

West Nile Virus and West Nile Encephalitis
Georgia Department of Human Resources, Division of Public Health
Questions and Answers for Public Inquiries
(02/27/03)*

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. Rarely, WNV may also be acquired through blood transfusions or organ transplants, or possibly from a breast-feeding mother to her infant. The virus cannot be spread by casual 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 and first detected in Georgia in 2001. 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. Since then, WNV has continued to spread throughout the US, and is currently found in 43 of the 50 states. In 1999, 62 cases of severe disease, including 7 deaths, occurred in the New York area. In 2000, 21 cases were reported, including 2 deaths in the New York City area. In 2001, there were 66 human cases of severe disease and 9 deaths. In 2002, over 4000 people from 39 states were diagnosed with WNV encephalitis or WN fever, and more than 260 died. WNV infection is now considered endemic in the U.S., meaning it is no longer regarded as a foreign disease.

Is West Nile virus in Georgia?

Yes. On July 16, 2001 the presence of West Nile virus was confirmed in Georgia when a dead crow from Lowndes County tested positive for the virus. In 2001, a total of 326 West Nile virus-infected birds and 68 infected horses were identified in Georgia. Public health officials also identified six human cases of West Nile virus, located in five Georgia counties: Fulton, Macon, Wayne, Pierce, and Richmond. One human case was fatal.

In 2002, public health officials continued to find WNV in birds, horses, and mosquitoes throughout the state. In addition, 44 human cases of West Nile illness were identified, resulting in 7 deaths. Please view the map located at <http://health.state.ga.us/epi/vbd/wnv2002.shtml> for a complete summary of West Nile virus activity 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 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 (GDPH) 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 West Nile virus activity usually appears in birds before it infects other local animals or humans, GDPH is working with the University of Georgia College of Veterinary Medicine to look for the virus in resident and migratory birds throughout the state. Mosquito surveillance is also being conducted in some counties to further determine when the potential risk of human disease is high.

In addition to looking for West Nile virus in birds and mosquitoes, GDPH assists 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 are also tested for West Nile virus.

When West Nile virus or any other mosquito-borne disease is detected in Georgia, measures are taken to increase public awareness of ways to minimize mosquito exposure and prevent mosquito bites. 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 the West Nile virus will not have any type of illness. It is estimated that 20% of the people who become infected will develop West Nile fever: mild symptoms, including fever, headache, and body aches, occasionally with a skin rash on the trunk of the body and swollen lymph glands.

The symptoms of severe infection (West Nile encephalitis or meningitis) include headache, high fever, neck stiffness, stupor, disorientation, coma, tremors, convulsions, muscle weakness, and paralysis. It is estimated that 1 in 150 persons infected with the West Nile virus will develop a more severe form of disease.

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 an infected mosquito bites you, 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 healthcare 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; this vaccine has now been approved and is available. 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 lightweight 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. Spraying adulticides, pesticides that kill adult mosquitoes, is not the most beneficial or the most cost-effective way to control mosquito populations or mosquito-borne diseases, although it may be used along with other methods to help reduce mosquito numbers. Where possible, larvicides, pesticides that kill mosquito larvae, may be applied to catch basins and other areas that hold stagnant water. Source reduction, the removal of containers and other non-wetland mosquito breeding sites, can also be used to reduce mosquito populations and is a way in which everyone can help reduce disease risk in their yards and in their neighborhood.

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 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. A few of the birds 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. Please call to report your bird even if it is not tested, as 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 quickly determine where the virus is present in Georgia.

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 will not transmit the virus to you or your family. This viral infection is spread to people by the bite of an infected mosquito. However, 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?

Since it was first detected in New York in 1999, WNV has rapidly spread throughout the United States and Canada. By the end of 2002, WNV has been found in birds, animals, and/or mosquitoes in every state except Alaska, Arizona, Hawaii, Idaho, Nevada, Oregon, and Utah. All of the remaining states except Maine, New Mexico, Washington, West Virginia, and Wyoming have reported at least one human case as well. It is expected that WNV will soon be found in each of the 48 contiguous states.

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. Horses are susceptible to WNV and the disease may be fatal for some horses.

Please contact a veterinarian to evaluate and treat any pets or domestic animals that become ill. The Georgia Public Health Laboratory is not testing small mammals or pets (dogs, cats, squirrels, chipmunks, etc.) for West Nile virus as part of Georgia's 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. You cannot get WNV through contact with an infected animal or human. In addition, animals other than birds are considered dead end hosts. This means they do not produce enough virus to infect mosquitoes that feed on them. 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 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. The larvicides Bti and altosid can also be used in water to prevent mosquito breeding. These pesticides are safe to use in animal drinking water if applied according to label. 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. Do not use repellants designed for humans on horses or other animals. If a repellant is required, have your veterinarian recommend a suitable product. A vaccine to help protect horses from infection with West Nile virus is available in Georgia. 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), are also found 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. The mosquitoes that are more likely to carry WNV are usually active at dusk and dawn. However, some mosquitoes that bite during the day have also been known to carry WNV.
- If you go outdoors when mosquitoes are active, cover up by wearing shoes, socks, lightweight long-sleeved shirts, and long pants. Consider using a mosquito repellent 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. Consider remaining indoors at times when numerous mosquitoes are biting.
- Make sure your home, porch, and patio have tight-fitting screens that keep mosquitoes out. Consider using lights that do not attract insects.
- 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 birdbaths, 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.

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 information about West Nile virus in livestock and animals you may visit the Georgia Department of Agriculture website at <http://www.agr.state.ga.us/>.
- 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.shtm> or the CDC website at <http://www.cdc.gov/ncidod/dvbid/westnile>.
- 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/citizens/pesticides4mosquitos.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.