

Key Facts about Equine Herpes Virus

During an EHV outbreak, knowledge and awareness are powerful tools in controlling the spread of the virus among horse populations.

Q. What is equine herpes virus and EHV-1?

Equine herpes virus is a common virus that occurs in horse populations worldwide. One of the virus' most common strains is equine herpes virus type 1 (EHV-1) that's known to cause respiratory diseases as well as outbreaks of abortions and neurologic disease.

Q. Which horses are most susceptible?

The respiratory disease caused by EHV is most common in weanlings and yearlings. Older horses are more likely to transmit the virus without showing clinical signs.

Q. What are the clinical signs?

Fever commonly precedes other clinical signs, but it may be the only sign of infection. Other potential clinical signs include respiratory disease: fever, coughing and nasal discharge. Abortion is another potential sign: abortions caused by EHV typically occur late in pregnancy, often without warning signs.

Neonatal foals may be infected *in utero* and are usually abnormal from birth. Weakness, jaundice, respiratory distress and neurologic signs are among the clinical signs. Affected foals typically die within several days. Older infected foals generally have nasal discharge or other signs of respiratory disease.

Q. What is EHM?

Equine herpesvirus myeloencephalopathy (EHM) is another name for the neurologic disease caused by EHV-1 infection. It results from widespread damage to blood vessel endothelium (lining) — including damage to the blood-brain barrier. EHM can cause single cases of disease, but it has also been identified as a cause of outbreaks affecting 20 to 50 per cent of affected populations. EHM outbreaks may or may not be associated with previous or concurrent respiratory disease.

Q. What are the clinical signs of EHM?

Neurologic disease may be preceded by fever and respiratory signs. EHM typically affects the hind limbs and urinary tract. Common signs include inco-ordination, urinary incontinence and bladder distension. Severely affected horses may become recumbent and unable to rise. "Dog-sitting" may be observed. Horses generally remain bright and often continue to eat and drink.

Q. What's the virus' incubation period?

While the time between infection and onset of clinical signs can be as short as 24 hours, the incubation period typically lasts between four and six days — and can extend longer. EHV abortions can occur from two weeks to several months following infection.

Q. How is the virus transmitted?

- Aerosol: The virus is primarily transmitted by aerosol (inhalation of infectious droplets from coughing and snorting) and through direct and

indirect contact. Shedding by the respiratory route typically lasts for seven to 10 days but can persist longer.

- EHV-related abortions: Aborted fetuses, fetal membranes and fetal fluids are infectious. Mares that have aborted also shed virus in their respiratory secretions.
- Indirect transmission: The virus can be indirectly transmitted between infected and uninfected horses when nasal secretions or fluids from abortions are moved via people or inanimate objects.
- Poor hygiene: A lack of handwashing and sharing of equipment can potentially transmit the virus to uninfected horses. People who are in contact with infected horses should change their clothes and thoroughly clean and disinfect their hands before handling other horses.

Q. How is EHV infection diagnosed?

Veterinarians often suspect the disease based on clinical signs, but it's recommended that further testing (serology, virus isolation and molecular testing) be done to establish the diagnosis.

Q. What's the treatment for EHM?

- Treatment is mostly supportive and includes anti-inflammatory medication such as corticosteroids. Some horses may require IV fluid therapy.
- Place affected horses in a safe, well-bedded stall, especially if they're severely unco-ordinated and have trouble rising. Recumbent horses may benefit from the use of a sling.
- Horses that have difficulty urinating may need to be catheterized several times daily and may benefit from medication to support bladder function.
- Specific treatments directed against the virus are under investigation. Preliminary research suggests a potential benefit of antiviral medications such as acyclovir and valacyclovir.

Q. What's the prognosis?

While the prognosis is generally favourable for mildly affected horses, the outcome is poor for those that become recumbent for prolonged periods. It may take several weeks to months before neurologic deficits resolve in recovering horses, and some may have persistent deficits for the rest of their lives.

Q. How long are affected horses still infectious?

Affected horses usually shed the virus for up to a week — possibly longer — after the onset of fever or neurologic disease. Infected animals typically develop latent infections, and they can shed virus with or without showing signs of the disease for the rest of their lives. Latently-infected horses typically shed the virus during periods of stress, and re-activation of the virus is responsible for the spread and survival of the virus in horses. This also provides a logical explanation for occasional outbreaks observed in isolated herds.

Q. Can owners vaccinate horses against EHV?

Several vaccines against EHV are available. Vaccination should be based on the perceived risk of infection, but it's generally recommended for

broodmares. Horse owners should talk to their veterinarians about vaccination programs. Horse owners and veterinarians can also consult the American Association of Equine Practitioners (AAEP) vaccination guidelines. None of the currently available vaccines states any claim for protection against the neurologic form of EHV infection.

Q. Can vaccines prevent further cases during an EHV outbreak?

The benefit of vaccination in the face of an outbreak is questionable. Booster vaccination may reduce virus spread and it hasn't been associated with detrimental effects.

Q. What can I do to control EHV's spread?

- If you suspect your horse is infected with EHV, ask your veterinarian to examine your horse and conduct appropriate testing.
- Isolate any infected horses immediately and avoid all direct and indirect contact with other horses. Exposed horses should also be isolated as a precautionary measure.
- Stop all horse traffic on and off premises where infected horses have been identified.
- Isolate infected and exposed horses from the general population for 28 days following the onset of the last identified case. Veterinarians can conduct testing to determine whether horses are still shedding the virus.
- Pay strict attention to hygiene and wash your hands properly.

Q. What should be done after an EHV outbreak?

To prevent further cases, it's important to thoroughly clean and disinfect your facilities and all equipment. EHV is susceptible to many disinfectants, but as a precaution, read the information provided with disinfectant products or contact the manufacturers. Before disinfecting your facilities, make sure to remove manure, nasal secretions and other organic materials from the site.

Q. How can you prevent EHV outbreaks?

Boarding facilities, show grounds, auction barns and other public facilities should discuss biosecurity with their attending veterinarian and develop a biosecurity protocol specific to their situation. Biosecurity measures include isolation of new horses upon arrival, testing of new horses upon arrival, and requirements for health certificates and/or vaccination.

Original source: American Association of Equine Practitioners (www.aaep.org), with additional information provided by Dr. Katharina Lohmann, Department of Large Animal Clinical Sciences, Western College of Veterinary Medicine (www.wcvm.com).



Spring 2008: EHV-1 Outbreak

Early this spring, an outbreak of equine herpes virus type 1 (EHV-1) in the Saskatoon area put horse owners across the province on alert and caused WCVM's Veterinary Teaching Hospital to suspend its regular equine clinical services for 29 days. By mid-April, WCVM veterinarians believed that more than 100 horses at two farms in the Saskatoon area had been exposed to the virus in the previous four weeks. About 20 per cent of those horses developed clinical signs of the neurologic form of EHV-1, and one horse was euthanized due to severe neurologic signs.

During the outbreak, WCVM teamed up with the Farm Animal Council of Saskatchewan Inc. (FACS) to organize an EHV information seminar for Saskatoon-area horse owners on April 10. The same partners, along with the Saskatchewan Veterinary Medical Association, organized a second seminar for southern Saskatchewan's horse community on April 22 in Regina, Sask. During both sessions, a combined total of more than 400 horse owners learned the facts about EHV-1 from infectious disease specialist Dr. Hugh Townsend.

As Townsend pointed out in his presentations, the percentage of horses affected by the neurologic form in the Saskatchewan-based outbreak is very similar to what has been seen in other outbreaks of EHV-1 throughout North America. "EHV-1 is not a new disease: we've seen it for many years. Based on the numbers that we have for this outbreak, it does not seem that our situation is different or more severe than what has been seen in other situations," said Townsend, a professor in WCVM's Department of Large Animal Clinical Sciences and a senior research scientist at the Vaccine and Infectious Disease Organization (VIDO).

Townsend added that there's no scientific evidence indicating that recovered horses increase the risk of EHV infection to other horses. "Extrapolating from studies conducted in the United States, it seems likely that about 10 per cent of the horses in Saskatchewan carry the neurotropic strain of EHV-1, and have probably done so for many years. Currently, there is no evidence to suggest that these horses should be treated or managed differently from any of their herdmates."

Photo: Adele Buettner, Farm Animal Council of Saskatchewan