

Tennessee Horseman

Unifying Horse Owners Through
Science-Based Information



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Spring Back to Riding: Tips for Reconditioning Your Horse

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After the long winter, many horse owners are eager to get back in the saddle and ride in the beautiful Spring weather. During periods of rest or decreased levels of activity horses can lose fitness and conditioning. Before heading out for long trail rides, hacks, or a competitive show make sure you and your horse are physically prepared.

Equine Fitness and Training

Similar to humans, horses have the ability to increase their tolerance to activity through physiologic adaptation. Just as it would be unreasonable to expect a person to complete a half marathon after taking the winter off from training, it is unfair to ask horses to perform intense workloads without easing back into a normal activity level. Fitness spans multiple body systems and encompasses efficient thermoregulation, cardiovascular and respiratory function along with preventing muscle and skeletal fatigue.

Training is greatly important for many aspects of equine performance. Consider completing activities similar to the environment in which you will expect the horse to compete or perform. For example, horses trained in flat, soft, sandy areas will be ill prepared for hills and hard terrain, and vice versa.

How Much Time is Needed?

In general, horses will maintain their current fitness level for the first three weeks of inactivity. A good rule to follow is for every day off, a horse will require one day of training to regain the lost fitness. After 8 weeks of inactivity, the horse will have lost a substantial amount of fitness and should be reconditioned with low-impact time under saddle, such as hacking or flatwork. It is also important to remember that while muscle responds relatively quickly to a training protocol, bones, ligaments and tendons are slower to adapt and need time to adjust in order to avoid injury.

Monitoring Fitness

The easiest and best way to monitor your horse's fitness is through heart rate recovery after exercise. Begin by taking your horse's resting heart rate while the horse is in a calm, quiet state. A horse's resting heart rate should range from 28-40 beats per minute. Then, after completing a ride/workout monitor your horse's heart rate back to the normal range. If heart rate returns to normal after 15 minutes, the horse has been worked adequately to maintain fitness considering the current fitness level. If recovery is achieved within 30 minutes, the horse has been stressed within an acceptable limit to increase fitness. In the event recovery takes longer than 30 minutes to achieve consider scaling back the activity level until the horse has an opportunity to increase fitness level.

For more information contact your local County Extension Agent, visit UTHorse.com or contact me directly at jzivey@utk.edu.

Practical Biosecurity for Your Farm

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UT Animal Science Assistant Professor and Extension Veterinarian

Recently, a horse was admitted to a veterinary institution in the Southeastern U.S. that had signs of lethargy and eventually displayed neurologic disease as well. After performing various diagnostic tests, the horse was diagnosed with Equine Herpes Virus -1 (EHV-1). Various biosecurity measures, including quarantine, were implemented at the facility to prevent spread of the disease. There are several everyday practical measures that you can use to prevent your horses from encountering disease or unintentionally spreading disease yourself.

On Your Farm

The first line of disease prevention starts at home. Designate a pair of boots to wear only on your farm and with your animals and another to wear off property. Also, change your clothes after handling your animals before working with animals off property. Water tubs and standing water can also be a potential source of disease; therefore, keeping all buckets clean and eliminating any standing water is ideal. Use separate buckets for feeding and feed horses individually if your operation will allow. Assign each horse their own grooming supplies, halter, lead rope and tack if possible, or disinfect before using between horses. Additionally, when coming home from traveling, disinfect all equipment and vehicles (truck and trailer included) to prevent any unintentional pathogens from causing issues on your property. Most importantly, consult your veterinarian to develop a vaccination protocol for your horse, including a Coggins test.

At Shows and Other Equestrian Events

When offsite, use only your own equipment and avoid sharing tack, wheelbarrows, muck forks and other items. Similarly, use only your own buckets



and tubs for feeding and watering. Implement the same disinfection protocol you use at home to your traveling schedule, cleaning all items that come into contact with other horses before use.

Visitors to your Farm

Guests at your farm can also transport different diseases to your property unknowingly. Provide a plastic protective pull-on boot cover or require visitors

to walk through a protective foot bath prior to entering your facilities. Keep visitor vehicular traffic from driving equipment into your barn or pastures.

New Horses

Good biosecurity practices extend to equine newcomers as well. Keeping new horses isolated or quarantined for 2-6 weeks before introducing them to the herd will help prevent unintentional spread of disease. When working with the animals on your property, handle all other horses first, then the new/isolated horses afterward. Require all new horses entering your property to have a current negative Coggins test and vaccination record. If needed, get all new horses up to date on vaccines and deworming protocols before integrating with other horses already on your property.

Working with your veterinarian is of utmost importance when dealing with a sick horse in order to determine appropriate treatment and quarantine protocols. Be sure to separate the sick horse from the rest of the herd and tend to the ill horse after caring for the other healthy ones on your farm. Use a disinfecting foot bath before entering and exiting the area where ill horses are being kept to

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Pasture-Associated Laminitis

Dr. Jennie Ivey, Ph.D., PAS

UT Animal Science Assistant Professor and Extension Equine Specialist

As spring begins to greet Tennessee, both horses and owners alike are excited to see the budding trees, warmer weather, and green grass appear once more. Good quality pasture provides many necessary nutrients to grazing animals and many horses can handle the transition from consuming winter forages (primarily hay) to Spring pastures easily.

Unfortunately, some horses are more sensitive to the amount of starches, sugars and fructans, also known as non-structural carbohydrates (NSC, in lush green pastures and thus warrants specific attention through the Spring season.

Pasture-Associated Laminitis

Equine laminitis, also known as founder, is a painful, debilitating disease affecting the laminae within the hoof. The laminae is a soft connective tissue responsible for holding the coffin bone within the hoof capsule securely to the hoof wall. In a horse suffering from laminitis, decreased blood flow to the laminae occurs resulting in inflammation, death of the laminae tissue, and ultimately separation of the coffin bone from the hoof wall. Lack of laminae integrity leads to downward rotation of the coffin bone, and in severe laminitis cases, the coffin bone will rotate through the sole of the horse's hoof. While laminitis can be caused by many different scenarios, including repeated concussion on hard ground (road founder), hormone imbalance, and grain overload, lush pasture can cause pasture-associated laminitis or grass founder and be further complicated by obesity and insulin resistance.

Pasture-associated laminitis occurs when horses consume high levels of NSC. While NSC are present in grasses during all growth stages, they are greatest during rapid growth and after times of stress (ex.

drought). When horses consume high amounts of NSC, these carbohydrates pass through the small intestine and spillover into the hindgut where they are rapidly fermented. This rapid fermentation causes the cecum to become more acidic and triggers multiple events ultimately leading to decreased blood flow and nutrient supply to the foot causing laminitis. Additionally, horses that are obese or those suffering from insulin resistance may be more susceptible to pasture-associated laminitis.

Management Tips

Keeping your horses healthy this spring and minimizing their risk of pasture-associated laminitis can be achieved through good management techniques. Increasing awareness of the nutrients provided by your pastures is essential in understanding how to keep your horses healthy through the changing seasons.

- Aim to keep your horses at a moderate body condition score (BCS, range from 4-6). Horses with an obese BCS ranging from 7-9 display a predisposition for laminitis bouts. For information on how to assess your horse's BCS or how to alter your nutrition management plan contact your county extension agent or visit UTHorse.com.
- Current research shows NSC content is lowest in the overnight hours and peaks in the late afternoon to early evening hours; therefore, it is best to allow horses to turn out at night and remove from pasture by mid-morning.
- Use a grazing muzzle to limit your horse's intake while out on pasture. If possible, limit grazing time or turnout in a dry lot pasture, especially for horses with predispositions to laminitis or with a history of laminitic incidents.

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Identification and Management of Soil Erosion in Horse Pastures

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As we move into spring, we start thinking warm thoughts of horses turned out on a lush, green pasture. Hopefully, a lush green pasture is a reality for most, but often we come across paddocks with large patches of bare soil visible and less-than-lush grass. A common problem observed in horse pastures is erosion, or visible soil loss, which can lead to decreased pasture quality or can even be a result of decreased pasture quality. This spring is a great time to identify soil erosion and take steps to correct it and boost your pasture quality.

Soil Erosion

Soil erosion is when soil particles are moved by runoff from precipitation to the edge of a pasture or even to a nearby body of water. The soil particles decrease water quality by making the water turbid but the particles also carry nutrients to the water. These nutrients increase growth of underwater vegetation, which also decreases overall water quality. Not only does the soil loss negatively affect water, but topsoil containing nutrients is lost from your pasture. Those nutrients are necessary to support the growth of pasture grasses. The best place for your soil is in your pastures.

Erosion is most commonly seen in high traffic areas, such as along fence lines and near feeding areas or waterers, but erosion can also be widespread across a pasture. There may even be more bare soil visible

than green plants and, in more severe cases, small gullies may be visible throughout the pasture. In addition to high traffic areas, slopes in pastures where it can be difficult to grow grass can also be a source of erosion. If traffic is not decreased, i.e. a pasture is not rested, there may be a decrease in grass in affected areas leading to more soil loss.



Pasture Vegetation

The presence of growing plants helps slow down the movement of precipitation across the soil surface and keeps the soil particles in place. Therefore, managing your pastures to have quality stands of grasses will help prevent erosion or fix an existing erosion issue. A soil test is the first step to increasing pasture quality. Soil test results give a snapshot of what nutrients are available to plant in your soil



**Are your pastures less than ideal?
Lack of pasture can impact more than
just your horse's grazing time.**

as well as recommendations for fertilization to increase plant growth. Bare spots in pastures should be re-seeded and recommended fertilizer applied to these areas. Finally, areas that have been re-seeded should be rested to allow grass to begin growing and healthy root systems to develop. Allowing the pasture time to establish is one of the most important management practices to increase pasture quality. If you

have erosion in multiple pastures, start by tackling one pasture at a time to give enough rest time for good stand to develop before horses are returned the pasture.

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Practical Biosecurity for Your Farm

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prevent spread to others. Also, do not mix your sick horse laundry with other clothing and launder separately. Be careful to disinfect all tools and equipment used with sick horses and wash hands before working with other animals.

Simple biosecurity measures can protect your farm and horses from diseases. If you have any further questions, contact your local County Extension Office or contact me at lstnick5@utk.edu.

Identification and Management of Soil Erosion in Horse Pastures

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Although erosion is a common issue in horse pastures, it can be easily remediated by focusing on establishing a dense stand of grass. Increasing grass stand will slow the movement of precipitation across the soil and keep soil particles in your pasture, so valuable nutrients can be made available to growing plants. Soil testing is an important tool for increasing pasture quality and your local Extension Office can provide you with assistance for soil sampling.

Did you know?

The average mature horse brain weighs approximately 1.2 lb, less than half of the average adult human brain at approximately 3 lb!



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Tennessee Equine Census

Leave Your Mark



Do you own horses, ponies, mules, donkeys or burros? Are you an equine-business owner? UT Extension needs your help! Over the next year, UT Extension will be conducting a survey to determine the impact of the equine industry across Tennessee. Go to UTHorse.com and register for the Tennessee Equine Census and ensure your equids, business and land are counted!

Pasture-Associated Laminitis

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- As plants mature, NSC levels decrease and fiber levels increase. While the exact nutrient content is dependent on many factors such as pasture management, plant species, weather and geographic location, generally speaking as plants mature from the leafy to pre-bud stage. Remove grazing muzzles and increase grazing time gradually to avoid any unintentional overgrazing during this transition period. Typically, in Tennessee this transition can occur anytime between mid-May through early June.
- Use good pasture management including regular mowing and pasture rotation.

For more information on nutritional management, pasture associated laminitis or body condition scoring, contact your local County Extension Office or reach out to me directly at jzivey@utk.edu.

Sizing Up Your Horse: Body Weight vs. Body Condition

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Evaluating a horse's weight and body condition are important for overall health and nutritional management. Often, estimates of a horse's weight made by owners are under- or overestimated by up to approximately 150 lbs. Accuracy in determining a horse's nutrient requirements is achieved by calculating body weight and assessing body condition. Body weight is measured in pounds or kilograms whereas body condition refers to how much or how little fat coverage the horse displays. Both can be useful tools when evaluating a horse's dietary needs.

Determining Body Weight

Body weight assessments are needed for many reasons, including determining the amount of feed or dewormer each horse should receive. The most accurate assessment of a horse's weight is to weigh them on a scale. Since most horse owners do not have regular access to scales, estimations can be made using body measurements and mathematical equations.

Calculating body weight from measurements of the heart girth and body length tend to be more accurate than those from heart girth alone. Most



Figure 1: To take a measurement of the horse's heartgirth, place a tape measure snugly around the horse's midsection, behind the elbow, and directly behind the highest point of the withers.

"weigh tapes" available in feed stores provide a rapid estimation of body weight, but do not take into account horses with a longer or shorter body than what is considered average. Horses should be weighed at the same time of day, preferably before morning feeding time. The calculations detailed below are meant to be used in mature, non-pregnant horses.

Taking Accurate Body Measurements

Follow these steps to take body measurements and determine body weight:

1. Ensure horse is standing square on a flat surface.
2. Measure the size of the horse's heart girth by placing a tape measure around the horse's midsection, behind the elbow, and directly behind the highest point of the withers. Pull the tape measure snug to ensure an accurate measurement. Record horse's heart girth measurement in inches (Figure 1).
3. Measure the horse's body length by measuring the distance from the point of the shoulder to the point of the buttock. Record the horse's body length in inches. Ensure the tape measure is laying flat, making a straight line between the two points (Figure 2).
4. Insert the measurements for heart girth and body length into the following equation:

$$\text{Weight (lbs)} = \frac{\text{Heart Girth} \times \text{Heart Girth} \times \text{Body Length}}{330}$$

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Figure 2: Determine the horse's body length by measuring the distance from the point of the shoulder to the point of the buttock.

Sizing Up Your Horse: Body Weight vs. Body Condition

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Determining Body Condition

While knowing a horse's weight is important, their weight does not aid in determining if the horse is too thin or too fat or in good overall condition. Body condition score uses physical and visual examination of a horse to assign a body condition score. A detailed explanation of the body condition scoring system can be found in the UT Extension Publication SP 782 "Equine Welfare Series; The body condition scoring system" or online at UTHorse.com.

Briefly, the body condition scoring system was developed by Dr. Don Henneke in 1989 as a method to estimate fat coverage in horses. By evaluating six areas of the horse, the neck crest, loin, tailhead, ribs, along the withers and behind the shoulder, a number ranging from 1-9 is assigned to the horse, where 1 is extremely thin and 9 is obese. This system is easy to learn and implement; however, the scale is subjective and should be completed by the same individual in order to ensure consistent evaluation. Horses should be evaluated every 4 to 6 weeks, as changes in body condition score should be achieved gradually.

Resources

Johnson, E. L., R. L. Asquith, J. Kivipelto. Accuracy of weight determination of equids by visual estimation. Proc. 11th Equine Nutrition and Physiology Symposium. Stillwater, OK. 1989. P 240.

Henneke, D. R., G. D. Potter, J.L. Kreider, and B.F. Yeates. Relationship between condition score, physical measurements and body fat percentage in mares. Equine Veterinary Journal. 1989. 15:371-372.

Equine Program Updates

Tennessee Master Horse Program

UT Extension is starting a new, revitalized Tennessee Master Horse Program! Visit UTHorse.com to learn more about upcoming program dates and register for the TMHP mailing list!



Tennessee 4-H Horse Program

The Tennessee 4-H Horse Program provides Tennessee youth with valuable educational opportunities through raising, exhibiting, judging and learning about horses. Participants do not need to own a horse in order to participate in educational events such as horse bowl, hippology and horse judging. Learn how to become involved as a youth participant or adult volunteer through your county Extension agent. *"To make the best better!"*



4-H Horse Show Dates

- *Eastern Region 4-H Horse Show:* June 2-4 2016
Harriman, TN
- *Central Region 4-H Horse Show:* June 2-4, 2016
Murfreesboro, TN
- *Western Region 4-H Horse Show:* June 3-4, 2016
Martin, TN
- *State 4-H Horse Championships:* June 20-25, 2016
Shelbyville, TN