

## **Equine Herpesvirus Disease**

Respiratory disease accounts for a major reason necessitating veterinary attention and treatments in our horses. This is especially true in our horses less than three years of age. Respiratory infections carries the notorious distinction of being the number cause of lost training time in young horses. Respiratory disease exceeds lameness in this regard, and amounts to huge financial treatment costs, irreclaimable reduced performance, and lost training time expenses. Many of the respiratory disease cases diagnosed and treated in horses is viral in nature and many of the viral respiratory infections are caused by herpes viruses.

There are nine herpes viruses numbered and identified to date in the horse, [Equids]. Most authors agree that there are five identified and numbered viruses affecting our domestic horses, [EHV 1-5]; with numbers EHV 6-9 occur in wild Equids such as asses and zebras. Furthermore, numbers EHV-1 and EHV-4 are the most significant disease producing herpesviruses in our domestic horses and they are referred to as Equine Herpesvirus #1 [EHV-1] and Equine Herpesvirus #4 [EHV-4]. Herpes viruses are very resilient with highly sophisticated life cycles to ensure their persistence. One of these life ensuring principles for the Herpesvirus is the phenomenon scientists call Latency. Latency is the marvel in which a once sick but recovered horse carries the virus in a quiescent or hidden state. It is important to note that this is a horse that no longer shows signs of being sick or infected. This hidden character of the virus can be maintained for long periods of time and is a major reason herpes infection keep reoccurring in our vulnerable horses. Periodically, this latent or “sleeping” virus undergoes reactivation providing a mechanism for new disease outbreaks and virus spread.

Clinical signs of the respiratory form of Herpesvirus disease include fever, depression, not eating, dry cough, and discharge from the nose. Frequently the nasal discharge will be clear but secondary bacterial opportunists may turn the discharge cloudy. Pregnant mares infected with EHV-1 are at a high risk for immediate abortion, or they may abort months later due to the above described virus latency phenomenon. Pregnant “latently” infected mares that do not abort may go on to infect their developing foals with the EHV virus; resulting in these newborn EHV infected foals almost certain death soon after birth.

Respiratory infections can occur year around, but just like the flu in humans, viral respiratory infections in horses are far more common in the winter months. So far, I have outlined that EHV-1 has the ability to produce equine respiratory infections, abortion in pregnant mares, and fatal virus infected foals; but EHV-1 can additionally cause severe paralytic neurological disease in our horses. The exact reason some infected EHV-1 horses get the neurological form of the disease following a respiratory bout is not perfectly clear; but essentially it relates to some

families of EHV-1 being more capable [more virulent] of producing disease than others, specifically the neurological EHV disease syndrome.

There is no effective cure for Herpesvirus infections at this time, so prevention, hygiene, and supplemental vaccination becomes paramount. Horses with complicating secondary bacterial infections on top of herpes infections may require antibiotic therapy however, your veterinarian will make this determination.

Three prevention goals practiced are: attempting to limit herpes infected and carrier horses onto your farm, limiting spread and severity of disease on your farm once you have the virus, and limiting spread to adjacent farms and vulnerable horses. In order to accomplish the above goals, isolation practices must be implemented. We do not have a clear isolation time identified [virus latency complicates isolation recommendations], but most experts agree it needs to be three weeks minimum. We also know the virus can survive for more than a month on feed tubs, stalls, and the like...hygiene practices must be instituted. Horses actively infected with EHV are contagious and should be isolated.

Effective vaccination against EHV's assists our control management measures, but in and of itself, vaccination does not afford sure protection. There are currently almost a dozen different types of EHV vaccines available, each with its manufacturer's claim to fame. The truth is: proof of vaccination effectiveness is very difficult to document and we have all as veterinarians, experienced many vaccine failures. Extensive research continues to develop improved vaccines against EHV-1 and EHV-4, and these expensive efforts must continue. Current vaccines therefore should be viewed only as assisting with herpes disease control, and are not intended [or marketed] to provide complete EHV control. Your veterinarian will be essential in developing and maintaining an EHV vaccination program for your horse or horses.