

Fact sheet

West Nile virus

What is West Nile virus?

West Nile virus is carried by some mosquito species. It can cause disease (West Nile infection) in humans, birds, horses, and some other mammals. Most cases of West Nile virus in the U.S. occur between June and September.

How is West Nile virus spread?

West Nile virus is mainly spread to people through the bite of an infected mosquito. People can also be infected through blood transfusions, but this is rare. Blood banks screen donors to make sure the blood does not contain West Nile virus. You can't get infected from casual contact with an infected person or animal.

What are the signs and symptoms of West Nile virus?

Most people infected with West Nile virus either don't develop symptoms or have only minor ones. These minor symptoms include:

- fever
- mild headache
- body aches
- joint pains
- nausea
- vomiting

Mild signs and symptoms of a West Nile virus infection generally go away on their own, but severe symptoms require immediate attention.

These severe symptoms include:

- severe headache
- fever
- feeling disoriented
- sudden weakness.

How long after infection do symptoms appear?

Symptoms can appear anywhere from 2 to 14 days after exposure. Symptoms can last several weeks in people who have weakened immune systems.

Who is most at risk?

Anyone who is bitten by an infected mosquito can get the disease, but some people are more at risk for severe illness from West Nile virus.

People at risk for severe illness include:

- People older than age 65
- People who have weakened immune systems
- People who have:
 - cancer
 - diabetes
 - high blood pressure
 - kidney disease
 - received an organ transplant

What type of health problems are caused by West Nile virus?

Some people develop a life-threatening illness that includes inflammation of the spinal cord or brain.

Symptoms of severe illness include:

- high fever
- headache
- neck stiffness
- inability to be alert and responsive (stupor)
- feeling disoriented
- coma
- tremors
- convulsions
- muscle weakness
- vision loss
- numbness
- paralysis

Some effects to the central nervous system might be permanent.

About 1 out of 10 people who develop severe illness affecting the central nervous system die.

How is West Nile virus diagnosed?

Your healthcare provider can order tests to look for West Nile virus infection.

How is West Nile virus treated?

There is no vaccine or specific antiviral treatments for West Nile virus infection in humans. Over-the-counter pain relievers can be used to reduce fever and relieve some symptoms. In severe cases, patients often need to be hospitalized to receive supportive treatment. If you think you or a family member might have West Nile virus disease, talk with your healthcare provider.

How does West Nile virus affect animals?

The virus can infect animals, including birds and horses. In birds, the virus can cause

severe disease and can be fatal. Wild birds are sometimes found dead or acting strangely from the disease.

West Nile virus can cause severe disease and death in horses. Vaccines are available for use in horses, but not for people.

How can West Nile virus be prevented?

The best way to prevent West Nile virus and other mosquito-borne illnesses is to avoid exposure to mosquitoes. Mosquitoes breed in standing water. You can reduce the number of mosquitoes if you get rid of standing water around your home:

- unclog roof gutters
- empty unused swimming pools or empty standing water on pool covers
- change water in birdbaths and pet bowls regularly
- remove old tires or unused containers that might hold water and serve as a breeding place for mosquitoes
- clean and stock garden ponds with mosquito-eating fish or mosquito dunks

To reduce your exposure to mosquitoes:

- install or repair screens on windows and doors
- avoid unnecessary outdoor activity when mosquitoes are most active, such as at dawn, dusk, and early evening
- wear long-sleeved shirts and long pants when outdoors
- apply mosquito repellent containing an Environmental Protection Agency (EPA)-registered insect repellent to your skin
 - Choose the concentration based on the hours of protection you need. The higher the percentage

(concentration) of the active ingredient, the longer the repellent will work. Follow the directions on the package and pay special attention to recommendations for use on children.

- Do not use mosquito repellent on children younger than 2 months old. You can protect infants and small children outdoors when you:
 - dress them in clothing that covers their arms and legs
 - cover strollers and baby carriers with mosquito netting
- Treat items such as boots, pants, socks, and tents with permethrin or buy permethrin-treated clothing and gear.

Where can I get more information?

- Your personal healthcare provider
- Your [local health department](#)
- [Utah Department of Health and Human Services](#)
- [Centers for Disease Control and Prevention \(CDC\)](#)

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