

Stereotypic Behaviors in Horses and Other Equids

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Imagine watching someone rock back and forth repeatedly. Although you view rocking back and forth as a behavior with no real purpose, the person may tell you that rocking is a “stress reliever” or “coping strategy.” You can tell the person rocking that they look odd or remind the person that rocking prevents them from doing anything else, and yet, they may continue rocking. This rocking behavior is an example of a stereotypy. In horses, a stereotypy is any repetitive oral (mouth, tongue or teeth) or locomotor (body or limb movement) action that serves little or no outward function. Although they were previously considered learned behaviors, we now know that stereotypies develop due to genetics, poor diet, frustration or boredom, feed anticipation, or insufficient space, but will continue after the initial causes are removed or improved. Researchers from the University of Bristol reported that 20 percent to 33 percent of domesticated horses competing in dressage, eventing and endurance riding and about 10 percent of non-competitive horses display some stereotypy. Addressing why horses engage in stereotypic behavior and how to prevent these stereotypies from developing and persisting is critical for improving horse welfare.

Why do Horses Engage in Stereotypic Behavior?

If stereotypies have no little to no function, why do horses start performing them? Stereotypic behavior can be a self-soothing or stress reducing technique for horses. Researchers from the United Kingdom found that horses that do stereotypic behaviors have more dopamine (a neurotransmitter associated with pleasure). This means that horses are feeling some “relief” when they perform the stereotypic behavior. Over time, it

appears that horses get greater benefits (increased dopamine) for repeatedly doing the behavior, so that doing the behavior becomes a self-indulging reward.

Repeated stereotypic behavior can cause health challenges for the horse including gastric distress, enamel loss on teeth and increased disease risk. Once a stereotypic behavior develops, the behavior can continue for the horse’s entire lifetime. When a stereotypic behavior is well established, the horse will spend more and more time doing the behavior. The more time the horse spends doing the behavior, the less time a horse can do productive activities such as eating, grazing, socializing, exercising or resting. Researchers from Italy and Canada found that cribbing horses took longer to eat concentrate due to horses stopping frequently to crib. Similarly, researchers from University of Lincoln reported that when the prevalence of stereotypies decreased, dozing increased. This suggests a need to decrease stereotypic behavior to improve horses’ health and time budget.

Stereotypies vs. Unwanted Behaviors

Before listing the most common stereotypies in horses, it is important to distinguish that all unwanted behaviors (vices) are not stereotypies, and vice versa. Unwanted behaviors are defined as behaviors that serve little to no function *and* do not act as a stress reliever. Common unwanted behaviors are head shaking, bucking, rearing and separation anxiety. Unlike stereotypies, researchers from Australia and the United Kingdom found providing sufficient exercise via one hour per day of walking on a walker or on a treadmill can reduce unwanted behaviors by one to three behaviors per exercise session.

Types of Stereotypies

Oral Stereotypies

Cribbing: Occurs when a horse places its upper incisors on a solid object, pulls backward, contracts its neck muscles, and sucks air into the upper esophagus creating a grunting sound.

Crib-biting: Occurs when a horse chews or bites on surfaces including wood. Researchers from Cornell and Michigan State University found the prevalence of crib-biting and cribbing together was 4.4 percent.



Image 1: Horse cribbing on a barn door.

Wind-sucking: Like cribbing, but without a horse placing its teeth on a solid object. As with cribbing, horses release a grunting sound. In one study conducted at University of California, Davis, crib-biting and wind-sucking together occurred in 6.8 percent of all horses.

Teeth grinding: Rhythmic rubbing of the molars from side to side, causing a grinding or scraping sound. The estimated frequency of teeth grinding is unknown, because teeth grinding is less reported than other stereotypic behaviors.

Locomotor Stereotypies

Box/stall walking: Occurs when a horse continually paces around the stall or box in a circle. Researchers from University of Wales reported box/stall walking ranged from 0.4 percent to 1.2 percent of horses.

Weaving: Swaying head, neck, forequarters or hindquarters in a lateral motion back and forth. Researchers from University of Wales reported weaving ranged from 2.6 percent to 4.7 percent of horses.

Prevention Strategies

The best way to prevent stereotypic behaviors is to promote good welfare throughout the horse's lifetime. Foals are challenged by weaning, and consequently stereotypic behaviors are likely to begin post-weaning. Researchers from the United Kingdom reported that foals weaned with conspecifics in a field and foals housed on pasture were two times less likely to develop stereotypic behavior, compared to those weaned alone or housed in stalls post-weaning. However, once stereotypic behaviors develop, focusing on improving the day-to-day life of the horse can help to reduce the risk of increasing disturbance caused by stereotypies.

Diet and Feeding Environment: Although feeding a high concentrate diet may encourage horses to eat their fill, high concentrate diets are insufficient for providing lasting energy. Additionally, high concentrate diets can affect gut acidity, increasing the risk of ulcers. Because horses are normally grazing herbivores, providing a balanced diet with sufficient fibrous forage is necessary to reduce dietary insufficiencies. Fibrous forages can also keep horses fuller longer, reducing oral stereotypies associated with hunger. By providing a diet that takes longer to consume and providing feeders that encourage horses to "forage", oral stereotypies prevalence can lessen.



Image 2: Horse eating out of a slow feeder.

<https://www.habitatforhorses.org/the-correct-way-to-use-slow-feeders-for-equine/>

Enrichment: Providing enrichment such as dietary diversity, toys for oral manipulation, slow feeders, brushes, or additional human-animal interaction can give horses tasks to do when the animals are bored or frustrated.

Space/Exercise: When there is insufficient space or inadequate exercise, stereotypic behavior in horses increases. Giving horses more turn out time or greater space within the stall, may help to reduce horses' desire to perform locomotor stereotypies. Providing horses with a minimum stall size of 144 square feet, for most horses, can provide sufficient space to reduce locomotor stereotypies. Horses are also more likely to perform locomotor stereotypies immediately before turning out. This suggests providing horses with larger stalls (greater than 144 square feet) and turning them out for longer periods of the day (at least 15 to 20 minutes daily) may reduce locomotor stereotypies related to confinement.

Prevention Strategies to Consider with Caution

Cribbing collars: Although cribbing collars may be viewed as an easy solution for oral stereotypic behavior, they come at a considerable cost. Cribbing collars restrict horses' abilities to perform oral stereotypies (cribbing and wind-sucking). However, cribbing collars cause discomfort and increase the risk of other stereotypies including weaving and box/stall walking. Therefore, cribbing collars should be considered with extreme caution; limiting an oral

stereotypic behavior may seem beneficial, but this prevention may induce a new stereotypic behavior that can cause greater stress. Before using a cribbing collar, you should consult with a veterinarian, behavior expert or equine Extension specialist.

Conclusions

Stereotypies have been observed in 20 percent to 33 percent of horses involved in competitive riding, and 1 percent to 7 percent of all horses. This data suggests that modifications must be made to current management systems to decrease stereotypical behavior development and improve horse welfare. Providing gradual weaning and pasture access for weaned foals, modifying diet, providing enrichment, and increasing stall size and exercise can help to prevent stereotypies from developing and reduce their prevalence. By recognizing common stereotypic behaviors, why horses perform these behaviors, and prevention strategies, stereotypic behavior can be reduced and owners can help improve their horse's overall welfare. For more information on stereotypies and managing equine behavior, contact your county Extension office, state equine specialist or veterinarian, or visit UTHorse.com.

Resources:

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