

# The Winnebago County Health Department Presents Communicable Disease Bulletin

Spring Edition 2012

## What's Bugging You?.....West Nile Virus



**Public Health**  
Prevent. Promote. Protect.



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### WCHD Mission Statement:

To prevent disease, promote health and enlist the community in efforts to improve the health of all Winnebago County residents.

As we get ready for the temperatures to warm up, it is important to review some basic information about two very different diseases, West Nile Virus and Lyme Disease.

### WEST NILE VIRUS-- WNV

WNV is an **Arbovirus** which is a group of viruses. The word *arbovirus* is an acronym (**AR**thropod-**BO**rne virus. The culprit is the infected mosquito, which has become infected by feeding on WNV infected birds. Humans and other animals can be



infected if bitten. It typically takes 3 to 14 days to develop symptoms after a bite. 80% of people infected show no signs or symptoms. Up to 20% of people bitten will display symptoms which may include fever, headache, body aches, nausea, vomiting, and at times swollen lymph nodes, skin rash on the chest, stomach or back. According to the CDC, about one in 150 people infected with WNV

develop severe illness. Those symptoms may include high fever, headache, neck stiffness, disorientation, coma, tremors, convulsions, muscle weakness, vision loss, numbness and paralysis. The symptoms may last for weeks and the neurological effects can be permanent.

WNV is often diagnosed based on clinical features, place and date of travel, activities and the epidemiological history of the location the infection occurred. Laboratory diagnosis uses serum or cerebral-spinal fluid (CSF) to detect virus-specific IgM and neutralizing antibodies. In general, the outcome of a mild West Nile virus infection is excellent. Because this illness is not caused by bacteria, antibiotics do not help treat the infection. Standard hospital care may help decrease the risk of

complications in severe illness. For patients with severe cases of West Nile virus infection, the outlook is more uncertain. West Nile encephalitis or meningitis may lead to brain damage and death. Approximately 10% of patients with brain inflammation do not survive.

To reduce the risk of exposure to WNV is preventing mosquito bites. Reduce time outdoors particularly at dusk and in the early evening hours. Avoid bites by applying insect repellent containing DEET (*N,N-diethyl-meta-toluamide*) to exposed skin when going outdoors. When possible wear long sleeves, long pants and socks. Mosquito proof your surroundings. Drain standing water in bird-baths, old tires or clogged rain gutters, as mosquitoes lay their eggs in standing water.



## Lyme Disease

Lyme disease is a bacterial infection spread through the bite of a black-legged tick. The bacteria is *Borrelia burgdorferi*, and is picked up by the tick when they bite deer or mice infected with Lyme disease.



Typically, a tick must be attached to the body for 24-36 hours to spread the bacteria. Due to their size, blacklegged ticks can be almost impossible to see. Most people do not get Lyme disease when bitten by a tick. Symptoms of Lyme disease begin within days or weeks after infection, which is Stage 1-localized. The symptoms include chills, fever, headache, light-headedness, stiff neck, muscle pain and body-wide itching. There may be a bull's eye rash at the site of the tick bite. Symptoms may come and go and if left untreated may spread to the joints, heart, or brain. Stage 2 is early disseminated Lyme



disease with symptoms occurring weeks to months after the initial tick bite. Those symptoms may include paralysis or weakness in the muscles of the face, muscle pain and pain and swelling in the knees and other large joints. Stage 3 is late disseminated Lyme disease which can occur months or even years later the initial infection. Most common symptoms for this stage include abnormal muscle movement, muscle weakness, numbness/tingling and speech. Symptoms may come and go and if left untreated may spread to the problems.

Lyme disease is diagnosed clinically based on symptoms, objective physical findings (such as erythema migrans-[rash], facial palsy or arthritis) or a history of possible exposure to infected ticks, as well as serological blood tests. Not all patients infected with Lyme disease will develop the characteristic bulls eye rash.

Several forms of laboratory testing for Lyme disease are available. The most widely used tests are serological, measuring levels of specific antibodies in a person's blood. These tests may be negative in early infection, as the body may not have produced a significant quantity of antibodies, but they are considered a reliable aid in the diagnosis of later stages of Lyme disease. A two-tiered protocol is recommended by the CDC: the ELISA test is performed first, and if it is positive or equivocal, then the more specific Western blot is run. The Western blot IgM has a specificity of 94–96% for patients with clinical symptoms of early Lyme disease.

For prevention, protective clothing includes a hat, long-sleeved shirts and long trousers tucked into socks or boots. Light-colored clothing makes the tick more easily visible before it attaches itself. People should use special care in handling and allowing outdoor pets inside homes because they can bring ticks into the house. Attached ticks should be removed promptly, as removal within 36 hours can reduce transmission rates.

## Communicable Disease Statistics

Disease Type	2011	2012*	Disease Type	2011	2012*
Chickenpox	24	12	Hepatitis C-chronic	240	67
Cryptosporidiosis	5	1	Histoplasmosis	0	0
Ehrlichiosis	2	0	Lyme disease	23	4
Enteric e. coli	17	0	Neisseria Meningitis	4	0
Giardiasis	17	3	Pertussis (whooping cough)	35	4
Haemophilus Influenzae, inv.	2	1	Potential Human Rabies Exposure	3	1
Hepatitis A	5	2	Rubella	0	2
Hepatitis B-acute	5	2	Salmonellosis	54	11
Hepatitis B-chronic	39	5	Shigellosis	5	0
*Preliminary year to date data			West Nile Virus	1	0