

West Nile Virus Infection

West Nile virus infection is a relatively new disease in the United States. The virus is spread by mosquito bites, so it generally occurs only in the summertime. Although West Nile virus can cause serious disease, it rarely does so in children. Steps to prevent mosquito bites will reduce your family's risk of infection.

What is West Nile virus?

In the last few years, outbreaks of West Nile virus have occurred each summer in the United States. The West Nile virus is one of a group of viruses called *arboviruses* that are passed on by mosquitoes or ticks. (Other diseases in this group include Western equine encephalitis, St. Louis encephalitis, and Colorado tick fever.)

West Nile virus can infect the central nervous system (brain and spinal cord) although that is uncommon. When that does happen, it usually involves older adults and is rare in children. When infection does involve the nervous system, it causes *encephalitis* (infection within the brain), *meningitis* (infection of tissue that covers the brain), or paralysis of certain muscles of the body.

Because West Nile virus is spread by mosquitoes, some commonsense measures to avoid mosquito bites can reduce your child's risk of disease. The same steps will also protect against other diseases spread by mosquitoes.

What does it look like?

- About 80% of people infected with West Nile virus have no symptoms.
- About 20% of people develop mild symptoms of West Nile virus. Symptoms start suddenly, including fever, headache and muscle aches, nausea and vomiting, a rash, and swollen lymph glands. The symptoms may last for as short a time as a few days, although some people don't get better for several weeks.
- Symptoms of encephalitis include confusion, headache, seizures, and behavior changes. Meningitis symptoms include headache, stiff neck, and vomiting. Paralysis means not being able to move certain muscle groups, like arms or legs. These are rare in children.

What causes West Nile virus infection?

- The virus is almost always spread by mosquito bites. The mosquitoes become infected after they bite infected birds.
- Very rarely, West Nile virus has been spread by blood transfusion. (Blood is now tested before transfusion, so

this is no longer a risk.) Pregnant women who are infected may spread West Nile virus to their babies.

- West Nile virus *does not* spread between humans.

What are some possible complications of West Nile virus infection?

Although there is a small risk of death or permanent neurologic (brain) damage from severe West Nile virus disease, this occurs mainly in older adults, and is rare in children.

What puts your child at risk of West Nile virus infection?

- Mosquito bites! Taking steps to avoid mosquito bites will reduce your child's risk of infection with West Nile virus. (See "Can West Nile Virus infection be prevented?")
- Outbreaks occur in late summer to early fall.
- Cases of West Nile have occurred in most of the United States.

Can West Nile virus infection be prevented?

Taking steps to reduce exposure to mosquitoes and mosquito bites will reduce your family's risk of West Nile virus infection. Some of the steps you can take are:

- When outdoors, have your child use insect repellants containing the chemical "DEET."
- Keep your child's arms and legs covered; avoid bright-colored clothing.
- Use window screens to keep mosquitoes from getting indoors.
- Try to eliminate mosquito breeding areas. Cut back brush in areas where children play. Eliminate puddles, water buckets, and other possible sources of standing water where mosquitoes breed from your yard and garden.

How is West Nile virus infection treated?

- The diagnosis is proven by certain blood tests, usually testing for antibodies to the virus.
- There is no specific treatment for the infection.
- If the disease is mild, symptoms can usually be treated at home. Fever, aches, and other symptoms should get better in a week or so.
- Patients with more severe disease may need hospital care.

 **When should I call your office?**

Call our office if anyone in your family develops symptoms of encephalitis, including:

- Severe headache.
- Changes in behavior or alertness.
- Stiff neck.
- Seizures.
- Vision changes.