

# Equine Herpes Myeloencephalopathy

## The Disease

Equine Herpes Virus-1 (EHV-1) is a virus that is ubiquitous in the environment and found in most horses all over the world. All equids are susceptible to EHV-1. The virus is not transmissible to humans.

EHV-1 infection in horses can cause respiratory disease, abortion in mares, neonatal foal death, and neurological disease. Horses are typically exposed to the virus at a young age with no serious side effects. It is unknown what causes some horses to develop the serious neurological form of the disease.

The neurological form of the disease is known as Equine Herpes Myeloencephalopathy (EHM). 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.

EHV-1 is easily spread and typically has an incubation period between 2-10 days. Respiratory shedding of the virus generally occurs for 7-10 days, but may persist longer in clinically infected horses. Similar to herpes viruses in other species, the latent form of EHV-1 can reactivate at a later date, but generally with a low viral load posing a low risk of infecting other horses.

## Transmission

EHV-1 is spread through 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, tack, trailers, feed/water buckets and wash rags. Since the size of the virus limits the capacity for airborne transmission, to distances of less than 30 feet, direct and indirect contact are the most important routes of transmission. Horses infected with EHV-1 and horses incubating the virus, shed it via nasal secretions. Horses with severe clinical signs consistent with the neurologic form most often shed large viral loads in nasal secretions and present the greatest risk for disease spread.

## Emergence of EHM

In recent years, there has been a marked increase in the number of EHV-1 cases and several outbreaks of EHM at large horse events and facilities. The recent and increasing frequencies of EHM outbreaks support the designation of EHM as an “emerging disease”.

Year	# EHM Cases	# EHV-1 Cases	# Horses Died or Euthanized
2011	15	20	5
2012	7	15	3
2013	4	0	2
2014	2	1	0
2015	4	1	2
2016	12	8	2
2017	3	2	2
2018	6	7	1
2019	9	8	5
2020	10	13	3

## Clinical Signs

Clinical signs of EHM in horses may include:

- Fever of 101.5°F or greater (fever most often precedes neurologic signs)
- Nasal discharge
- Incoordination
- Hindquarter weakness
- Recumbency
- Lethargy
- Urine dribbling
- Diminished tail tone

Consult your veterinarian if your horse exhibits any of these signs.

## Diagnosis of EHM

Nasal swabs and whole blood are collected from the symptomatic horse and are essential for detection of the virus. Recent advancements of EHV-1 diagnostic testing enable laboratories to differentiate the non-neuropathic and the neuropathic strains of EHV-1. Diagnostics for detection of antibodies to EHV-1 indicate past exposure to EHV-1 and not current infection.

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## Vaccination

Currently, there is not a United States Department of Agriculture (USDA) licensed EHV-1 vaccine with a label claim for protection against the neurological strain of the EHV-1. However, there are numerous vaccines available for the protection against the respiratory component of EHV-1. Vaccination against EHV-1 may limit the amount of virus shed in nasal secretions and the dissemination of infection.



## Prevention

Implementation and enforcement of biosecurity measures on equine premises can help prevent the spread of EHV-1. Here is a list of biosecurity measures that should be implemented and enforced:

- 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 when coming in contact with an EHV-1/EHM suspect, exposed or confirmed positive horse. All protective clothing should be disposed of or washed with hot water before contacting any other horses.
- Use disinfectant saturated foot mats or foot baths at entry or 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.

## Disinfection

Herpes viruses are susceptible to many disinfectants. A 1:10 dilution of bleach in water is effective against EHV-1. Both alcohol and bleach disinfectants are inactivated by organic matter, such as manure and soil. Therefore, all areas must be thoroughly cleaned of organic matter prior to use of these products. Use soaps or detergents to decrease the organic matter present before applying a disinfectant.

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 Stroke Environ® or SynPhenol-3®, and accelerated hydrogen peroxide products, such as Intervention®, have this property. Be sure to follow the manufacturers' recommendations and the label instructions for all disinfectants.

### Reportable Disease Alert

Equine Herpes Myeloencephalopathy (EHM) is a reportable disease (pursuant to §9101 of the California FAC, Title 3 California CR §797 and Title 9 CFR §161.4(f)) and must be reported within two days of discovery. If your horse is exhibiting clinical signs consistent with EHM or may have been exposed please contact your private practitioner or CDFA officials.

[Reportable Disease List](#)

### Animal Health and Food Safety Services Animal Health Branch

Headquarters - (916) 900-5002  
Redding District - (530) 225-2140  
Modesto District - (209) 491-9350  
Tulare District - (559) 685-3500  
Ontario District - (909) 947-5932  
**USDA-APHIS** (916) 854-3950 or (877) 741-3690

For more information visit [https://www.cdfa.ca.gov/ahfss/Animal\\_Health/Equine\\_herpes\\_virus.html](https://www.cdfa.ca.gov/ahfss/Animal_Health/Equine_herpes_virus.html)