



STATE OF NEW HAMPSHIRE  
DEPARTMENT OF HEALTH AND HUMAN SERVICES  
DIVISION OF PUBLIC HEALTH SERVICES



## West Nile Virus and Eastern Equine Encephalitis in Horses

### **Can West Nile virus (WNV) or Eastern Equine Encephalitis (EEE) cause illness in horses?**

Yes, horses can be infected with WNV and EEE, and horses have tested positive for these viruses here in New Hampshire. Since 2001, several horses have tested positive for WNV. Positive cases of EEE in horses have been documented since 1972.

### **What are the signs of WNV/EEE in a horse?**

In a small number of horses, these viruses can affect the central nervous system and cause encephalitis (inflammation of the brain tissue). Horses with severe clinical signs can die as a result of the infection. Clinical signs may include one or more of the following: fever, depression, loss of appetite, weakness, ataxia, head pressing, circling, convulsions, irritability, blindness, or coma. However, it is important not to presume that horses with clinical signs of encephalitis have WNV or EEE. A definitive diagnosis requires ruling out other important diseases – such as rabies, botulism, equine protozoal myeloencephalitis, and other mosquito-borne viral diseases caused by Western and Venezuelan encephalitis viruses – that also exhibit neurological signs. It is important to remember that only a relatively small number of infected horses ever develop neurological signs of these diseases.

### **How do horses become infected with WNV/EEE?**

Horses become infected the same way humans become infected: by the bite of an infected mosquito.

### **Can humans contract WNV/EEE directly from infected horses?**

No, the WNV/EEE viruses are not passed from horses to humans by contact with body fluids or in other ways. Furthermore, they are not spread from horse to horse either. Humans and horses are known as “dead-end” hosts. They have so few viral particles in the blood stream that a mosquito cannot accumulate enough of the viruses while taking a blood meal to subsequently transmit the infection.

### **How can I confirm that a horse is infected with WNV or EEE?**

A positive diagnosis of WNV/EEE can be made only by examining blood or pathology testing from an infected horse.

### **How are WNV and EEE treated in horses?**

To date, no treatment for infected horses exists because no specific anti-viral agents have been identified that would affect either virus. Treatment of affected horses should be based on the presenting signs and focused on reducing the severity of the disease. Weakened and impaired animals should be protected from injuring themselves. Fluid and nutrient supportive therapy also may be required, either by intravenous methods or by stomach tube.

### **Is there a vaccine against WNV and EEE?**

Yes, there is an approved vaccine for equine use only. Timing of vaccination is important. Contact your veterinarian for further information.

### **What can I do to reduce the horse's risk of becoming infected with WNV/EEE?**

#### *Reduce Mosquito numbers*

- Eliminate stagnant or standing water, for instance by avoiding water overflow from troughs, reducing run-off and pooling of irrigation water, eliminating accumulated water in flower pots, and removing old tires and other containers in which water can collect.
- Eliminate piles of decaying organic matter such as leaves, lawn clippings, and manure.

#### *Reduce exposure of horses to infected mosquitoes*

- House horses inside barns during peak periods of mosquito activity (dusk and dawn).
- Avoid turning on lights inside the barn during the evening and overnight. Mosquitoes are attracted to incandescent bulbs.
- Use fans to keep air moving in barns.
- Apply mosquito repellants approved for use in horses. Read the product label before using, and follow all instructions carefully.

**For more information call the  
New Hampshire Department of Health and Human Services,  
WNV/EEE Information line  
1-866-273-NILE (6453)**

**For specific questions about WNV or EEE in horses,  
Please call the NH Department of Agriculture at  
(603) 271-2404.**