

**West Nile Virus and West Nile Encephalitis**  
***Frequently Asked Questions***  
**Alabama Department of Public Health**  
**Division of Epidemiology**

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***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. WNV has historically 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. WNV is closely related to the virus that causes St. Louis encephalitis (SLE), which has caused illnesses in Alabama residents in the past.

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

Yes. There was an outbreak of WNV 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. Most people infected with the virus, however, do not even know it. Studies in the northeastern U.S. revealed that almost 200 people were infected for every person that showed any illness. Of the ill people, only about 1% developed encephalitis; around 10% of the encephalitis patients died.

***Is West Nile virus in Alabama?***

Yes. On August 27, 2001, the presence of WNV was confirmed in Alabama. WNV was detected from a dead crow, a dead red-tailed hawk, and two dead blue jays that was submitted from Jefferson County. The birds died between August 7 and August 15, 2001. Seven additional blue jays have been diagnosed since that time with WNV - six of them in Jefferson County and one in Montgomery County. The first horses with WNV were confirmed on September 12, 2001 in Dale County. Both horses recovered. Since WNV has also been confirmed in Georgia and Florida, it can safely be assumed that the virus is present throughout most of Alabama, since infected birds or mosquitoes would not have "skipped" other areas of the state migrating to Jefferson County. WNV has usually first been detected in metropolitan areas of states because there are more people to observe the dead birds and submit them for testing.

***How concerned should I be about West Nile virus in Alabama?***

The disease caused by WNV is very similar to Eastern Equine Encephalitis (EEE) and St. Louis Encephalitis (SLE), but it is generally milder. EEE and SLE are also caused by viruses transmitted by mosquitoes. Their virus life cycle also involves being transmitted between birds and mosquitoes, and they have been in Alabama 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 Alabama residents?***

The Alabama Department 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, the Alabama Department of Public Health is working with over two dozen other cooperating agencies, universities, and contractors to look for the virus in resident and migratory birds throughout the state. More than 530 dead birds have been collected and tested in Alabama since May 2001. Since 95% of the birds that WNV has been detected in are crows, blue jays, and raptors (birds of prey), testing is limited to those three types of birds. Blood samples from 850 other birds have also been tested, and over 100,000 mosquitoes have been trapped and tested. In addition to looking for WNV in birds and mosquitoes, project cooperators are assisting veterinarians in having horses with symptoms of encephalitis tested for mosquito-borne viruses. Laboratory samples from humans in Alabama who are suspected of having a mosquito-borne viral encephalitis will also be tested for WNV. If WNV or any other mosquito-borne disease is detected in an area in Alabama, press releases will be issued and public education will be provided to increase awareness of personal protective measures to prevent mosquito exposure. Counties and cities will also be informed of other control measures to reduce the number of larval and/or adult mosquitoes in communities.

***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 (over 99%) who are infected with WNV

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. People with encephalitis are sick enough that they will seek medical care and be hospitalized. Symptoms of encephalitis may include high fever, severe headache, nausea, stiff neck, confusion, muscle weakness, paralysis, disorientation, convulsions, coma, and rarely, death. In addition to those symptoms, people with WNV infections may also have skin rash and enlarged or swollen lymph nodes. People who have any concerns about their health should contact a 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 Alabama are extremely low. Nationally, there are only about 3 fatalities annually from mosquito-borne encephalitis, but over 300 deaths that are heat-related. So people are 100 times more likely to be injured from heat exhaustion than WNV. Even in an area where mosquitoes are known to carry WNV or other viruses, very few mosquitoes will actually be infected and capable of transmitting the viruses to humans. 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 the eyes become unusually sensitive to light, people should consult their physician immediately.

***Is there a treatment for West Nile virus?***

No. There is no specific treatment, medication, or cure for illnesses caused by WNV or other arboviruses. 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 WNV infection was conditionally approved by the U. S. Department of Agriculture and the first 20,000 doses distributed to high risk states where WNV has occurred in horses. Another 250,000 is scheduled to be released Sept. 1, 2001 and another 500,000 doses on Sept. 15, 2001. WNV equine vaccine supplies are expected to be adequate after that time. Please contact a veterinarian for information about obtaining the vaccine for horses.

***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, people should take some simple precautions while outside, such as wearing light-colored and loose-fitting clothing, avoiding wearing fragrances, and applying an insect repellent (containing DEET) according to label directions

***Why isn't my neighborhood being sprayed for mosquitoes?***

Local officials in your city or county will decide whether or not to spray your community for mosquitoes. In most areas, spraying is not the most beneficial or the most cost-effective way to control mosquito populations or mosquito-borne diseases. Mosquitoes must have standing water to breed, so habitat reduction is the best method of ridding an area of mosquitoes. Larvicide can be used in standing water that cannot be drained or in backyard garden pools, and biological predators like mosquito fish will reduce the numbers. Again, the best way protection is to follow simple precautions that are detailed at the end of this sheet.

***I have seen dead birds. Should I report them?***

Many birds (many species of birds) will die when they are infected with WNV, but dead crows, blue jays, and raptors are the best indicator. Health officials successfully use dead bird reports of those 3 types of birds to track the spread of the virus. Please contact your county health department or county extension agent if you find dead crows, blue jays, or raptors near your home. Their phone number may be found in the government listings of the phone book. If the county health department or county agent asks that the dead birds be submitted 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 two feet deep. 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, protozoan, 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. WNV infection is spread to people by the bite of an infected mosquito. However, should not handle any dead animal with the 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 this year?***

So far during **2001** West Nile virus has been detected in MA, CT, RI, NY, NJ, PA, MD, VA, Washington DC, FL, GA, OH, MI, IN, LA., WI, IL and AL. 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](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 WNV 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 WNV-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. Alabama is not routinely testing small mammals or pets (dogs, cats, squirrels, chipmunks, etc.) for WNV. 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 poultry and their eggs?***

Commercial broilers and commercial hens are not fed on by mosquitoes because modern production facilities are well-ventilated by "tunnel" construction and large fans. The inside of poultry houses is cooler than outside during mosquito season, so mosquitoes do not enter the cooler, windy environment to feed. Backyard and hobby poultry may be exposed to mosquitoes, but surveillance over the last two years using sentinel chickens indicates that WNV disease is rare in poultry. It is expected that most chickens and turkeys that are infected with WNV 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 WNV or other mosquito-transmitted viruses appear in chickens' eggs.

***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 with WNV. In fact, although over 95% of horses infected with EEE will die, the fatality rate of WNV in horses is less than 25%.

***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 or in a screened enclosure to reduce the probability of their being bitten by a mosquito. Horses can be kept inside a barn, with the barn doors closed or screened, and they can also be vaccinated against WNV by calling a private veterinarian.

***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. There is no indication that dove, quail, or duck hunters are at a higher risk of contracting WNV from their game than from contracting any other microorganism. When the animal or bird is shot, hunters should no longer consider it to be game, but to think of it as food and use proper sanitation and safe cooking procedures.

### ***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 Alabama and people can take the following precautions to protect themselves and their family against them:

- Minimize time spent outdoors when mosquitoes are most active (usually dusk and dawn).
- If you go outdoors when mosquitoes are active, loose-fitting, light-colored, long-sleeved shirts and pants.
- Avoid using cologne, after shave, fragrances or lotions and sprays that contain fragrances.
- Use 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.
- 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.
- Replace outside light bulbs with yellow light bulbs to discourage mosquitoes.
- Citronella candles and lamps can help repel mosquitoes from outside areas during social activities.

**\*\*Note:** *Vitamin B, chlorophyll tablets, citronella plants and "ultrasonic" devices are NOT effective in preventing mosquito bites.\*\**

### ***Whom should I contact for more information?***

- For Information about local mosquito control programs, contact your municipal or county officials. For information on how to submit crows, blue jays, or raptors for testing, please call your county health department or county extension agent.
- 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](http://cindi.usgs.gov/hazard/event/west_nile/west_nile.html).