What Horse Owners Should Know About West Nile Virus

What is West Nile encephalitis?

West Nile encephalitis describes an inflammation of the central nervous system, which is caused by infection with West Nile Virus. Prior to 1999 West Nile Virus was found only in Africa, Eastern Europe, and West Asia. In August of 1999 it was identified in the United States.

How do people or animals become infected with West Nile Virus?

People and animals can become infected from the bite of certain kinds of mosquitoes that are infected with the virus. Mosquitoes may pick up the virus when they bite, or take a blood meal, from wild birds that are infected with West Nile Virus. Those mosquitoes may then transmit the virus to people and other animals when biting to take a blood meal. Infection occurs primarily in the late summer or early fall in the northeast and Mid Atlantic regions.

Does infection always lead to illness?

Infection with West Nile Virus does not always lead to signs of illness in people or animals. Horses appear to be a species that is susceptible to infection with the virus. In horses that do become clinically ill, the virus infects the central nervous system and may cause symptoms of encephalitis. Clinical signs of encephalitis in horses may include a general loss of appetite and depression, in addition to any combination of the following signs:

- fever
- weakness of hind limbs
- paralysis of hind limbs
- impaired vision
- ataxia (weakness)
- head pressing
- aimless wandering
- convulsions (seizures)
- inability to swallow
- walking in circles
- hyperexcitability
- coma

It is important to note that not all horses with clinical signs of encephalitis have West Nile encephalitis. Certain other diseases can cause a horse to have symptoms similar to those resulting from infection with West Nile Virus. If you are concerned that your horse may be exhibiting signs of encephalitis, please contact your veterinarian. Laboratory tests are necessary to confirm a diagnosis.

Is treatment available for West Nile encephalitis in horses?

There is no specific treatment for West Nile encephalitis in horses. Supportive veterinary care is recommended. It is important to diagnose WNV because infection is an indication that mosquitoes carrying the virus are in the area and need to be eliminated.

Is a vaccine available to protect against infection with West Nile Virus?

A WNV vaccine for horses is now available. It is important that vaccination records be kept updated for each horse that receives the vaccine. Horses vaccinated against Eastern, Western, and Venezuelan equine encephalitis are not protected against infection with West Nile Virus.

How can I protect my horse against infection with West Nile Virus?
Vaccination of horses is not a guarantee of protection against infection, and does not offer any protection for other animals or people. The best method of prevention of infection with West Nile Virus for people and animals is to reduce the risk of exposure to the mosquitoes that may carry the virus. Reducing the risk involves eliminating mosquito breeding sites to reduce the number of hatching mosquitoes, and to reduce exposure to adult mosquitoes. Mosquitoes breed in stagnant water, so reduction of breeding sites involves eliminating stagnant water sources. To reduce the number of mosquito breeding sites:

a. Dispose of tin cans, plastic containers, buckets, ceramic pots or other unwanted water-holding containers on your property.
b. Pay special attention to discarded tires. Tires are important mosquito breeding sites.
c. Drill holes in the bottom of recycling containers left outdoors. Containers with drainage holes located only on the sides collect enough water to act as mosquito breeding sites.
d. Clean clogged roof gutters every year. Millions of mosquitoes can breed in roof gutters each season.
e. Turn over plastic wading pools when not in use.
f. Turn over wheelbarrows and don’t let water stagnate in birdbaths.
g. Empty and refill outdoor water troughs or buckets every few days.
h. Aerate ornamental pools or stock them with fish. Water gardens can become major mosquito producers if they are allowed to stagnate.
i. Clean and chlorinate swimming pools when not in use. Mosquitoes may even breed in the water that collects on pool covers.
j. Use landscaping to eliminate standing water that collects on your property, especially near manure storage areas. Mosquitoes may breed in any puddle that lasts for more than four days.

Additional steps can be taken to reduce the likelihood of exposure of horses to adult mosquitoes:

a. Reduce the number of birds in and around the stable area. Eliminate roosting areas in the rafters of the stable. Certain species of wild birds are thought to be the main reservoir for the virus. (Although pigeons have been shown to become infected with West Nile Virus, they do not appear to act as reservoirs and therefore don’t transmit the virus to mosquitoes).
b. Topical preparations containing mosquito repellents are available for horses. Read the product label before using.

**Can a horse infected with West Nile Virus infect other horses?**

There is no evidence that infected horses can transmit the virus to other animals, people, or mosquitoes. Only a wild bird-mosquito transmission cycle has been proven as a means of transmitting West Nile Virus.

**Can ticks spread West Nile Virus?**

Research is ongoing within the public health community to determine the role ticks play in the vectoring of West Nile virus. Scientists have confirmed ticks become infected with West Nile virus and may be able to amplify the disease within the avian community. Some researchers have also suggested that the ticks pass West Nile virus between generations and that is how the disease survives the winter.

**Where can I get more information about West Nile Virus?**

For more information:
United States Department of Agriculture (717) 782-3442