



# FACT SHEET

Department of Animal Science, University of Connecticut

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Effective Horse Management – Horse Health Series

## Equine Herpesvirus

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Equine herpesvirus infections have been highlighted in many news articles since they are very common in horse populations. There are sporadic outbreaks due to equine herpesvirus in equine populations. Therefore, it is good to be familiar with the types of equine herpesviruses, clinical signs associated with the disease, transmission, diagnosis, treatment and especially, ways to protect your horses from infection.

### Types of Equine Herpesvirus

Equine herpesviruses (EHV) are in the family alphaherpesviridae and are enveloped double stranded DNA viruses. There are 5 alpha herpesviruses that infect horses (EHV-1, 2, 3, 4, and 5). For the purposes of this fact sheet, we will focus on EHV-1 and EHV-4, which are the two that result in serious clinical disease in the horse. EHV-1 and EHV-4 used to be considered subtypes of the same virus, but are now recognized as closely related but different viruses. EHV-1 is commonly found in horse populations worldwide and was previously referred to as the equine abortion virus. Although EHV-1 is well known for causing reproductive disease, it is also known to cause respiratory and neurological disease. EHV-4 is also known as equine rhinopneumonitis virus and is most common among foals and yearlings. Although EHV-4 most commonly causes respiratory disease, it can also cause abortion and neurological disease.

### Clinical Signs Associated with Equine Herpesvirus Infection

The incubation period (period of time from exposure to development of first clinical signs) ranges from 2 to 10 days. Respiratory signs for EHV-1 and EHV-4 include fever of 102 -107° F that lasts for 1-7 days, coughing, depression, inappetence (going off feed), and nasal discharge. Abortion usually occurs between months 7 and 11 of gestation, about 2-12 weeks after infection. There is no evidence that the mare's reproductive tract is damaged, and it does not affect her ability to conceive in later estrous cycles. Signs of neurologic disease for EHV-1 and EHV-4 include mild incoordination, hindlimb paralysis, recumbency (lying down and being unable to get up), loss of bladder and tail function, and loss of sensation to the skin around the tail and hindlimb areas.

### **Transmission**

Transmission occurs when infected and uninfected horses come in either direct (nose to nose contact) or indirect (through buckets, clothing, blankets that are contaminated) contact with nasal discharges of infected horses. The virus can travel via aerosol (in the air) for short distances. The virus may also be transmitted by contact with aborted fetuses, placental fluids, or placentas from infected horses. Also, following infection, horses may become latent carriers of EHV; the virus may be reactivated after stress or high doses of corticosteroids in these latent carriers.

### **Diagnosis and Treatment**

Upon detection of clinical signs suggestive of EHV, the veterinarian may choose to take a nasopharyngeal (nose and throat) swab of the horse, blood sample, or tissue from the aborted fetus for detection of virus in the tissues. Paired blood samples for detection of antibody titers (levels) may also be taken. Treatment involves supportive care and treatment of the symptoms. Non-steroidal anti-inflammatory drugs are commonly used to reduce fever, pain and inflammation. In uncomplicated cases, complete recovery will occur in a few weeks. Horses with neurological disease have variable recovery rates depending on severity of the clinical signs. The prognosis is poor if the horse is recumbent (unable to stand) for an extended period of time. The horse should be rested until fully recovered and gradually returned to work.

### **Protection**

There are two types of vaccines available for use in the horse for protection against EHV 1 and 4, but their use remains controversial. Vaccination may reduce the severity and duration of disease, but will not totally prevent the disease. Your equine veterinarian should be consulted regarding the most appropriate use of vaccination in your particular circumstance. Since latent infection is still a problem, vaccination must go hand-in hand with the use of best management practices.

There are both modified live virus and killed virus vaccines available. The modified live virus vaccine contains virus that has been altered to make it unlikely to cause disease but is still able to reproduce in the body cells and stimulate immunity. The killed vaccine contains virus that has been inactivated or killed using either heat or chemicals. The

modified live vaccine is administered intranasally and offers quicker protection. There is no scientific basis to indicate that the modified live vaccine will cause disease. The killed vaccine is given intramuscularly. Vaccine usage in light of the recent outbreaks of neurological EHV-1 is currently being re-evaluated. Consult your veterinarian for recommendations.

In order to prevent an outbreak, horses arriving on a farm from other locations should be isolated for 3-4 weeks before being introduced into the resident horse population. Reduce management-related stressors that may increase the possibility of stress-induced reactivation of latent EHV-1 in carrier horses. Keep horses separated by physiological state or group, especially with regards to pregnant mares, who should be kept away from weanlings, yearlings, and performance horses or other horses that travel frequently.

In the case of an outbreak, infected horses should be isolated from other horses. The stable should be quarantined for at least three weeks after signs of clinical disease in the last case subside. All stable equipment should be disinfected. People handling the infected horses should be sure to wash their hands after handling each horse, dip their shoes in a disinfecting foot bath, and change clothes before working with healthy horses. Some sources suggest that bedding be removed and burned. Barn stalls, aisles and other surfaces should be cleaned and disinfected as well. Although this virus can last for several weeks in the environment, it is readily killed by most common disinfectants; phenol based disinfectants are commonly used.

Equine herpesvirus infection can become a serious problem. Being aware of the types of equine herpesvirus, clinical signs associated with the disease, transmission, diagnosis, treatment and especially, ways to protect your horses from infection, will aid you if there is an outbreak in your area. Incorporating measures to protect your horse now may prevent problems in the future.

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#### Acknowledgements:

I am grateful for the reviews by an anonymous peer reviewer and Dr. Debra Hagstrom of the University of Illinois, Horse Extension Specialist.