West Nile Virus and West Nile Encephalitis
Georgia Department of Human Resources, Division of Public Health
Questions and Answers for Public Inquiries
(08/08/01)*

Frequent updates of this information will appear on the Georgia Division of Public Health's web page: http://health.state.ga.us/epi/vbd.shtml

What is West Nile virus (WNV)?

West Nile virus (WNV) is a virus that is spread by infected mosquitoes. The virus usually infects birds, but it can be spread to humans by mosquitoes that feed on infected birds and then bite humans. The virus cannot be spread by person-to-person contact.

Historically, West Nile virus has been found in parts of Africa, West Asia, Eastern Europe, and the Middle East. The virus was identified in the United States for the first time during 1999. West Nile virus is closely related to the virus that causes St. Louis encephalitis (SLE), which has caused illnesses in Georgia residents in the past.

Have any people in the United States been infected with this virus?

Yes. There was an outbreak of West Nile virus in New York City and the surrounding region during the summer and fall of 1999 and again during the summer and fall of 2000. Birds, humans, and horses in the New York City area were infected with the virus and were ill. During 1999, 62 humans were diagnosed with West Nile encephalitis in New York City and 7 of those humans died. During 2000, 21 humans were diagnosed with West Nile encephalitis in New York, New Jersey, and Connecticut; 2 of those humans died.

Is West Nile virus in Georgia?

Yes. On July 16, 2001 the presence of West Nile virus was confirmed in Georgia. West Nile virus was detected from a dead crow that was submitted from Lowndes County. The crow died on July 7, 2001.

A total of 35 West Nile virus-infected birds have been found in Georgia during 2001. Positive birds have been collected from Atkinson, Berrien, Brantley, Brooks, Charlton, Clinch, DeKalb, Dougherty, Echols, Fulton, Houston, Lanier, Lowndes, Pierce, Stephens, and Ware Counties. Please view the map located at http://health.state.ga.us/epi/vbd.shtml for a complete summary of positive birds found in Georgia.

How concerned should I be about West Nile virus in Georgia?

The disease caused by West Nile virus is very similar to St. Louis Encephalitis (SLE), but it is generally milder. SLE is caused by a virus that is similar to West Nile virus; it is also a "bird disease" that is transmitted by mosquitoes, and it has been in Georgia for many years. Human infections with these mosquito-borne viruses are very rare and can be prevented by taking simple measures to avoid mosquito bites.

What measures are being taken to protect Georgia residents?

The Georgia Department of Human Resources, Division of Public Health and health departments in other states along the East Coast have received grants from the Centers for Disease Control and Prevention (CDC) to track West Nile virus. Because scientists believe that West Nile virus will appear in birds before it will infect other local animals or humans, Georgia Department of Human Resources, Division of Public Health is working with the University of Georgia College of Veterinary Medicine to look for the virus in resident and migratory birds throughout the state. More than 2500 birds have been collected and tested in Georgia since May 2000.

In addition to looking for West Nile virus in birds, we will be assisting veterinarians in having horses with symptoms of encephalitis tested for West Nile virus and other diseases. Laboratory samples from humans in Georgia who are suspected of having a mosquito-borne viral encephalitis will also be tested for West Nile virus.

If West Nile virus or any other mosquito-borne disease is detected in Georgia, press releases will be issued and public education will be provided to increase awareness of personal protective measures to

prevent mosquito exposure. Your county may also begin other control measures to reduce the number of larval and/or adult mosquitoes.

What symptoms will I have if I am infected with West Nile virus?

Symptoms usually occur 3-15 days after the bite of an infected mosquito. Most people who are infected with West Nile virus will have no symptoms or may have a mild flu-like illness with a fever, headache, and body aches before they recover. In some individuals, particularly the elderly, the virus can cause a serious illness called *encephalitis*, which is an inflammation of the brain. Symptoms of encephalitis may include high fever, severe headache, nausea, stiff neck, confusion, muscle weakness, paralysis, disorientation, convulsions, coma, and rarely, death. Less than 1% of humans infected with West Nile virus will develop serious illness. If you have any concerns about your health, you should contact your healthcare provider.

A mosquito bit me (or a member of my family). What should I do? Should I be tested for West Nile virus or other mosquito-borne diseases?

- The odds of getting a mosquito-borne illness from a mosquito bite in Georgia are extremely low.
- Even if you live in an area where mosquitoes are known to carry West Nile virus or other viruses, very few mosquitoes will actually be infected and capable of transmitting the viruses to humans.
- Even if you are bitten by an infected mosquito, your chances of becoming ill are very low. Less than 1% of humans infected with West Nile virus will develop serious illness.

There are no antibiotics or other drugs that can be taken to prevent illness after a mosquito bite. If an illness does occur after a mosquito bite, particularly with fever, confusion, muscle weakness, or severe headaches, or if your eyes become unusually sensitive to light, you should consult your physician immediately. Your health care provider will determine what kind of treatment you require and whether or not you should have any specific laboratory tests performed.

Is there a treatment for West Nile virus?

No. There is no specific treatment, medication, or cure for illnesses caused by West Nile virus. However, the symptoms and complications of the disease can be treated. Most people who get the illness recover from it.

Is there a vaccine for West Nile virus?

There is **no vaccine to protect humans** against West Nile virus infection.

In August 2001 a vaccine to help protect **horses** against West Nile virus infection was conditionally approved by the U. S. Department of Agriculture. The vaccine will be available in Georgia during 2002. Please contact your veterinarian for information about obtaining the vaccine for your horse.

If West Nile virus is detected in my county/town/neighborhood, should I stay indoors?

No. The risks of acquiring a mosquito-borne disease are so low that staying indoors is not necessary. However, you can take some simple precautions while you are outside, such as wearing long sleeves and long pants and applying an insect repellent (containing DEET) according to label directions.

Why isn't my neighborhood being sprayed for mosquitoes?

Health officials in your county will decide whether or not to spray your community for mosquitoes. In some areas, spraying is not the most beneficial or the most cost-effective way to control mosquito populations or mosquito-borne diseases. Again, the best way to protect yourself and your family against these diseases is to follow simple precautions that are detailed at the end of this sheet.

I have seen dead birds. Should I report them?

During the summer that West Nile virus was discovered in the United States many birds in the New York City area died for no apparent reason. Further investigation revealed that the birds were dying of West Nile virus infections. Many birds (many species of birds) die when they are infected with West Nile virus, so health officials in the Northeast have successfully used dead bird reports to track the spread of the virus.

Please contact your county health department if you find dead birds near your home. You may find the phone number of your county health department in the government listings of your phone book. Some of the reported crows, blue jays, and raptors (raptors are birds of prey such as owls, hawks, or eagles) will be collected and tested for West Nile virus. If your county health department asks that you submit dead birds for testing, please follow their instructions for handling the birds. Otherwise, dead birds may be disposed of by double-bagging and placing them in the regular trash, or burying them three feet deep. Reports of birds that are not collected for testing are still very useful. These dead bird sightings will be recorded and combined with reports from throughout the state so that we may determine if the virus is present in Georgia and quickly identify where it might be.

Remember that birds may die for many reasons. Some birds die of old age, some are hit by cars or run into power lines, some are considered pests and are poisoned by humans, some die from other viral or bacterial infections.

Will the dead birds in my area make my family or me sick?

Dead birds infected with this type of virus have never been known to be a source of illness for people. This viral infection is spread to people by the bite of an infected mosquito. However, it you should not handle any dead animal with your bare hands. Wear gloves or use a shovel to handle dead birds or any other dead animal.

Where have there been infected mosquitoes, birds, and other animals?

In **1999**, infected birds were found in the New York City area, CT, NJ, and MD. Birds with laboratory-confirmed West Nile virus infection have been primarily crows.

During **2000**, over 4000 birds infected with West Nile virus were found throughout the northeastern United States. Infected birds were identified in NH, VT, MA, RI, CT, NJ, PA, NY, NY, MD, Washington DC, VA, and NC. Most infected birds have been crows; however, at least 70 other species of birds have also been positive for the virus. Mosquitoes with West Nile virus were found in the NY, CT, NJ, PA, and MA during 2000.

Fifty seven horses tested positive for West Nile virus during 2000: 17 in NY, 26 in NJ, 7 in CT, 1 in RI, 1 in PA, 1 in MA, and 4 in DE. Three rabbits, 3 squirrels, 1 chipmunk, 2 raccoons, 2 cats and 14 bats from New York State have also tested positive for the virus.

So far during **2001** there have been West Nile virus-positive birds found in MA, CT, RI, NY, NJ, PA, MD, VA, Washington DC, FL, **GA,** and OH. There have also been positive mosquito pools in NJ, CT, RI, NY, and MD. Florida has also reported 15 infected horses and two infected humans.

You may find maps of the current distribution of West Nile virus in the United States on the web at http://cindi.usgs.gov/hazard/event/west_nile/west_nile.html.

What animals other than birds can get West Nile virus? Do I have to worry that my pets or livestock will get West Nile virus?

Many species of wild and domestic animals (such as dogs and cats) can become infected with West Nile virus by the bites of infected mosquitoes. However, most animals other than birds **will not become ill or die** when they are infected with the virus. Several West Nile virus-infected horses have become ill and died in the United States.

Please contact a veterinarian to evaluate and treat any pets or domestic animals that become ill. Georgia is not testing small mammals or pets (dogs, cats, squirrels, chipmunks, etc.) for West Nile virus as part of our surveillance for the virus. Laboratory testing of ill animals other than horses or birds might be available at commercial laboratories and arrangements should be made through local veterinarians.

Do I have to worry that my poultry (chickens, turkeys) will get West Nile virus? Should I continue to eat their eggs?

The U.S. Department of Agriculture's Animal and Plant Health Inspection Service (APHIS) has

performed studies to learn more about what happens to chickens and turkeys when they are infected with West Nile virus. It is expected that most chickens and turkeys that are infected with West Nile virus will make antibodies to the virus and will not become ill or die.

You may continue to eat your chickens' eggs. There is no evidence that West Nile virus or other mosquito-transmitted viruses appear in chickens' eggs. You should always cook your eggs thoroughly to prevent food-borne illnesses.

What is the treatment for an animal that is infected with West Nile virus? Should an infected animal be destroyed?

There is no specific treatment, medication, or cure for illnesses caused by West Nile virus in dogs, cats, horses, or other animals. However, the symptoms and complications of the disease can be treated with supportive therapy that is consistent with standard veterinary practices for animals infected with a viral agent. Full recovery from the infection is likely and there is no reason to destroy an animal that is infected.

Can infected dogs or cats (or other animals) be carriers (i.e. reservoirs) for West Nile virus and transmit the virus to humans or other animals?

West Nile virus is transmitted by infected mosquitoes. There is no documented evidence of person-to-person, animal-to-animal, or animal-to-person transmission of West Nile virus. Veterinarians should take normal infection control precautions when caring for an animal suspected to have this or any viral infection.

Will horses affected by the virus be quarantined?

No. Since infected horses do not appear to be carriers for the disease, it is unlikely that a quarantine would be necessary.

Is there anything I can do to protect my horse or pet from West Nile virus?

Yes. You should limit your animals' exposure to mosquitoes. The best way to do this is by removing any potential sources of water in which mosquitoes can breed. Dispose of any water-holding containers on your property. Drill holes in the bottom of containers that are left outdoors. Clean clogged roof gutters. Keep swimming pools properly cleaned and maintained. Routinely empty, clean, and refill livestock watering troughs.

It may be advisable to keep horses, pets, and other animals inside at night to reduce the probability of them being bitten by a mosquito. Horses can be kept inside a barn, with the barn doors closed. A vaccine to help protect horses from infection with West Nile virus was conditionally licensed by the U.S. Department of Agriculture in August 2001 and will be available in Georgia during 2002. You should contact your veterinarian if you have questions about this vaccine.

When I vaccinate my horse against Eastern Equine Encephalitis (EEE), Western Equine Encephalitis (WEE), or Venezuelan Equine Encephalitis (VEE), will that protect against infection with the West Nile virus?

No. The equine encephalitis viruses and West Nile virus belong to different families, so the vaccines are not expected to provide cross-protection. Further research is being done in this area.

Are wild game hunters at risk for West Nile virus infection?

Because of their outdoor exposure, hunters may be at risk if they are bitten by mosquitoes in areas where there is West Nile virus activity. Hunters should take precautions to avoid mosquito bites, such as applying mosquito repellent to clothing and skin according to label instructions. Hunters should also follow the usual precautions when handling wild animals. They should wear gloves when handling and cleaning animals to prevent blood exposure to bare hands and meat should be cooked thoroughly.

How can I prevent myself from being infected with West Nile virus?

The best way to prevent infections with West Nile virus and other mosquito-borne diseases is to avoid getting mosquito bites. Other viruses that are transmitted by mosquitoes, including those that cause St. Louis Encephalitis (SLE) and Eastern Equine Encephalitis (EEE), already exist in Georgia and you can take the following precautions to protect yourself and your family against them:

- Minimize time spent outdoors when mosquitoes are most active (usually dusk and dawn).
- If you go outdoors when mosquitoes are active, cover up by wearing shoes, socks, long-sleeved shirts, and long pants. Consider using a mosquito repellant that contains DEET (N, N-diethyl-methyl-meta-toluamide) on exposed skin. Use products containing 10% or less DEET for children and no more than 30% for adults. Do NOT use products containing DEET on infants. Carefully read and follow directions on the container and wash treated skin when mosquito exposure has ended.
- Make sure your home, porch, and patio have tight-fitting screens that keep mosquitoes out.
- All mosquitoes need standing water for the first stages of development. Eliminate stagnant water around your home, where mosquitoes can lay eggs, by disposing of old tin cans, jars, tires, plant pots, and any other container that can hold water. In the spring, inspect rain gutters and downspouts and remove any leaves and other debris. Stack wheelbarrows, tubs, buckets, barrels, boats or canoes, etc. upside down so that water cannot accumulate in them. Empty stagnant bird baths, lily ponds, small wading pools, etc. at least once a week. Properly maintain backyard swimming pools to discourage the development of mosquitoes. Cover any pool not in use so rainwater and leaves do not accumulate in it. Be sure the cover does not hold pockets of water.

Note: Vitamin B and "ultrasonic" devices are NOT effective in preventing mosquito bites.

Whom should I contact for more information?

- For Information about local mosquito control programs and how to report dead birds, please call your county health department. You may find the phone number in the government listings of your phone book.
- For general information about West Nile virus and surveillance for vector-borne diseases in Georgia, call your county health department or the Georgia Department of Human Resources, Division of Public Health at 404-657-2588. You may also visit the Georgia Division of Public Health website at http://health.state.ga.us/epi/vbd.shtml or the CDC website at http://www.cdc.gov/ncidod/dvbid/westnile/index.htm.
- For information about the use of insect repellents containing DEET or pesticides to control mosquitoes, visit the Environmental Protection Agency's (EPA) website at http://www.epa.gov/pesticides/factsheets/skeeters.htm.
- For maps of the current distribution of West Nile virus in the United States, visit the U.S. Geological Survey website at http://cindi.usgs.gov/hazard/event/west_nile/west_nile.html.