



Summer 2005

EPIDEMIOLOGY BULLETIN

West Nile Virus

Since the first identified case in the United States in 1999, WNV has become a threat to public and animal health across all states. According to the U.S. Centers for Disease Control and Prevention (CDC), over 15,000 people in the U.S. have tested positive for WNV infection since 1999, including over 500 deaths.

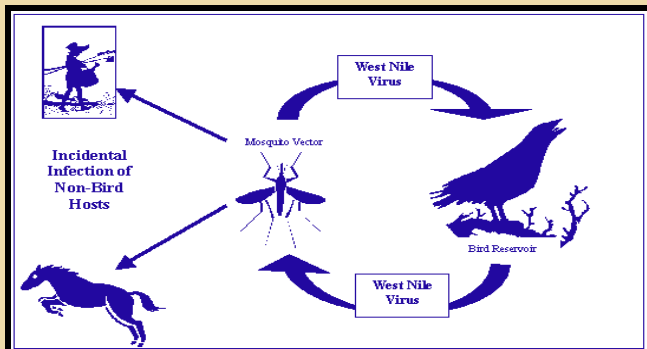
West Nile Virus is a potentially serious illness with seasonal variation. Number of cases flare up in summer and continue until fall. It is commonly spread by mosquitoes that feed on birds/animals infected with the virus and pass it on to humans and other animals.

History: The first confirmed case of WNV was in an adult woman in the West Nile district of Uganda in the year 1937. Since then, the virus has caused outbreaks in different part of the world including Russia, Israel, France, Italy and United States. It was only until as recently as 1999, the first case was identified in the U.S. in the city of New York. Since 1999, WNV human, bird, veterinary or mosquito activity have been reported from all states except Hawaii, Alaska, and Oregon.

In Illinois, West Nile virus was first identified by laboratory tests in two dead crows found in the Chicago area in fall 2001. By the end of 2002, Illinois had the highest number of cases (884) and deaths (66) in the nation. By 2004, the number of cases fell drastically to 60 cases and 4 deaths.

Epidemiology: West Nile virus (WNV) is a single-stranded RNA virus and a member of the Japanese encephalitis virus antigenic complex. For some unknown reasons, deaths among birds from WNV infection have occurred only in the United States, Israel, Canada, and Mexico.

The primary route of human infection is through the bite of an infected mosquito. Mosquitoes become infected when they feed on infected birds or animals, which may circulate the virus in their blood for a few days. There is no documented evidence of animal-to-person transmission of WNV apart from mosquitoes.



Other rare modes of transmission: Transplanted organs, blood transfusion, breast milk, transplacental (mother-to-child) and occupational exposure.

Risk Factors: Age is the most important risk factor. Older age results in a higher risk for development of more serious central nervous system (CNS) disease and death.

WNV in animals: Birds, commonly crows and blue jays are the most affected. Cases in dogs, cats and horses have been documented. Rarely seen in squirrels, bats, rabbits and other mammals.

Signs & Symptoms: 80% of people who became infected with WNV never develop any symptoms. In 20% of infected people who develop symptoms, the incubation period ranges from about 2 to 14 days. Some of the common signs and symptoms of West Nile Fever include fever, headache, fatigue, skin rash on the trunk of the body (occasionally), swollen lymph glands (occasionally) and eye pain.

The symptoms of severe disease (also called neuroinvasive disease, such as West Nile encephalitis or meningitis or West Nile poliomyelitis) include headache, high fever, neck stiffness, stupor, disorientation, coma, tremors, convulsions, muscle weakness, and paralysis.

Diagnosis & Treatment: WNV is suspected in a patient based on symptoms and clinical history. Several tests are carried out to diagnose WNV. Complete blood count, Cerebrospinal Fluid testing, CT Scan and MRI may offer some clue to the disease. Serology to detect antibodies against WNV is the gold standard for diagnosis.

Because this illness is caused by a virus, antibiotics do not help in treatment. In more severe cases, intensive supportive therapy is indicated, often involving hospitalization, intravenous fluids, airway management, respiratory support, prevention of secondary infections and good nursing care.

Prevention

There is no human vaccine available at present, therefore protecting yourself is the only prevention against this virus

- Apply insect repellent with DEET to exposed skin
- Wear long-sleeved shirts and long pants whenever you are outdoors
- Stay indoors at dawn, dusk, and in the early evening, which are peak mosquito biting times
- Reduce the number of mosquitoes in areas outdoors where you work or play, by draining sources of standing water
- Do not handle or touch any dead birds
- Mosquito breeding can also be prevented by larvicide application by a trained professional.

Communicable Disease: Fact Sheet for Champaign County

April-June 2005

Rate Adjusted per 100,000 population

Selected Reportable Communicable Disease	Champaign Urbana 2005			Champaign County 2005			Champaign Urbana 2002-2004 Average			Champaign County 2002-2004 Average		
	April	May	June	April	May	June	April	May	June	April	May	June
Enteric E Coli	0	0	0	0	0	0	0	2	0	0	0	0
Foodborne Illness	0	0	0	0	0	0	0	0	0	0	0	0
Pertussis	3	4	0	11	0	3	0	2	1	0	1	0
Streptococcal	0	2	1	0	0	0	1	0	1	2	1	1
Blastomycosis	0	0	0	0	0	0	0	0	0	1	0	0
Campylobacteriosis	1	0	3	1	1	0	0	1	3	0	0	3
Chickenpox	1	0	0	0	0	0	2	2	1	1	0	1
Chlamydia	75	64	58	40	32	22	93	73	64	33	34	29
Cryptosporidiosis	0	0	0	0	0	0	0	0	0	0	1	0
Tuberculosis	0	1	0	0	0	0	0	1	2	0	0	0
Giardiasis	0	1	0	0	0	0	2	2	3	1	1	5
Gonorrhea	25	30	20	16	7	7	33	36	25	11	15	5
Hepatitis B	0	0	0	0	0	0	2	3	1	0	0	1
Hepatitis C	2	0	0	0	0	0	4	6	3	1	1	1
Histoplasmosis	0	0	0	0	0	0	2	1	2	0	0	0
Meningitis, Aseptic	0	0	0	0	0	0	1	2	1	0	1	1
Salmonella	1	0	4	0	0	0	1	1	2	1	1	1
Shigellosis	0	0	0	0	0	0	1	2	0	0	0	0
Strep Pneumonia	2	0	0	0	1	0	1	0	1	1	0	1
HIV	0	2	0	0	0	1	1	1	2	1	0	0
Rabies, Exposure	0	0	2	0	3	0	2	2	2	0	1	1

Population : Champaign Urbana: 103,913 & Champaign County: 75,756

Please report all suspected communicable disease to Rachella Thompson, Communicable Disease Investigator at 217-531-2927 or email rthompson@cuphd.org

Common Childhood Communicable Diseases

Head Lice(Pediculosis)

Small parasitic insects exquisitely adapted to live on the scalp and neck hairs of humans. They have known to co-exist since the evolution of mankind. Head lice or Pediculosis are most commonly spread by direct head to head contact with an infected person and is less frequently spread by sharing combs, hats and other accessories. They can also spread from upholstered furniture and bedding where they can survive for a brief period of time.



Health Concerns: Lice are not known to spread infections. They are more an annoyance rather than a health problem. But, they can cause excessive itching and loss of sleep. Rarely, chronic and excessive scratching can lead to secondary infection.

Animal Spread: Contrary to common belief, head lice rarely spreads from animals. They are very host specific. Human lice will not feed upon other animals and animal lice will rarely feed upon a person.

Treatment & Prevention: Before commencing any treatment, it is very important to have a correct diagnosis of the infestation. The most effective formula to ensure complete elimination and preventing recurrence would be a combined effort between the person infected, the family and close contacts. Over the counter medications are as effective as prescription in most cases. Follow instructions carefully before application. Do not over treat. Usually a second application is recommended after a week from the first. Mechanical removal is effective but time consuming. A loose nit comb can be used to remove lice and eggs. Treatment of family members and close contact is recommended in chronic cases. Washing and drying (with heat) the pillowcases, sheets, nightclothes, towels and stuffed animals will eliminate lice and eggs that might otherwise reinfest a family member. Combs, brushes, hats and other hair accessories in contact with an infested person should be washed in hot water each day to dislodge any lice and nits. Vacuuming and cleaning of carpets and upholstered car seats and child seat may offer some help. If condition persists even after all attempts, consult your physician for other treatment options.

Pink Eye(Conjunctivitis)

Pink eye commonly refers to viral conjunctivitis though it can also be caused by bacteria, allergic reaction and chemical irritation.

Viral Conjunctivitis is usually self limiting and last for approximately 2-4 weeks.

Signs & Symptoms: red eye, ocular itching, foreign body sensation, tearing, redness, and photophobia (sensitivity to light). Infection usually begins in one eye and spreads to the other

Diagnosis is by clinical features alone. Rarely lab tests are required for complicated cases.

Treatment: Usually supportive. Viral causes of conjunctivitis generally are self-limited and treated supportively with cold compresses for comfort and topical antibiotics as necessary to prevent bacterial superinfection

Prevention

Good hygiene can help prevent the spread of conjunctivitis.

- Keep hands away from the eye
- Avoid shaking hands
- Wash the hands frequently
- Change pillowcases frequently
- Do not share towels or handkerchiefs
- Handle and clean contact lenses properly



Hand, Foot & Mouth Disease (Coxsackievirus A16)

A common illness of infants and children characterized by fever, sores in the mouth, and a rash with blisters. Usually begins with mild fever, poor appetite, feeling of tiredness followed by sore in the mouth. Rash begins to appear after 1or 2 days and as the name suggest, they appear on the hands and soles of the feet. The disease is moderately contagious. It is most contagious in the first week of infection. The disease spreads mainly person to person by direct contact with nose and throat secretions or contact with stool of the infected person. It does not spread from animals to humans.



Signs & Symptoms: mild fever, fatigue, mouth sores, poor appetite and sore throat are the most common symptoms. The condition begins with red spots in the mouth and later form blisters which lead to ulceration.

Diagnosis: Clinical features and age group of the patient are sufficient to diagnose the condition. The appearance of the rash and sores are characteristic. Rarely a throat swab or stool specimen may be required to determine the exact virus causing the illness.

Treatment: There is no specific treatment for this infection. Supportive therapy is the only recommended regime. Symptomatic treatment is provided for fever and pain from mouth ulcers.

Prevention: Some of the steps that can be taken to prevent and /or limit the spread of infection are:

- Frequent hand washing especially after handling children's clothes and diapers
- Disinfection of all contaminated surfaces
- Exclusion of infected children from school, day care and other group settings for the first few days

Quarantine and Isolation: What it means to you?

Dangerous communicable diseases can happen naturally or by terrorism. Whether is weaponized anthrax, severe acute respiratory syndrome, or extreme cases of influenza, isolation and quarantine maybe necessary. These measures are used to prevent spread of disease by reducing one's exposure to it. Isolation and quarantine are used in conjunction with antibiotics or antivirals. What's the difference between isolation and quarantine? According to the Center for Disease Control and Prevention,

The difference between quarantine and isolation can be summed up as:

- *Quarantine applies to those who have been exposed to a contagious disease but may or may not become ill.*
- *Isolation applies to persons who are known to be ill with a contagious disease*

Quarantine and isolation can be voluntary or made mandatory by civil actions. The Illinois State Legislators passed a House Bill (HB) 5164 allowing certain state agency emergency powers during certain events. Illinois Department of Public Health has been given the authority to order the quarantine or isolation of individuals to preserve the health and lives of the people of Illinois. Specific criteria must be met with the court to order quarantine or isolate individuals. This may sound extreme, but with the threat of SARS, Smallpox or Monkeypox, or any other contagious disease isolation and quarantine are just a few of the preventative measures used to combat disease in our lives. Hopefully, none of us will have to experience it.

For more information, check out these websites:

HB 5164—www.ilga.gov/legislation/publicacts/93/93-0829.htm

Isolation an quarantine—www.redcross.org/preparadness/cdc_English/isoquar.asp



Champaign Urbana Public Health District



Serving Champaign County

Mission: To Improve the health of the Champaign County Community