



2011 Outbreak of Equine Herpes Virus-1 (EHV-1) Equine Herpes Myeloencephalopathy (EHM) Frequently Asked Questions

June 2, 2011

CURRENT OUTBREAK SUMMARY QUESTIONS

When did the 2011 EHV-1/EHM outbreak begin?

On May 13, 2011, the National Cutting Horse Association (NCHA) notified State Animal Health Officials that fifty-four (54) California horses, which competed in Western National Championship held in Ogden, Utah on April 30-May 8, 2011, may have been exposed to the neurological strain of the EHV-1 virus. Some of these same horses competed in the Kern County Cutting Horse event in Bakersfield, CA on May 13, 2011. One horse that competed in Ogden, UT was euthanized at the Kern County Cutting Horse event after showing severe neurological signs; EHM was the final diagnosis for this horse. All horses at the Ogden, UT and Bakersfield, CA events were potentially exposed to the disease.

Where can I get the most up-to-date information on this disease outbreak?

In California, EHV-1/EHM is a disease reportable to State Animal Health Officials within 48 hours of diagnosis. The California Department of Food and Agriculture (CDFA) Animal Health Branch (AHB) is responsible for monitoring this EHV-1/EHM outbreak, for conducting EHV-1/EHM disease investigations, for confirming positive cases and issuing quarantines on EHV-1 positive horses. For the latest information on confirmed cases in California, visit

http://cdfa.ca.gov/ahfss/animal_health/equine_herpes_virus.html or call the AHB Headquarters Office at 916-654-1477.

Where do I report a suspect case of EHV-1/EHM?

In California, any suspect case of EHV-1/EHM should be reported to the CDFA Animal Health Branch (AHB) Headquarters Office (916-654-1477) or a local AHB District Office (See District Office Telephone numbers below).

What type of horse is primarily affected in this outbreak?

The current outbreak of EHV-1/EHM centers in the cutting horse population. To date, the EHV-1/EHM positive horses in California have been ones that participated in the Ogden, UT or Bakersfield, CA cutting events, or horses subsequently exposed to horses returning to premises after these events. Currently in California, there are no confirmed EHV-1/EHM cases in any other discipline.

Is my horse at risk for this disease?

Horses which participated at the Ogden, UT or Bakersfield, CA cutting events are an "exposed high-risk" population of horses. A horse which had subsequent exposure to an "exposed high-risk" horse is considered an "exposed at-risk" horse. Exposed horses should be isolated and monitored for clinical signs of EHV-1/EHM. Horses with no exposure to the designated exposed populations of horses are "at low risk" for the disease in this outbreak.

Has there been spread of this disease to other than cutting horses?

As of June 1, 2011, all confirmed cases of EHV-1/EHM are horses which competed at the Ogden, UT or Bakersfield, CA cutting events, or horses subsequently exposed to horses returning to premises after these events. To date, there has been no evidence of disease spread beyond this population of horses.

Are the California borders closed to movement of horses?

The California borders are open for movement of horses into and from the state. Routine entry requirements for horses into California include a valid Certificate of Veterinary Inspection (health certificate) with evidence of a negative Equine Infectious Anemia test (Coggins Test) obtained within 6 months prior to entry. CDFA continues to monitor the current situation to assess the disease risk to the California equine industry.

Can I travel out-of-state with my horse?

CDFA has not been informed of border closure for any state. If you are planning to travel out-of-state with your horse, contact the Office of the State Veterinarian in the state of destination for the most current entry requirements for horses before you travel.

CURRENT OUTBREAK SUMMARY QUESTIONS (CONTINUED)

Is it safe to show my horse?

There is always risk when horses of unknown health status are commingled at one location for a show or competition. When considering whether to show your horse, evaluate each event situation independently and consider disease risks of the specific event. Consistent basic biosecurity practices play an important role in reducing risk of exposure to diseases such as influenza, strangles, pigeon fever, or equine herpes virus when attending an event. Currently, cutting horses that participated in the Ogden, UT or Bakersfield, CA cutting events in May 2011 pose an increased risk of exposure to EHV-1/EHM.

EHV-1/EHM DISEASE QUESTIONS

What is the disease agent for the current outbreak?

Equine Herpes Virus-1 (EHV-1) is the disease agent in the current outbreak. EHV-1 infection in horses can cause respiratory disease, abortion in mares, neonatal foal death and neurological disease.

Are there different strains of EHV-1?

There are two strains of EHV-1 ubiquitous in the environment. The wild type non-neuropathogenic strain of the virus most commonly causes respiratory disease, abortion and neonatal foal death, but may occasionally result in neurological disease. Licensed vaccines effective against this strain of the virus are available. The mutant neuropathogenic strain of EHV-1 most commonly causes the neurologic disease syndrome, Equine Herpes Myeloencephalopathy (EHM). Currently manufactured licensed vaccines have no label claims to protect against the mutant neuropathogenic strain. The mutant neuropathogenic strain has been laboratory confirmed as the disease agent in all confirmed cases in this outbreak.

What is Equine Herpes Myeloencephalopathy (EHM)?

EHM is the neurological disease syndrome caused by the EHV-1. In this syndrome, the EHV-1 virus damages blood vessels in the brain and spinal cord causing the various neurological clinical presentations of the disease.

Are all equids susceptible to EHV-1?

All equids are susceptible to EHV-1. Mules and donkeys are asymptomatic carriers that do not show clinical signs of the disease but can shed the EHV-1 resulting in disease spread.

Can humans be infected with EHV-1?

EHV-1 is not transmissible to humans.

Are other animal species susceptible to infection with EHV-1?

There are rare reports of disease caused by EHV-1 in alpacas, llamas and guinea pigs. The disease does not affect livestock, cats or dogs.

Can a horse be a carrier of EHV-1?

It is thought that a significant percentage of horses are asymptomatic carriers of EHV-1. Similar to herpes viruses in other species, the dormant form of EHV-1 can reactivate at a later date, but generally with a low viral load posing a low risk of infecting another horse. It is unlikely that latent carriers of the neurotropic EHV-1 strain will reactivate to cause reintroduction of the disease at a later time.

How does the virus shed from an infected horse?

Some horses infected with the neuropathogenic strain of EHV-1 can shed a large amount of virus in nasal secretions. Horses that have been exposed to the virus and not showing clinical signs of disease can also shed virus into the environment. Respiratory shedding of the virus generally occurs for 7-10 days, but may persist longer in infected horses.

EHV-1/EHM DISEASE QUESTIONS (CONTINUED)

How does this virus spread?

EHV-1 is spread in nasal secretion and can spread by direct horse-to-horse contact. The virus may also be spread indirectly through contact with objects contaminated with the virus, such as clothing, human hands, equipment, tack, trailers, feed/water buckets and wash rags. The virus can become airborne but only for short distances.

How long can the virus live in the environment?

Sunlight and dry environments inactivate the virus. It is estimated that the virus remains viable on clothes and human hands for 4-6 hours. In the environment under normal circumstances, the virus is estimated to be viable for up to 7 days however; it may survive for a maximum of one month under moist conditions away from sunlight.

As an owner of an exposed horse, what should I do to monitor my horse?

Owners of exposed or potentially exposed horses should monitor the rectal temperature on each horse two times a day. A rectal temperature greater than 102°F commonly precedes other clinical signs of EHM. If a temperature reading above 102°F occurs or other clinical signs of disease are observed, immediately contact your private veterinarian for evaluation of the horse and preferably collection of nasal swabs and blood for laboratory testing.

What are the clinical signs of EHM?

Clinical signs of EHM in horses may include fever, nasal discharge, limb edema, incoordination, hindquarter weakness, recumbency, lethargy, urine dribbling and diminished tail tone.

How soon after exposure could my horse show clinical signs of disease?

The EHV-1 incubation period is defined as the period of time from exposure of the horse to the virus to the time the horse displays clinical signs of disease. The incubation period for EHM is typically from two (2) to ten (10) days, but may be as short as twenty-four (24) hours or as long as fourteen (14) days. The clinical sign of fever typically precedes respiratory signs and limb edema. Neurological signs may appear suddenly, progress rapidly and peak in intensity within 24-48 hours from the onset of neurologic signs.

What is the likelihood that my EHV-1/EHM exposed horse will get sick and die?

Due to the limited number of past EHM outbreaks, there is little field data incidence of illness and death in exposed horses. Studies indicate that 80% of infected horses will display a fever; 30-35% of infected horses will develop neurologic signs; and 5-15% of infected horses will die or be euthanized. Long term prognosis is good for infected horses that do survive.

How is EHM diagnosed?

Diagnosis of EHM is based on clinical signs and detection and isolation of the virus. A private practitioner should obtain a nasal swab and/or blood sample from an exposed horse with clinical signs of EHV-1 to submit to a diagnostic laboratory to test for the virus. Laboratory testing can determine if EHV-1 is present and the specific strain of EHV-1.

Is there a treatment for EHM?

Supportive treatments for EHM include administration of intravenous fluids, anti-inflammatory drugs, antiviral drugs and other appropriate supportive therapies.

Are antiviral drugs effective against EHM?

In horses with a high risk of exposure, develop a fever or test positive for EHV-1, the administration of antiviral drugs may decrease the chance of the horse developing neurologic signs of the disease.

EHV-1/EHM DISEASE QUESTIONS (CONTINUED)

Are vaccines protective against EHM available?

There are no USDA licensed EHV-1 vaccines with label claims of protection against the neurologic strain of EHV-1. Limited research results do indicate that some EHV-1 vaccines have been shown to reduce nasal shedding of the virus and, in some cases, reduce the amount of virus present in the blood of an infected horse. Use of vaccination during an outbreak is controversial and risk-based; a decision to vaccinate should be made in consultation with a veterinarian.

What disinfectants are effective against EHV-1?

Herpes viruses are susceptible to many disinfectants. In general, 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. Therefore prior to the disinfection process, all areas must be thoroughly cleaned with soap or detergent to decrease the organic matter present before use of these products. In barn environments, where organic material cannot be completely eliminated, it is advisable to use a disinfectant that retains activity in the presence of organic matter. Phenolics, such as 1 Stoke Environ® or SynPhenol-3®, and accelerated hydrogen peroxide products, such as Virkon®, have this property. Be sure to follow manufacturer recommendations and label instructions for the disinfectant selected for use.

How should I isolate my EHV-1/EHM positive horse?

Isolate EHV-1/EHM positive horses in a separate area on the affected premises or identify new premises without any horses as the site of isolation. Aerosol and fomite transmission are key modes of disease spread on an infected premises. Even with establishment of extreme biosecurity precautions, the ability to manage EHV-1/EHM cases in the same stabling area with other horses is often ineffective.

What biosecurity measures should be implemented for EHV-1 positive or suspect horses?

- Isolate any suspect, exposed, or confirmed positive EHV-1/EHM horses.
- Restrict access of personnel to isolation area.
- Wear protective clothing including coveralls, rubber boots or plastic boot covers when entering the stall or contacting an EHV-1/EHM suspect, exposed or confirmed positive horse. All protective clothing should be disposed of or washed before contacting any other horses.
- Use disinfectant-saturated foot mats or foot baths filled with disinfectant at entry and exit doors to barns and stalls. Be certain to change foot bath solutions frequently since the presence of organic matter may deactivate the disinfectant.
- Wear disposable gloves while handling infected animals. Thoroughly wash your hands with soap and water between contacts with horses.
- Always handle healthy animals first and sick animals last.
- Use separate grooming, feeding and handling equipment for each horse.

Where can I get additional EHV-1/EHM information?

- **CDFA EHV-1 Webpage:** http://cdfa.ca.gov/ahfss/animal_health/equine_herpes_virus.html
- **USDA EHV-1 Webpage:** <http://www.aphis.usda.gov/vs/nahss/equine/ehv/>
- **American Assoc. of Equine Practitioners:** http://www.aaep.org/EHV_resourcesowner.htm
- **UC Davis Center for Equine Health:** http://www.vetmed.ucdavis.edu/ceh/ehv1_general.cfm

CDFA Animal Health Branch Offices	
Sacramento (HQ)	916-654-1447
Modesto	209-491-9350
Ontario	909-947-4462
Redding	530-225-2140
Tulare	559-685-3500
USDA/APHIS/VS 916-854-3950 or 877-741-3690	