspect they or others have been exposed to West Nile Virus?

Contact your health care provider if you have concerns about your health. If you or your family members develop symptoms such as high fever, confusion, muscle weakness, and severe headaches, you should see your doctor immediately.

What can I do to reduce the risk of getting West Nile Virus or giving it to someone else?

Protect yourself from mosquito bites at all times. Treat skin and clothing with repellent. Handle any dead birds or animals using gloves or plastic. People have not been known to transmit the infection to others, so infected persons do not need to be isolated.

Reference: www.bt.cdc.gov

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