

# West Nile virus: What you need to know

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Female Culex mosquito. Credit: CDC

The Centers for Disease Control and Prevention (CDC) have [confirmed](#) reports of West Nile virus in 10 states. The bite of an infected mosquito most commonly spreads the virus.

"West Nile virus is the leading cause of mosquito-borne illness in the U.S.," says Dr. Bobbi Pritt, director of the Clinical Parasitology Laboratory at Mayo Clinic.

It's a flavivirus —a specific type of RNA virus that can infect humans, birds and horses.

"West Nile virus is transmitted predominantly through the bite of an infected mosquito. Less commonly, it can be transmitted through other means, like blood transfusion," says Dr. Pritt. "The mosquito that's most commonly implicated is the Culex mosquito, different from the Anopheles mosquito that transmits malaria."

## Symptoms

Most people infected with the West Nile virus do not experience any symptoms though some may develop a fever, headache, body aches, joint pains, vomiting and rash. While most people fully recover, some may experience ongoing weakness and fatigue for months.

Severe symptoms from West Nile virus are uncommon though people over 60 face a higher risk of severe illness if infected. Those with [medical conditions](#), such as cancer, diabetes, hypertension or [kidney disease](#), or who have undergone organ transplants, also are at an increased risk of serious health complications due to the virus.

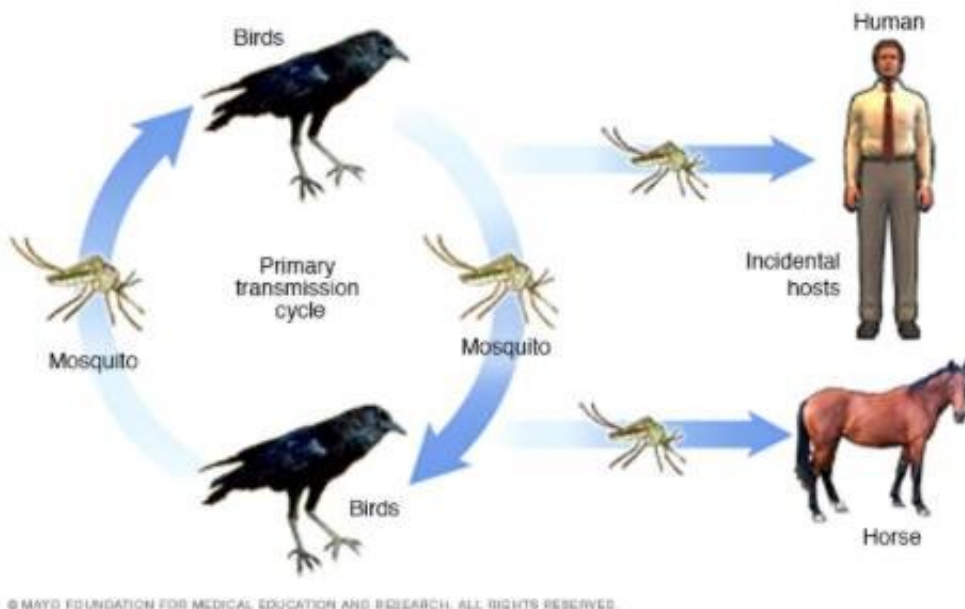
Severe symptoms affecting the nervous system develop in about 1 in 150 infected people, [according](#) to the CDC. Severe symptoms may include inflammation of the brain, known as encephalitis, or of the membranes surrounding the brain and spinal cord, known as meningitis.

Seek [medical attention](#) immediately if you have signs or symptoms of a serious infection, such as severe headaches, a stiff neck, disorientation or confusion. Hospitalization is usually necessary for a serious infection.

## Testing and diagnosis

"West Nile virus infection is usually diagnosed by detecting antibodies in a patient's blood sample. It's a type of test that we call serology," says Dr. Pritt. "Mayo Clinic Laboratories also offers a [polymerase chain reaction](#), or PCR, test that's particularly good for the first day to several days of infection. Usually, PCR would be combined with serology so that you don't miss infection."

## West Nile virus transmission cycle



When a mosquito bites an infected bird, the virus enters the mosquito's bloodstream and eventually moves into its salivary glands. When an infected mosquito bites an animal or a human (host), the virus is passed into the host's bloodstream, where it may cause serious illness.

Credit: Mayo Clinic

## Prevention

Mosquitoes can transmit a number of harmful pathogens, says Dr. Pritt, including the West Nile virus and malaria. The best way to avoid mosquito-borne illness is to avoid mosquitoes.

Consider these tips:

- Use [insect repellent](#) with DEET, picaridin or oil of lemon eucalyptus.
- Wear permethrin-treated clothing while outdoors or in the woods.
- Empty standing water in outdoor areas, including pet bowls and rain barrels.
- Install screens in windows.

"There are also measures people can take to control mosquito populations around their home," she says. "It's important to know that mosquitoes breed and lay their eggs in bodies of water. One of those [preventive measures](#) is to remove standing bodies of water around the house, such as bird baths and other containers that may collect rainwater, for example. Then you could also pay to have the outside of your home professionally treated."

Provided by Mayo Clinic

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