



U of M Horse Newsletter

Providing research-based information to Minnesota Horse Owners

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Equine Herpesvirus Myeloencephalopathy

In February 2015, a horse with equine herpesvirus myeloencephalopathy (EHM), the neurologic presentation of equine herpesvirus (EHV-1), was identified in Scott County. The horse was stabled in Prior Lake, MN and was euthanized on February 12. The MN Board of Animal Health placed a 21-day quarantine on the facility and other horses are being monitored closely for fever and other symptom consistent with EHV-1. To view the MN Board of Animal Health's EHM Control Plan, click [here](#).

Equine herpesvirus is a contagious virus that can cause four clinical presentations: neurological disease (EHM), respiratory disease, neonatal death, and abortion. A fever commonly precedes other clinical signs. The respiratory form of the disease causes fever, coughing and nasal discharge. Abortions usually occur in late pregnancy with no warning signs. Symptoms for the neurologic form include hind-end weakness and incoordination, urine dribbling or inability to urinate, and horses being unable to stand.

By 2 years of age, almost all 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 life-long. Horses that are carriers of

EHV-1 do not show any 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.

Vaccines are available to control the respiratory and abortion forms of EHV-1. Current vaccines do not reliably prevent development of the neurological form; however, your veterinarian may recommend vaccination to help reduce spread of the virus.

The most common way EHV-1 is spread is by direct horse-to-horse contact. EHV-1 can also spread indirectly through contact with physical objects contaminated with the virus including tack, grooming equipment, feed and water buckets, and people's hands or clothing. There are many steps owners can take to help prevent the spread of EHV-1. Stop horse movement if your horse may be infected with EHV-1. Isolate sick horses. Do not share equipment among horses. Practice proper biosecurity measures including hand washing and changing clothing and footwear. EHV-1 does not affect humans, dogs, cats, sheep, goats, cattle, pigs, or birds; however, alpacas and llamas are susceptible to EHV-1.

For more information on EHV-1, click [here](#). *Summarized by Krishona Martinson, PhD, Univ. of Minn.*

Ask the Expert: Winter Feeding

Question: I read your [Facebook](#) post about increased energy needs for horses when the temperatures are below 18F. How does wind chill and the type of hay (grass vs. alfalfa) factor in?

Response: When determining increased energy needs, wind chill should be accounted for. The type of hay does not matter; however, its important to keep the hay type consistent during cold

weather. Although alfalfa hay does have more calories compared to grass hay, the increased energy needs when temperatures are below 18F is about producing heat during fermentation of the forage. We are not aware of any research showing differences in heat production between the two hay types.

By: Marcia Hathaway, PhD, Univ. of Minn.

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Upcoming Events

Small Farms Day

March 7, 2015
9:00 am to 3:00 pm
\$10/person

Sherburne History Center
Becker, MN

To register, visit

www.regonline.com/SmallFarms

Lunch and Learn Webinar

March 24, 2015
Noon to 1 pm

Conditioning Your Horse for the Riding Season by
Carey Williams, PhD,
Rutgers

For more information

www.extension.umn.edu/horse

Minnesota Horse Expo

April 24-26, 2015
State Fairgrounds
St. Paul, MN

<http://www.mnhorseexpo.org/>

Equine Castration Clinic

Saturday, May 9 2015
Cambridge, MN
Appointments required

Visit our [Facebook](#) page for "Research Update Monday", "Tip of the Week Wednesday", "Friday Funny" and events.

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Research Update: Herd Rank in Young Horses

Researchers in the Czech Republic recently studied the factors influencing dominance position in young horses, with emphasis on the role of the mother. Horses form stable linear dominance hierarchies based on agonistic interactions. Higher dominance positions are believed to be connected, in both genders, to better condition and higher reproductive success. Many variables play a role in forming the dominant-submissive relationships between horses; however, the maternal effect upon the dominance position of the offspring still remains unclear, as do the possible mechanisms of transference (“inheritance”).

Researchers hypothesized that the maternal dominance position, plus differences in suckling parameters or maternal style, may be responsible for later outcome of the offspring's dominance position,

characterized by two variables: index of fighting success and rate of winning encounters. Researchers studied 8 groups of loose-housed lactating mares with foals and subsequently four groups of the same foals at 3 years of age.

Researchers found that the impact of age on the dominance position of the young horses and residence in the group impacted dominance position, not the maternal dominance position. Older foals reached higher dominance positions, independent of the dominance position, age, or experience of the mother. Researchers did not find support for direct inheritance of maternal rank on foal dominance position.

However, foals born to the same mare in two consecutive seasons tended to have the same dominance position they obtained at three years of age. This suggests an

important constant effect of the mother on the social success of her progeny. However, researchers did not find a significant effect of any of the tested variables describing maternal characteristics or maternal care.

Dominance position depended significantly on the foal's age at observation, and the residence in the herd formed via sequential introducing of later-weaned groups of foals. The most dominant horses were mainly recruited from the first-weaned group of the season, and thus were also the oldest individuals in the herd. Further research is needed to discover the role of foal personality and mare style, and their links to possible dominance behaviors in a herd.

For more information, click [here](#).

Summarized by Krishona Martinson, PhD, University of Minnesota

Core Vaccine Recommendations for Adult Horses

Great horse health care programs include a strong focus on prevention of infectious diseases. This topic should be discussed with your veterinarian at least annually to optimize vaccination schedules for your horse and your farm.

All healthy adult horses should be vaccinated against Eastern (EEE) and Western Equine Encephalomyelitis (WEE; sleeping sickness), West Nile virus (WNV), tetanus and rabies.

Once a horse has been through an initial series, booster vaccines are ideally administered annually in the spring before mosquitoes emerge at the time of the annual physical examination. If mosquito populations are high in the late summer, veterinarians may recommend an additional booster

for EEE, WEE and WNV. Rabies vaccination is recommended once a year. Tetanus is also once a year, unless a horse sustains a wound more than 6 months after the last tetanus vaccination, at which point it should receive another tetanus booster. If the vaccination history is unknown at the time of injury, a dose of tetanus anti-toxin should be given as well as a tetanus toxoid.

Beyond these core vaccines, many vaccines are available for other equine infectious diseases. Discuss your plans for your horse in the year ahead with your veterinarian, and realistically look at the degree of traffic on the farm where the horse lives. This information determines the risk of exposure to the respiratory diseases, to decide if vaccination is warranted,

which vaccine product would be best, and how often it should be given. This disease discussion should include influenza, equine herpesvirus (EHV-1), strangles and equine viral arteritis (EVA). If you are planning to show or race the horse, there may be specific vaccination requirements at the show venue or racetrack that must be followed as well.

If a horse will be bred or is currently pregnant, additional vaccines during pregnancy are recommended to reduce the risks of abortion and to boost the mare's immunity that can be transferred to the newborn foal via colostrum.

For more information on vaccinations, click [here](#).

By: Julie Wilson, DVM, MN Board of Veterinary Medicine