

History of West Nile Virus

The West Nile Virus (WNV) was first found in a febrile adult woman in the West Nile District of Uganda in 1937. The virus became recognized as a cause of severe human meningoencephalitis (inflammation of the spinal cord and brain) in elderly patients during an outbreak in Israel in 1957.

WNV first emerged in the United States in the New York metropolitan area in the fall of 1999. From there it quickly spread across the country.

WNV was first identified in Illinois in the summer of 2001 after laboratory testing confirmed that two dead crows found in Cook County had died of it. Illinois' first human case was reported in 2002. By the end of 2002, 884 human cases had been reported, 67 of which resulted in death, and WNV would be present in 100 of Illinois' 102 counties. That year Illinois reported more cases of the disease and more deaths than any other state. In 2003, the epicenter of disease would begin to move westward and incidence rates in Illinois would briefly drop as only 54 cases of the disease and 1 death were reported that year. There would be 60 cases and 4 deaths the following year. In 2005, Illinois would post the second highest rates of incidence in the nation with 252 cases and 12 deaths. Illinois reported 215 cases and 10 deaths in 2006, the sixth highest number of cases in the United States.

WNV was first detected in Tazewell County in July 2002. That year 23 horses, 9 batches of mosquitoes, 6 birds, and 1 human tested positive for WNV.

***Culex* information**

Culex Pipiens is the Northern house mosquito, which transmits the West Nile Virus. These mosquitoes develop in areas such as: overgrown ponds, stagnant and shaded pools, poorly managed waste-effluent lagoons, catch basins, puddles in drainage ditches, and mostly artificial containers. Some artificial containers include: old tires, tin cans, bird baths, and roof gutters. These mosquitoes lay eggs on the surface of the water in groups. The larvae become full grown in 7-10 days and the pupae transform into adults in 3-4 days.

Transmission

The female *Culex* mosquitoes become infected when they feed on infected birds, which may circulate the virus in their blood for a few days. Infected mosquitoes can then transmit the virus to humans and animals while feeding on blood. The virus is located in the mosquito's salivary glands. During blood feeding, the virus may be injected into the animal or human, where it may multiply, possibly causing illness.

Signs/Symptoms

The majority of cases result in a symptom free infection. A smaller percentage of cases of WNV result in a mild febrile illness (West Nile Fever) characterized by fever, headache, body aches, nausea, skin rash, and swollen lymph nodes. Rarer, more severe cases of WNV cause encephalitis (swelling of the brain) and/or meningitis (swelling of the tissues lining the brain). These more severe forms often have similar early symptoms as West Nile Fever, but are characterized by high fever, headache, neck stiffness, stupor, disorientation, coma, tremors, vision loss, numbness, and paralysis.

Risk Groups

Everyone is at risk for contracting West Nile Virus. Elderly people and those with compromised immune systems are more susceptible than younger age groups. There is no vaccine to prevent the contraction of the West Nile Virus.

Age	Cases	% Per Age
0-14	4	2%
15-29	11	5%
30-44	48	22%
45-59	71	33%
60-74	45	21%
75+	36	17%
Unknown	0	0%
TOTAL	215	

Yard Protection

Any place where water lasts more than seven to ten days can be a possible breeding area for mosquitoes. Residents need to check their property and eliminate any potential areas where mosquitoes might breed. These mosquitoes develop in areas such as: overgrown ponds, stagnant and shaded pools, poorly managed waste-effluent lagoons, catch basins, puddles in drainage ditches, and mostly artificial containers. Some artificial containers include: old tires, tin cans, bird baths, and roof gutters.

Personal Protection

Residents are encouraged to stay indoors at dawn, and dusk through early evening, when mosquitoes are most active.

When outdoors between dusk and dawn, wear loose-fitting, light-colored, and long-sleeved tops and long pants made of tightly woven materials to keep mosquitoes away from the skin.

Mosquito Repellents

Use a repellent containing DEET, Picaridin, or Oil of Lemon Eucalyptus. Apply sparingly to exposed skin and/or clothing as indicated on the product's label. According to the CDC, "No definitive studies exist in the scientific literature about what concentration of DEET is safe for children. No serious illness has been linked to the use of DEET in children when used according to manufacturer's recommendations."

According to the American Academy of Pediatrics, "Insect repellents containing DEET (N,N-diethyl-m-toluamide, also known as N,N-diethyl-3-methylbenzamide) with a concentration of 10% appear to be as safe as products with a concentration of 30% when used according to the directions on the product labels. DEET is not recommended for use on children under 2 months of age." If you are concerned about using repellent products on children you may wish to consult a health care provider for advice or contact the National Pesticide Information Center (NPIC) through their toll-free number, 1-800-858-7378 or npic.orst.edu

When using repellent on a child, apply it to your own hands and then rub them on your child. Avoid children's eyes and mouth and use it sparingly around their ears.

Do not apply repellent to children's hands. (Children tend to put their hands in their mouths.)

Do not allow your children to apply insect repellent to themselves; have an adult do it for them.

Keep repellents out of reach of children.

Do not apply repellent to skin under clothing. If repellent is applied to clothing, wash treated clothing before wearing again.

The Role of the City of Marquette Heights

The City of Marquette Heights' mosquito abatement program includes monitoring, sampling, and pesticide application for vector and nuisance mosquitos throughout the summer season. Larvicide application is ongoing in storm water catch basins and any other areas of standing water that are identified. The City also uses a ULV (ultra low volume) sprayer for adulticiding of mosquitoes on Thursday evenings, as needed. This spray application is not carried out during periods of bad weather, high winds, or very cool temperatures.

The Role of the Tazewell County Health Department

The Tazewell County Health Department collects mosquito samples using Gravid Traps (traps designed to attract and collect egg bearing female mosquitoes) and tests them for West Nile Virus using a technique known as a rapid immunochromatographic assay. This technique involves grinding the mosquitoes in a testing solution and then using a test strip to determine the presence or absence of West Nile Virus. These results are then reported to the Illinois Department of Public Health.

In addition to collecting and testing mosquitoes, we also collect dead birds for testing. These birds are then sent off to a state lab for testing. Bird collection begins in May. Please call us

when you find a dead bird meeting the following criteria:

- The bird is dead, but shows no signs of decomposition.
- The bird shows no sign of why it died, other than disease.
- The bird must be one of the following: Crow, Blue Jay, Grackle, Starling, Robin, Cardinal, Sparrow, Finch, Hawk, or Owl.

To learn more about West Nile Virus in Illinois go to the Illinois Department of Public Health's West Nile Virus page at <http://www.idph.state.il.us/envhealth/wnv.htm>. More information can also be found by visiting the Centers for Disease Control's page on West Nile Virus at <http://www.cdc.gov/ncidod/dvbid/westnile/index.htm>.
