



Equine Herpesvirus (EHV-1 and EHV-4)

Disease Name: Equine Herpesvirus 1 and Equine Herpesvirus 4

Disease Type: Viral

Transmission: EHV is spread from horse to horse through contact with nasal discharge, infected fetal tissues, or spread as aerosol droplets. Horses can also contract the virus by coming into contact with contaminated surfaces such as stalls, water, feed, tack, and transport vehicles. Humans can spread the virus from horse to horse through contaminated hands, clothing and equipment.

Frequency: EHV-1 and EHV-4 are common causes of mild respiratory disease in horses. EHV-1 and occasionally EHV-4 causes abortion in mares. Equine Herpesvirus Myeloencephalopathy (EHM), the neurologic form of EHV-1, is comparatively uncommon. In exceptionally rare cases, EHM may be caused by EHV-4.

Incubation period: The time from exposure to the development of clinical signs ranges from 24 hours to 10 days; longer if initial mild clinical signs are overlooked. Horses can shed the virus during the incubation period, before they develop clinical signs of disease.

Carrier status: The length of time that a horse is capable of spreading EHV is variable. Horses with clinical signs (nasal discharge, abortion, neurologic signs) should be considered contagious until cleared by their veterinarian through testing, quarantine, or both. Quarantine or isolation for a period of 14-28 days after resolution of clinical signs is generally recommended. Your State Animal Health Official (state veterinarian, SAHO) and veterinarian will make specific quarantine recommendations.

Contagious period: The length of time that a horse is capable of spreading EHV is variable. Horses with clinical signs (nasal discharge, abortion, neurologic signs) should be considered contagious until cleared by their veterinarian through testing, quarantine, or both. Quarantine or isolation for a period of 14-28 days after resolution of clinical signs is generally recommended. Your State Animal Health Official (state veterinarian, SAHO) and veterinarian will make specific quarantine recommendations.

Severity: Highly variable; mild signs of respiratory illness to abortion to severe neurologic disease

Clinical signs: Some or all of the following signs may be present

Respiratory disease

- Fever
- Nasal discharge and/or cough
- Enlarged mandibular or retropharyngeal lymph nodes
- Lethargy and/or poor appetite

Abortion and foal disease

- Late-term abortion (may occur up to several months following infection)
- Sick foal that generally dies in first 3 days of life (rare)

Neurologic disease- often preceded by fever, respiratory signs, and swollen limbs

- Incoordination, often most severe in the hind limbs
- Urine dribbling
- Inability to stand
- Mentation changes and/or deficits of the nerves controlling the eyes, head and face

Diagnosis: EHV-1 and EHV-4 are diagnosed by PCR testing of nasal swab and whole blood samples. EHV and EHM are reportable to the State Animal Health Official (SAHO) in many states. Veterinarians should report positive cases to the SAHO and EDCC; the EDCC releases information to the public once the SAHO has notified owners of all exposed horses and a quarantine is in place.

Treatment: Supportive care and rest. In some cases of close-contact exposure, antivirals may be recommended before clinical signs develop. Non-steroidal anti-inflammatory medications, such as phenylbutazone (Bute) or flunixin meglumine (Banamine) are used to control fever and improve appetite. Anticoagulant and corticosteroid therapies may be recommended for EHM cases.

Prognosis: Although infection with herpesvirus is often lifelong, most horses make a full clinical recovery from the respiratory form in 1-2 weeks. Horses with EHM may take longer to recover and neurological signs may never fully resolve. Though the majority of horses with EHM that are treated survive, EHM can be fatal.

Prevention: Vaccinations are available for protection against abortion and the respiratory form of EHV-1 and EHV-4. There is currently no vaccine labeled for the prevention of the neurologic form (EHM). Evidence does not exist to determine whether vaccinating horses during an outbreak of EHM prevents spread of disease. Management practices for preventing EHV-related disease includes maintaining current vaccinations on all horses on the property, practicing biosecurity while traveling and showing, and quarantining any new horses (or horses returning to a farm after travel) for at least 21 days before integration into the farm herd. Avoiding co-mingling of horses in different age groups (e.g. broodmare with yearlings) is also helpful to reduce EHV transmission. Horses should have their temperatures monitored twice daily, particularly in higher risk settings like travel or show.

Biosecurity: Biosecurity practices for EHV focus on minimizing horse-horse transmission through prevention of inhalation of aerosolized particles from nasal discharge and reduced contact with contaminated objects including people, clothing, feed and water, cleaning implements, and stalls. This includes extensive cleaning and disinfection of surfaces and equipment that come in contact with infected horses, as well as isolation of any horse that tests positive on nasal swab or blood.