

WNV and EEE in Animals

Can West Nile virus (WNV) or eastern equine encephalitis (EEE) virus cause illness in dogs or cats?

Yes, but these infections are very rare. WNV infection has occasionally been identified in dogs and cats. Most cats or dogs infected with these viruses fully recover from the infection. A few cases of EEE have been found in very young dogs housed exclusively outdoors in the southeastern part of the United States.

What other domestic animals have been found to be infected with West Nile or EEE virus?

Horses, llamas and alpacas are all known to be susceptible to both WNV and EEE. In addition, emus, ostriches and some non-native species of game birds (such as pheasants and quail) are also susceptible to EEE. Since 2008, 17 horses, and three and alpacas have been found to have EEE, and six horses have been found to have WNV infection in Massachusetts.

How do animals become infected with WNV or EEE virus?

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

What are the signs of WNV infection and EEE in animals?

In most susceptible animals, these viruses can cause encephalitis (inflammation of the brain tissue). Signs may include one or more of the following: fever, depression, loss of appetite, weakness, uncoordinated movement, head pressing, circling, convulsions, irritability, blindness, or coma. Animals with severe disease may die. However, not all animals with signs of encephalitis have WNV infection or EEE. A definitive diagnosis requires ruling out other important diseases – especially rabies.

Emus and other related bird species do not develop encephalitis; instead they develop severe bleeding in the stomach and intestines. Sudden death and bloody diarrhea are the most common signs.

Can humans contract WNV infection or EEE directly from animals?

No. These viruses are not passed from most animals to humans by contact with body fluids or in other ways. Furthermore, they are not spread from animal to animal either. Veterinarians should take normal infection control precautions when caring for an animal suspected of having these or any other viral infection.

Emus, which develop bloody diarrhea from EEE, may be able to spread the disease to other animals or humans that have direct contact with infected blood or feces. Owners and veterinarians should be particularly careful to protect themselves when dealing with an emu that might have EEE.

How can I confirm that an animal is infected with WNV or EEE virus?

Veterinarians can test for WNV and EEE by submitting blood or tissue from an animal. Testing is available at the Massachusetts Department of Public Health during the mosquito season. Testing is rarely required for dogs and cats; horses, llamas and alpacas are the most commonly tested animals

Should an animal infected with WNV or EEE virus be destroyed?

There is no reason to destroy an animal just because it has been infected with WNV or EEE virus. They do not increase the risk that anyone else will get sick. However, some animals, especially horses, llamas and alpacas, may become so severely ill that they cannot recover. Talk to your veterinarian to get medical advice for your particular animal.



How are WNV infection and EEE treated?

To date, no specific treatment for either WNV infection or EEE exists. Supportive treatment should be directed at the signs of illness, and focused on reducing the severity of the disease.

Is there a vaccine against WNV and EEE virus?

Yes, there is a vaccine that is approved for use in horses only. The vaccine has been used successfully in some other species, such as llamas and alpacas. Timing of vaccination is important and should be planned for April or May in Massachusetts. Contact your veterinarian for further information.

Can I use insect repellent on my pets?

Repellents recommended for humans are **not** approved for veterinary use. Talk with your veterinarian for advice about the appropriate product for use on your pet.

What can I do to keep my animal from becoming infected with WNV or EEE?

- Talk to your veterinarian about vaccination.
- 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.
- Keep animals indoors during peak periods of mosquito activity (dusk and dawn).
- Keep screens repaired and free of holes.
- Avoid turning on lights inside barns during the evening and overnight. Mosquitoes are attracted to light.
- Apply mosquito repellents approved for use in animals. Read the product label before using, and follow all instructions carefully.

Where can I get more information?

- **For questions about your animal's health:** call your veterinarian.
- **For general questions about domestic animals:** Massachusetts Department of Agricultural Resources at www.mass.gov/agr or by calling 617-626-1795.
- **For information on mosquito control:** The State Reclamation and Mosquito Control Board (SRMCB) within the Massachusetts Department of Agricultural Resources oversees mosquito control in Massachusetts (<https://www.mass.gov/state-reclamation-and-mosquito-control-board-srmcb>). The SRMCB can be contacted at 617-626-1777. Information on established mosquito control district can be found at <https://www.mass.gov/service-details/srmcb-mosquito-control-projects-and-districts-information>.
- **For information on WNV and EEE:** The Massachusetts Department of Public Health (MDPH), Division of Epidemiology and Immunization at (617) 983-6800, the MDPH Mosquito-borne Disease website at www.mass.gov/dph/mosquito, or your local board of health (listed in the telephone directory under local government).

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