Equine Encephalomyelitis, About

Drs. Foster & Smith Educational Staff

Sometimes known as "Sleeping Sickness," (or "African Sleeping Sickness"), Equine Encephalomyelitis is a disease that affects the nervous system. This disease is caused by at least three different types of equine encephalomyelitis viruses (Eastern, Western, and Venezuelan), which are carried by mosquitoes.

Signs include depression and a high fever, followed by a period when the horse appears blind, nervous and uncoordinated, which progresses to muscle tremors, yawning and eventually complete paralysis. Proper vaccination and good mosquito control are important to help prevent these diseases.

These three separate types of viruses all have common signs. Signs include:

- **Depression**
- **Lethargy**
- **Fever**
- **Head pressing**
- **Circling**
- **Confusion**
- **Seizures**

The most common types of Equine Encephalomyelitis in the United States are Eastern Equine Encephalomyelitis (EEE) and Western Equine Encephalomyelitis (WEE). The EEE virus is found in eastern Canada, all states east of the Mississippi River, and Arkansas, Minnesota, South Dakota, and Texas. It also occurs in the Caribbean and regions of Central and South America, including along the Gulf coast. The WEE virus is found in western Canada, Mexico, parts of South America, and west of the Mississippi River in the United States. Venezuelan Equine Encephalomyelitis (VEE) viruses are endemic in South and Central America and Trinidad. Most epidemics of VEE occur in northern and western South America, but some may spread into adjacent countries, including the United States. According to APHIS (Animal and Plant Health Inspection Service, the U.S. governmental service that monitors disease in livestock and horses), the most recent outbreak of VEE in the United States was in the early 1970s.

Eastern Equine Encephalomyelitis (EEE)

EEE can be transmitted by over 23 species of mosquitoes that bite an infected animal and then bite and feed on another animal or human. The speed with which the disease spreads depends on the density of mosquitoes in the environment and the number of infected horses. Humans can also contract this disease, although both horses (and other equids) and humans are "dead end hosts," meaning the disease cannot spread from horse to human or human to horse.

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After infection, equines may suddenly die or show progressive central nervous system disorders. The rapidity of deterioration and eventual outcome of infection vary among individual horses. The equine mortality rate due to EEE ranges from 75 to 90 percent.

Humans can also contract this disease. Healthy adults who become infected by the virus may experience flu-like symptoms such as high fevers and headaches. The young, the elderly, and people with weakened immune systems are most at risk for complications from this disease.

Because outbreaks of EEE are infrequent, the number of susceptible horses is often high, especially if they have not been vaccinated. Therefore, the disease often has a significant economic and social impact once it enters a specific area. When the disease appears in an area for the first time, there is a loss of horses and/or poultry, which can also contract the virus. The area may also experience an increase in human morbidity and mortality.

Western Equine Encephalomyelitis (WEE)

WEE is normally spread between birds by *Culex tarsalis*. Horses and humans are generally bitten in late summer. Western equine encephalitis is found in North, Central, and South America, but most cases have been reported from the plains regions of the United States. The mortality rate for WEE has been estimated to be between 20-50 percent.

Venezuelan Equine Encephalomyelitis (VEE)

The highly pathogenic form of VEE has not occurred in the United States since 1971. However, in 1993, an outbreak of VEE in the State of Chiapas, Mexico, prompted the U.S. Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS) to temporarily increase its surveillance activities and tighten its quarantine requirements for equine species entering the United States from Mexico. The equine mortality rate due to VEE ranges from 75 to 90 percent.

Protect your horse by vaccinating.

4 Ways to Help Protect Your Horse

DynaTrap Insect Eliminator for Barns & Stables

SimpliFly® with LarvaStop™ by Farnam

Equine Vaccines

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