

# **BLACK POND VETERINARY SERVICE, INC.**

**PO BOX 5417**

**NORWELL, MA 02061**

**(781) 659 - 7798**

**Dr. Dana Pantano**



## **EQUINE HERPES VIRUS-1**

(a.k.a. Rhinopneumonitis, Rhino, Herpes)

### **A. What is EHV-1?**

- EHV-1 is one of several DNA viruses that can cause serious disease in the horse. This form is most commonly associated with respiratory disease, although it can also cause abortion, neurologic disease and neonatal death.
- EHV does not usually cause severe respiratory infection in adult horses. It is estimated that most adult equines are carriers of the virus due to exposure during the first year of life. Stress such as showing, heavy training, shipping, etc. can occasionally result in recrudescence (re-activation) of the virus, thereby causing signs of clinical disease.
- Horses that are carriers of EHV-1, whether clinically ill or not, can periodically shed live (replicating) and dead (nonreplicating) virus via their nasal secretions.
- The recent outbreaks of concern (Florida, California, Connecticut) are thought to be related to a mutated form of EHV-1, which can cause severe neurologic disease and is highly contagious.

### **B. What are the clinical signs of EHV-1?**

- Classic clinical signs of rhinopneumonitis include fever, serous or purulent nasal discharge, cough, etc. It is very similar to equine influenza. Younger horses are typically more severely affected than older horses.
- The neurotropic form of EHV-1 can cause a range of clinical signs, including fever, ataxia (incoordination), paresis (weakness), paralysis, weak tail/anal tone, and urinary incontinence. The hind limbs are often the more severely affected than the front limbs. Sometimes, horses present with respiratory disease prior to or while developing these neurologic signs.
- Horses can display classic respiratory signs approximately 1-3 days following infection. Neurologic signs can take longer to appear, often becoming apparent 6-10 days after infection.
- It is not uncommon to have horses present with different signs of EHV-1 infection in different groups of horses on one given farm (i.e. some horses in one facility become profoundly neurologic, some horses display respiratory illness, and some horses only develop mild fever).

C. How is EHV-1 transmitted?

- EHV is transmitted primarily via direct, horse-to-horse contact – this includes contact with virus shed in nasal or ocular secretions, saliva, abortion fluids and aerosolized virus (within the stall and stable). It can also be spread via contaminated personnel, feed, equipment or tack.
- Since most horses are infected by EHV-1 as foals/yearlings, it is thought that the reactivation of latent infection is important in the transmission of the virus. This is why outbreaks of EHV have been reported on farms without recent history of new arrivals.
- Horses which are carriers of the virus and are stressed by shipping, heavy training, showing, surgery, etc. may develop clinical signs of EHV, or may remain asymptomatic but shed infectious virus to other horses.
- Keep in mind that most horses recently known to have had exposure to incubating EHV-1 horses have not developed clinical disease. However, common sense biosecurity practices are critical in controlling the spread of disease! (See below for more info).

D. How is EHV-1 diagnosed?

- Any horse with a high fever and/or clinical signs of coughing or mild nasal discharge, with or without neurologic signs, should be tested for EHV-1 (if another definitive cause of these signs has not been determined).
- Horses at risk (i.e. exposed to the virus) should also be tested.
- Samples for diagnostic testing should include a nasal swab and blood collection. Both samples can be submitted to one of several laboratories for PCR testing.
- A positive result on PCR testing indicates the presence of viral DNA in nasal secretions or blood, but does NOT predict clinical outcome. In other words, a positive result is most significant in a horse displaying clinical signs of disease (fever, nasal discharge, cough, neurologic deficits, etc).
- Random testing of healthy horses is not recommended at this time, as it may detect dead (nonreplicating) viral DNA; latent, low level, transient carriage of virus; or viral levels that are not sufficient to pose a significant risk for disease transmission.

E. How is EHV-1 treated?

- There is no specific treatment for EHV-1. Our primary goal is to minimize stress, ensure adequate rest, and to reduce possible spread of disease to other animals.
- Supportive care in affected horses may include fluid therapy, anti-inflammatory medication (NSAIDS, steroids, DMSO, etc), antibiotics (to prevent secondary bacterial infections), placing of neurologic horses in a sling, catheterization of the bladder for those unable to urinate, etc.
- Recently, some trials have been performed using a human antiviral drug (Acyclovir) in cases of neurologic disease.

- F. Is there a vaccine to prevent EHV-1?
- There are several vaccines available labeled for use against the respiratory form of EHV-1. There are no vaccines proven to be effective against the neurotropic form of this virus.
  - There is some recent evidence that modified-live virus vaccine is more effective than killed virus vaccine at reducing clinical signs of disease and reducing the shed of active virus in infected horses. Additional research is required to make definitive conclusions about the various vaccines available on the market.
  - Use of the killed virus vaccine is appropriate in a low risk environment (pleasure horses that don't travel extensively, closed herds with limited exposure to new animals, etc).
  - Use of the modified-live virus vaccine is appropriate in a high risk environment (show and performance horses, horses which travel extensively, etc).
  - Give us a call to chat about a recommended vaccination strategy for your specific circumstance.
- G. What do I do to keep my horse as safe as possible?
- Use common sense! Keep new arrivals isolated for 2-3 weeks before joining the herd. Keep resident horses away from those just visiting the farm. .
  - Keep pregnant mares away from the main barn population whenever possible.
  - Minimize stress associated with excessive work, long trips, shows, etc.
  - Follow your veterinarian's recommendation for vaccination.
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- H. What do I do in case of an EHV outbreak?
- If you have any concerns about your horse, call your vet ASAP!
  - Maintain a log of twice-daily temperatures on horses that might be at risk.
  - Temperatures >102 with possible exposure to EHV-1 should be tested as described above.
  - Isolate suspect horses ASAP. Disinfect or dispose of equipment, personnel, tack, brushes, etc. that have come into contact with these horses. Thereafter, be sure to use separate equipment for each horse and be sure handlers follow basic biosecurity protocols (disposable boots, gloves, coveralls, etc) after handling suspect cases
  - Limit movement and exercise of all horses and personnel on an affected farm.
  - If a horse is positive on viral testing, quarantine for 21 days and monitor for clinical signs of disease. Retest periodically until disease is confirmed or eliminated based upon a negative PCR and absence of clinical signs.
  - Maintain quarantine measures until there is no further evidence of new, developing cases. At this time, gradually remove quarantine restrictions as recommended by your veterinarian.

