



U of M Horse Newsletter

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Volume 13, Issue 6

June 2017



UNIVERSITY OF MINNESOTA
EXTENSION

Research Update: Noseband Use

Restrictive nosebands are common in equestrian sport. However, recent evidence suggests that very tight nosebands can cause a physiological stress response, and may compromise horse welfare. The objective of this research, conducted in Australia, was to investigate the relationship that noseband tightness has with oral behavior and physiological changes that indicate a stress response.

Twelve horses wearing a double bridle and crank noseband (common in dressage at elite levels) were randomly assigned to four treatments: unfastened noseband, conventional area under noseband with two fingers of space available under the noseband, half conventional area under noseband with one finger of space under the noseband, and no area under the noseband.

With no area under the noseband, horse heart rate increased, heart rate variability decreased, and eye temperature increased compared with baseline readings, indicating a

physiological stress response. Chewing decreased during the half conventional area under noseband with one finger of space under the noseband and no area under the noseband treatments. Similarly, licking was eliminated by the no area under the noseband treatment.

Following the removal of the noseband and double bridle during the recovery session, yawning, swallowing, and licking increased compared with baseline, indicating a post-inhibitory rebound response. This suggests a rise in motivation to perform these behaviors and implies that their inhibition may place horses in a state of deprivation.

It is evident that a very tight noseband can cause physiological stress responses and inhibit the expression of oral behaviors. Riders should comply with rules that prevent excessive tightening of the noseband.

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

Summarized by Krishona Martinson, PhD, University of Minnesota.

Biosecurity Tips for Show Season

As we enter into horse show season and County Fairs, it is critical to practice biosecurity measures, including:

1. Work with your veterinarian to ensure horses are current with recommended vaccines.
2. Keep sick horses at home. Watch for signs of fever, nasal discharge and diarrhea.
3. Wash your hands frequently!
4. Clean and disinfect stalls, especially built-in feeders, at show facilities. Spray-on commercial disinfectants are readily available. Diluted bleach (8 ounces bleach to 1 gallon of water) is an inexpensive disinfectant; it works best on a surface that has been

thoroughly cleaned.

5. Do not share feed and water buckets, hay bags, grooming tools, tack, or manure forks.
6. Limit exposure. Do not allow horses to have nose to nose contact. Limit the general public's contact with your horses.
7. Upon returning home from a show, wash your hands, shower, and change clothing and shoes before working with horses kept at home.
8. Isolate returning horses from resident horses for 14 days. Monitor horses daily for signs of fever, nasal discharge, and diarrhea.

By: K. Martinson, PhD, Univ. of Minn.

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Upcoming Events

Equine Pasture Management Program
One farm visit and a customized pasture and grazing management plan
April 1 - August 1, 2017
\$650 per farm
To register, click [here](#).

Visit our [Facebook](#) page for "Research Update Monday", "Tip of the Week Wednesday", "Friday Funny" and special events. New in 2017, Facebook Live broadcasts!

Visit (and share) our [Webinar Library](#) for recorded lectures on over 20 horse-related topics.

Check out our latest horse-related videos on our [YouTube Channel!](#)



Equine Coronavirus: An Emerging Virus in Adult Horses

Equine Coronavirus was first discovered in Japan several years ago. The virus quickly spread to Europe, and testing for the virus began in 2010 in the U.S. Since then, the number of positive cases in the U.S. has been steadily increasing.

Equine Coronavirus is most commonly diagnosed in the winter months (October through April). Once exposed to the virus, it takes approximately 2 to 3 days for the infected horse to start showing clinical signs. One study showed, however, that only 30% of infected horses become visibly ill. Of the horses that are detectably ill, nearly all initially develop a fever. Lethargy (sluggishness and dullness), anorexia (inappetence) and dehydration often follow. Rarely, ill horses will develop signs of colic and/or diarrhea. These clinical signs may present in horses of all ages; however, the disease is most commonly seen in older horses. It also has been suggested that ponies and miniature horses may be more severely affected by Equine Coronavirus infection, with illness progressing to endotoxemia, sepsis and/or neurologic signs (head pressing, circling, incoordination, and seizures).

The easiest, most common diagnostic test is submission of a manure sample for fecal Polymerase Chain Reaction (PCR). PCR detects the presence of viral DNA in the feces. A veterinarian may run blood tests (complete blood count and chemistry profile), particularly if the horse has a fever or diarrhea, to evaluate the degree of infection and inflammation, electrolyte derangements, and the health

status of the kidneys and liver (which may be affected indirectly by systemic illnesses such as Equine Coronavirus).

It should be noted that one study has shown that the number of viral organisms present in the animal's feces may be directly related to the horse's prognosis. For example, horses with higher concentrations of viral organisms in the feces may have a decreased chance of survival. At this time, however, there is no easy or cost-effective way to measure fecal viral load in horses.

The disease itself may last a few days to a week (or two), depending on the progression of the disease and response to therapy. Treatment of horses with Equine Coronavirus infections is supportive care and includes anti-inflammatory medications, oral and/or intravenous fluids (with or without electrolyte supplementation) and other adjunctive therapies to prevent progression or complications of the disease.

Horses may be infected through fecal-oral transmission. This does not, however, require direct access to another horse's manure. A horse can become infected if it comes into contact with the virus in contaminated fecal material present on tack, grooming equipment, boots, hands, and other shared items. Aerosolization of the virus may also play a role in transmission of the virus from horse to horse. Transmission of the virus is not fully understood, as horses that live in solitude (with no known exposure to other horses, their manure or contamination items) may still develop the disease.

Both visibly ill horses and asymptomatic carriers may spread the virus via any of the above mentioned methods. Additionally, no vaccine exists for prevention of the spread of the virus. As such, proper infection control measures must be put in place, including appropriate management of waste and the use of boots, gloves and separate equipment to handle and treat the contagious horse. Isolation of ill horses is key. Isolation for 21 days is recommended, as that is the average length of time for which an infected horse will shed Equine Coronavirus in its feces. A repeat fecal PCR is recommended to determine the horse is no longer shedding the virus prior to reintroduction to the herd.

Equine Coronavirus is a newly recognized disease in horses in the U.S. As such, there is still much to learn about the disease, including the prevalence of the disease in our area, demonstrating the increasing need for diagnostic testing for the virus here in the Midwest. For horses showing any of the mentioned signs, or for more information regarding this disease, please contact the University of Minnesota Equine Center at 612-625-6700.

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