



## **West Nile Virus**

### **What is West Nile virus?**

West Nile virus (WNV) is a virus carried by mosquitoes. Most people infected with the virus do not have symptoms or have only a mild illness. Less than 1 in 100 people who are infected with the virus develop serious illness. Serious forms of illness caused by WNV include encephalitis (inflammation of the brain) or meningitis (inflammation of the membranes that cover the brain and spinal cord).

### **How does it occur?**

Wild and domestic birds, mainly crows, carry the West Nile virus. Mosquitoes become carriers of the virus when they bite infected birds. Humans can get the virus when infected mosquitoes bite them. There are no known cases of a human getting WNV from an infected bird, only from the bite of an infected mosquito.

The risk of West Nile virus is seasonal in the northern states of the US and begins in the spring. The peak time for infection is mid to late August. In milder southern climates, the infection may occur year-round. The risk of severe infection is greatest for people who are over 70 years old or who have a weakened immune system.

West Nile virus may be spread from person to person through blood transfusions and organ transplants. The virus might also be transmitted through breast milk. However, the risk of transmission of the virus to the baby is believed to be very low. If you are breast-feeding and you have a WNV infection, the American Academy of Pediatrics and the CDC recommend that you continue breast-feeding.

The infection is not spread by normal person-to-person contact like touching, kissing, or caring for someone who is infected.

### **What are the symptoms?**

About 4 out of 5 infected people have no symptoms. Children are more likely to have symptoms. When symptoms do occur, they are usually mild and last a few days. Symptoms of WNV infection may include:

- Fever
- Headache
- Muscle aches
- Backache
- Skin rash
- Swollen lymph glands.

A WNV infection usually does not involve the brain. However, a few infected people (and even fewer children) develop encephalitis or meningitis.

Symptoms of these less common but severe illnesses include:

- Tremors
- Stiff neck
- Severe headache
- Paralysis
- Muscle weakness
- Confusion
- Convulsions
- Coma.

Some people develop a polioliike syndrome with sudden weakness and paralysis.

Symptoms usually appear 2 to 15 days after your child is bitten by an infected mosquito.

### **How is it diagnosed?**

Your child's health care provider will ask about the symptoms and examine your child. Your child may have the following tests:

- Blood tests
- Spinal tap (lumbar puncture), a procedure in which a needle is inserted between two bones of the spine into the spinal canal to take a sample of spinal fluid to test for meningitis
- Electroencephalogram (EEG), a test that measures the electrical activity of the brain (brain waves)
- Computerized tomography (CT) or magnetic resonance imaging (MRI) scans.

### **How is it treated?**

There is no specific medicine to treat West Nile virus. If the infection is serious, your child may need to stay at the hospital. At the hospital, your child may be given intravenous (IV) fluids, pain relievers, or other treatments.

### **How long will the effects last?**

Most people infected with WNV, including nearly all children, do not get seriously ill, and they recover fully.

If you have a serious infection, you may be ill for weeks. You may have some injury to the nervous system and brain. The injury is sometimes

permanent.

If you get West Nile virus, you will probably be immune to future infection by the virus, but your immunity might decrease over time.

### **How can I take care of my child?**

- Let your child rest if he or she is tired.
- Give acetaminophen (Tylenol) for fever or an anti-inflammatory medicine such as ibuprofen if your child has a fever plus headache or muscle aches.
- Contact your health care provider if your child develops:
  - A stiff neck
  - A headache that is getting worse
  - A fever of 102°F (39°C) or higher that does not go down with medicine
  - Seizures (convulsions)
  - Slurred speech
  - Confusion
  - Paralysis (inability to use an arm or leg).

### **Can West Nile virus infection be prevented?**

Yes, WNV can be prevented. Take precautions to avoid exposure to mosquitoes:

1. Stay indoors at dawn, dusk, and in the early evening, when mosquitoes are most likely to be around.
2. Wear long-sleeved shirts and long pants when outdoors.
3. Use an insect repellent on skin that is not covered by clothing whenever you are outdoors. Do not use more repellent than recommended in the package directions. Don't put repellent on open wounds or rashes. Do not apply it to your eyes or mouth. When using sprays, do not spray directly on your face--spray the repellent on your hands first and then put it on your face. Wash the spray off your hands. Be careful with children because repellents can make them ill. Repellent products containing either DEET or picaridin as active ingredients have been proven to provide longer-lasting protection than others. Oil of lemon eucalyptus, a plant-based repellent, hasn't been as well tested. But in some studies it provided as much protection as repellents with low concentrations of DEET. Oil of lemon eucalyptus should not be used on children under age 3.
  - Adults should use products with no more than 35% DEET. Children should use repellents with no more than 10% DEET. DEET should be washed off your body when you go back indoors.
  - Picaridin is a repellent just recently made available in the US. It can be less irritating to the skin than DEET.
4. Spray clothes with repellents because mosquitoes may bite through thin clothing. Do not spray repellent on the skin under clothing. You may spray clothing with DEET or permethrin. Some products containing permethrin are recommended for use on clothing, shoes,

bed nets, and camping gear. Permethrin is highly effective as an insecticide and as a repellent. Permethrin-treated clothing repels and kills ticks, mosquitoes, and other insects and continues to work after repeated laundering. The permethrin insecticide should be reapplied to the clothing according to the label instructions. Some commercial products are available pretreated with permethrin. Do not put permethrin on your skin.

5. Install or repair window and door screens so it is harder for mosquitoes to get indoors.
6. Mosquitoes lay eggs in water. To reduce mosquito breeding, drain standing water. Routinely empty water from flowerpots, pet bowls, clogged rain gutters, swimming pool covers, buckets, barrels, cans, and other items that collect water.

Note: Vitamin B and ultrasonic devices DO NOT help prevent mosquito bites. A vaccine is available to protect horses from West Nile virus. No vaccine is available for humans yet, but several companies are working to develop a human vaccine.\*

NOTE: This information is provided as a public educational service. The information does not replace any of the instructions your physician gives you. If you have a medical emergency please call 911 or call the Hospital at (208) 529-6111. If you have questions about your child's care, please call Idaho Falls Pediatrics at (208) 522-4600.