

# Protecting horses from Equine Herpesvirus type 1 associated myeloencephalopathy (EHM)

In light of recently recognized cases of Equine Herpesvirus type 1 associated myeloencephalopathy (EHM) in the New England area, the Hospital for Large Animals at Cummings School recommends appropriate biosecurity measures for any horses with a sudden onset of neurological signs or fever. We have found from professional experience that strictly enforced measures to prevent the spread of infectious disease and monitoring can be effective in preventing disease transmission in both the hospital and barn setting.

The following general recommendations to prevent the transmission of equine herpesvirus to healthy horses have been adapted from the animal and plant health inspection service of the USDA, for use in the field.

## 1. How can I limit exposure of my horse to EHV-1?

**Key fact:** The main carrier of EHV-1 is the HORSE, including both actively infected animals and so-called healthy carrier horses (silent shedders) with the reactivated virus.

Increased awareness, good horsemanship as well as appropriate isolation and hygiene are the key factors in preventing transmission of equine herpesvirus (EHV-1) between susceptible horses. *Monitoring of body temperature (twice daily) and restricting movement of horses* is the most effective means of eliminating virus spread between horse facilities.

**Animals susceptible to EHV-1 infection:** Equids (e.g. horses, ponies, donkeys), camelids (llamas, alpacas).

## Introducing New Horses or Returning Horses from a show:

This is the most likely way for infectious diseases to come in!

Recommended routine ISOLATION PROTOCOLS for incoming horses:

- ▶ Keep every new horse ISOLATED for at least 3 weeks. Ideally these horses should be housed in a separate building. If you do not have a separate barn, the following options can be considered:
  - Keep the horse outside if you have a shelter.
  - Keep the horse at the end of the barn (low traffic area) and ensure that there is a minimum of one stall space between the isolated horse and other animals.
  - A physical barrier (plastic drapes) may help, but will not eliminate spread disease spread of particles transmitted through droplets in the air.
  - The minimum distance between horses suspected of having been exposed to EHV-1 should be 35 feet (distance particles may be spread after sneezing).
- ▶ Use pitchforks, grooming tools, or feed and water buckets any horse isolated. Mark these with red tape to color-code brushes, buckets, cleaning equipment etc., only for the isolation area.
- ▶ Use dedicated clothing (coverall, boots, shower cap) and remove these before leaving the isolation area. You can keep these in a plastic-covered tub near the horse.
- ▶ Always wash your hands after working with an isolated horse.
- ▶ Work with the isolated horse last each day. Only allow access to dedicated personnel if possible.
- ▶ Take the isolated horse's temperature twice daily and consult your veterinarian if the body temperature rises above 101.5 °F. Watch for signs of dullness, nasal discharge, lack of appetite, lack of balance or incoordination, as directed by your primary veterinarian.

- ▶ Similar precautions may be taken for horses returning from shows or other facilities with uncertain exposure to infectious diseases.

### **Visiting other Farms, Horse Shows, or Auctions**

- ▶ Have a pair of shoes that you save for visiting and don't wear around your own horse.
- ▶ If you are going to be working with horses on another farm, wear coveralls or plan to change clothes before returning to your horse.
- ▶ Avoid contact of your horse to other animals, people and shared equipment at shows.

### **For Visitors to your Farm or Horse**

- ▶ It is best to have only one way into your farm. Mark this as the main entrance.
- ▶ Park away from the horses. Doing this will help keep disease-carrying organisms from being tracked from car floors or tires to your animals.
- ▶ Ask all visitors to wear clean clothes and shoes. Give visitors plastic shoe covers, or brush dirt off their shoes and spray them with disinfectant. If you have many visitors, such as at a farm tour or open house, make a footbath for them to walk through.
- ▶ Talk to your farrier and primary veterinarian about specific measures they could institute to limit possible cross contamination between animals they visit.

### **Transporting horses**

- ▶ Always clean and disinfect vehicles used for moving horses and other livestock after each use (if the vehicle smells of "horse", it's not been effectively cleaned).
- ▶ Use a spray disinfectant over areas to which horses have made contact.

### **Disinfection**

Herpes viruses are susceptible to many disinfectants. In general, a 1:10 dilution of bleach to water is effective against EHV-1. Both alcohol and bleach disinfectants are inactivated by organic matter, such as manure and soil. Before disinfection, all areas must be thoroughly cleaned with soap or detergent to decrease the organic matter present. In barn environments, it is advisable to use a disinfectant that retains activity in the presence of organic matter since

it cannot be completely eliminated. Phenolics, such as 1 Stoke Environ® or SynPhenol-3®, and accelerated hydrogen peroxide products, such as Accel®, retain activity. Be sure to follow manufacturer recommendations and label instructions!

### **2. If I get EHV-1 on the farm, how should I handle this?**

All management of EHV-1 should involve close communication with your primary and state veterinarian!

1. Establish an EARLY diagnosis through PCR analysis of whole blood and nasal swabs for genomic copies of EHV-1 (including neurotrophic strains).
  - If initial PCR testing is negative but case presentation is suggestive for EHM, daily PCR testing of nasal swabs should be continued for a minimum of 3 consecutive days.
2. Prevent further spread of the virus from initially infected horses to other horses on the farm.
  - ALL personnel handling or caring for animals should be educated about isolation procedures.
  - Allow contact only to dedicated personnel (who does not handle any other horses) and equipment (label or color code buckets, halters, lead ropes etc.).
  - Wear protective outer clothing (including hair-cover), disposable latex gloves and disinfectant-immersible footwear, all of which needs to be removed upon leaving the isolation area.
  - Once an EHM (suspect) case has been identified, recording rectal temperatures twice daily of the general equine population should be mandatory. Any additional cases of fever (temperature > 101.5° F in any horse or temperature >100.5° F in horses receiving anti-inflammatory medications such as bute or banamine) should be thoroughly investigated and immediately isolated from other horses.
  - Experimental EHV-1 infection studies have shown that nasal shedding of the virus can last for up to 14 days or longer in individual horses. Resolution of viremia (virus clearance from blood) in neurological horses is typically reported by Days 8–12 after experiment infection. Quarantine periods may be mandated for up to 28 days following resolution of viral shedding and fevers in affected horses.