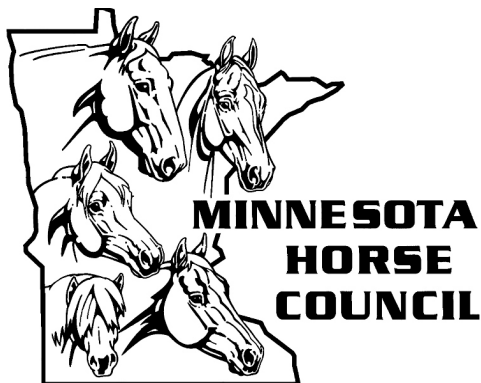


EQUINE HERPESVIRUS EHV-1



EHM

Equine herpes myeloencephalopathy (EHM) is another name for the neurologic disease associated with equine herpesvirus (EHV-1) infections. This form of the disease is potentially **fatal**. Neurologic signs appear as a result of damage to blood vessels in the brain and spinal cord associated with EHV infection. Interference with the blood supply causes tissue damage and subsequent loss in normal function of areas in the brain and spinal column.

How common are EHV-1 infections?

By 2 years of age, most horses have been infected with EHV-1. The initial exposure generally occurs in foals from contact with their dams. The virus can then become latent, or inactive, in the horse's body setting up a carrier state that is lifelong. Horses of any age that are carriers of EHV-1 do not show external signs of disease when the virus is in a latent form. The virus can be reactivated during times of stress, such as strenuous exercise, long-distance transport, or at weaning.

Why should I be concerned about EHV-1?

EHV-1 is the cause of EHM. EHM may be **fatal** and it can take survivors up to **2 years to fully recover**. In recent years, there has been a **marked increase** in the number of EHM cases in the United States. There have been several outbreaks of EHM at large facilities and events. The large number of horses that can become exposed and the rapidity with which the disease can spread has the potential to be devastating to the horse industry.

The recent occurrences of EHM meet the criteria of an emerging disease. A disease is considered emerging if the disease changes in severity, or other changes in pathogen behavior.

How is the virus spread?

The most common way for EHV-1 to spread is direct horse-to-horse contact. The virus is shed from infected horses via the respiratory tract or through direct or indirect contact with an infected aborted fetus and fetal membranes. Llamas and alpacas can contract the disease and spread it as well.

Horses may appear to be perfectly healthy yet spread the virus via the secretions from their nostrils. EHM horses shed millions more viral particles than other EHV infections.

It is important to realize that EHV can also spread indirectly through contact with physical objects contaminated with infectious virus. Such as:

- Tack
- Wipe rags or other grooming equipment
- Feed and water buckets
- People's hands or clothing

DISINFECTION

EHV-1 does not persist in the environment for a long time. The virus is very sensitive to many different disinfectants, to UV light (sunlight), and drying.

SIMPLE DISINFECTION PROTOCOL FOR EHV-1:

- 1) Thoroughly clean the areas before disinfection, i.e., remove all organic material (manure, bedding, food, etc.)
- 2) Dilute 5 tablespoons of household bleach per 1 gallon of water (or one part bleach and 9 parts water)*
- 3) Use this solution to spray or dip cleaned surfaces, tools, footwear, etc.
- 4) Use disposable materials or products that can be disinfected when treating sick or isolated animals.

If you touch horses, wash your hands and clean your boots.

What are the signs of EHM?

The initial clinical signs of the infection may be mild and include fever of 102°F or greater. Fever may be the only abnormality observed. Other presenting signs may be combinations of fever and respiratory symptoms of nasal discharge and cough. EHV-1 can also cause abortions and neonatal death.

The incubation period of EHV-1 infection is **HIGHLY VARIABLE** depending on the horse, the virulence of the virus, and environmental and other factors such as stress. The **AVERAGE** incubation period is 4 to 7 days, with the majority of cases being 3 to 8 days, but with some taking up to 14 days. In most cases, horses exposed to EHV-1 will develop a fever and possibly nasal discharge and then go on to recover. When neurological disease occurs, it is typically 8 to 12 days after the primary infection involving fever (maybe as high as 105°F).

SIGNS OF EHM

- Fever precedes neurologic signs by 8-12 days,
- Decreased coordination
- Urine dribbling
- Loss of tail tone
- Hind limb weakness
- Leaning against a wall or fence to maintain balance
- Lethargy
- Inability to rise

**CURRENT VACCINES
DO NOT PREVENT EHM**

Biosecurity Measures to prevent EHV-1 infection and dissemination

Large groups of horses sharing a common airspace can all be infected by one horse shedding the virus. If you suspect that your horses have been exposed to EHV-1, take rectal temperatures daily (normal adult body temperature is 100.5°F). Typically, horses infected with EHV-1 have a temperature of 102°F or higher.

There are three major steps in preventing the dissemination of EHV-1:

- 1) Reduce the risk of introduction of the disease to horses in the premises.
- 2) Reduce the spread of the disease to other horses in the premises.
- 3) Reduce the spread of infection beyond the infected premises.

Good management practices that should be implemented:

- Have an original recent health certificate or certificate of veterinary inspection on new arrivals.
- Verification of vaccination of new introductions. Vaccination of new animals should be done at least 14 days before entering a facility. Follow the recommendations of your veterinarian.
- New arrivals should be healthy without recent fever or other clinical signs of infection.
- New arrivals should originate from premises without a history of EHV-1 infection.
- Isolate newly arrived horses for 2-3 weeks (take daily temperature).
- Restrict movement to and from the isolation area.
- Isolated horses should be treated, fed and cleaned last (after the resident horses) and with dedicated equipment.
- Use hygienic measures (gloves, coveralls, hand washing with soap, foot baths).
- Have dedicated tack material for each animal.
- Avoid sharing fences, buckets, common water sources.
- Do not dip the water hose into the bucket.
- Isolate sick horses (any disease).
- Always work sick horses last in your chore routine. Change/clean clothing after completing chores.
- Clean and disinfect trailers after each use (remove organic material prior to disinfecting).
- Change coveralls and clean and disinfect boots when moving between barns or farms.
- Separate horses in small groups
- Do not rotate horses from stall to stall.
- Properly dispose of bedding and leftover feed or hay.

RESOURCES

- United States Department of Agriculture (USDA)USDA:APHIS:VS:CEAH. 2008. Equine Herpesvirus Myeloencephalopathy: Mitigation Experiences, Lessons Learned, and Future Needs. N#522.0708
<http://www.aphis.usda.gov/vs/nahss/equine/>
- USDA:APHIS:VS:CEAH:CEI. Emerging Animal Disease Notice. 2007. Equine Herpes Virus Myeloencephalopathy: A Potentially Emerging Disease.
http://www.aphis.usda.gov/vs/ceah/cei/taf/emerging_diseasenotice.files/ehv.pdf
- USDA:APHIS. Biosecurity-the Key to Keeping Your Horses Healthy.
http://www.aphis.usda.gov/publications/animal_health/content/printable_version/HorseBioSecurity_final.pdf
- University of California Center for Equine Health (CEH)
<http://www.vetmed.ucdavis.edu/ceh/topics.htm>
- American Association of Equine Practitioners (AAEP)
http://www.aaep.org/control_guidelines_nonmember.htm
http://www.aaep.org/vaccination_guidelines.htm
- Iowa State University Biological Risk Management (BRM)
<http://www.cfsph.iastate.edu/BRM/equineresources.htm>
<http://www.cfsph.iastate.edu/BRM/disinfects.htm>