West Nile Virus

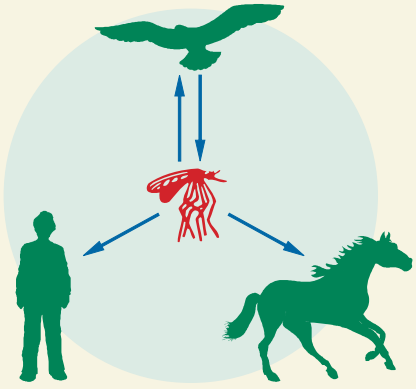
CLARKE™
Mosquito Control
Global Solutions for Mosquito Control

What is West Nile Encephalitis?

West Nile encephalitis is an inflammation of the brain caused by the mosquito-borne West Nile Virus (WNV). WNV is a close relative of St. Louis encephalitis, and first appeared in the New York City area in 1999. West Nile Virus is most common in Africa, the Middle East, and West and Central Asia. It is not known how the virus entered the United States.

Disease Transmission

West Nile encephalitis is transmitted through the bite of a mosquito that is carrying WNV. Mosquitoes become infected with the virus by biting a wild bird that has the virus. Though birds are the primary host of West Nile Virus, it is not transmitted directly from birds to people, or through person to person contact.



Prevention and Control– Residential Level

You can help reduce the number of mosquitoes in your community by simply eliminating standing water, where mosquitoes breed.

- Dispose of any waste that could hold water, such as cans, containers and tires.
- Drill holes in the bottom of trash receptacles and recycling bins.
- Clean your home's roof gutters frequently, and check storm drains and window wells.
- Empty standing water from boats, trailers, toys, wheelbarrows, and pots. Turn them over when not in use.
- Do not allow water to stagnate in swimming pools, water gardens, ornamental pools or birdbaths. Ornamental pools should be aerated or stocked with fish. Swimming pools should be cleaned and chlorinated when not in use.
- Inspect and change the landscape of your property to eliminate any standing water. Remember that in warm weather, mosquitoes can breed in any puddle of water.

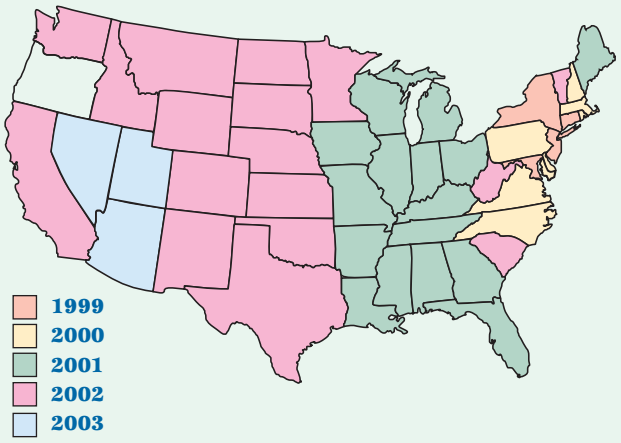
Protecting Yourself

Now that you've eliminated the mosquitoes' breeding grounds, here are some ways to protect yourself from being bitten by a mosquito.

- Inspect all window and door screens to be sure they're "bug tight".
- Stay indoors at the times when mosquitoes are most prevalent: morning, dusk, and early evening. When you are outdoors, cover up with long pants and a long-sleeved shirt.
- Use insect repellents. Repellents deter mosquitoes from biting when applied properly to exposed skin and clothing. For more information about protecting yourself against mosquitoes log onto the internet at: www.epa.gov.

Geographic Distribution

U.S. Incidence of West Nile Virus 1999-2003



Report as of 12/31/03

Symptoms of West Nile Encephalitis

The majority of people who are infected with West Nile Virus show no symptoms. Some may experience mild sickness, headache, or fever before making full recovery. However, WNV can cause serious disease that affects the brain in some individuals, particularly the elderly. This disease can cause permanent neurological damage, resulting in death. Symptoms of West Nile Virus infection can be as mild as headache, slight fever, swollen lymph glands, rash or as severe as high fever, disorientation, stiff neck, muscle weakness, paralysis, coma or death.

Who is at Risk of Contracting West Nile Encephalitis?

The chance of contracting WNV is higher in persons over 50 years of age, however any individual living in areas where West Nile Virus has been detected is at risk. In a 1999 survey of New York City residents, 3% of residents had been infected with West Nile Virus, most showed no symptoms or only a mild illness. The case fatality rate is between 3 and 15 percent. Horses are also susceptible to West Nile Virus.

Diagnosis and Treatment

West Nile Virus has no specific therapy or treatment. To date there are no prophylactic treatments such as vaccines to protect against infection. However, the symptoms and complications resulting from infection can be treated. In severe cases, intensive supportive therapy are needed, such as hospitalization and nursing care, airway management and respiratory support, intravenous (IV) fluids, and prevention of secondary infections such as pneumonia.

Prevention and Control– Municipal Level

Control of West Nile Virus requires an extensive Integrated Mosquito Management plan. Key components to the plan include:

- Bird surveillance to detect and monitor for WNV activity. (Substantial amounts of dead crows may be an indicator of WNV)
- Mosquito surveillance to detect and monitor for WNV activity and to identify vectors
- Community education
- Larviciding before transmission occurs in all possible breeding areas, including:
  - catch basins
  - floodwater sites
  - sewage treatment plants
  - roadside ditches
  - wetland areas
- Effective mosquito adulticiding to reduce potential vector populations

How to Report Dead and Dying Birds

Crows, blue jays and hawks appear highly sensitive to West Nile Virus. Informing your local health department of dead bird sightings could provide an early warning for detecting WNV activity in your community, and would allow health officials to alert residents of the disease. If you find a dead crow, blue jay, or hawk that appears to have died of natural causes, between April and late October, you should notify your local health department.

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