



Key facts about equine herpes virus (EHV)

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?

All horses are susceptible to infection with EHV, but clinical signs and severity of disease may differ; some horses may even become infected and transmit the virus without showing clinical signs. The respiratory disease caused by EHV is most common in weanlings and yearlings. Pregnant mares are susceptible to abortion. The neurologic form of disease may occur more commonly in aged horses.

Q. What are the clinical signs?

Fever commonly precedes other clinical signs, but it may be the only sign of infection. Typical signs of respiratory disease include coughing and nasal discharge. Abortions caused by EHV-1 typically occur late in pregnancy, often without warning signs. For the neurologic disease, see below. Different forms of the disease can occur concurrently.

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 — 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?

- *Direct contact:* The virus is primarily transmitted through direct contact between horses. Virus shedding by the respiratory route typically lasts for seven to 10 days but can persist longer. Aborted fetuses, fetal membranes and fetal fluids are highly infectious. Mares that have aborted also shed virus in their respiratory secretions.

- *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. Equipment (buckets and halters, for example) should not be shared between infected and uninfected horses.

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



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 seven to 20 days — possibly longer — after the onset of fever or neurologic disease. Infected animals typically develop latent infections, and they can shed virus (following virus reactivation) 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 (those that have been in contact with a known infected horse) 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.