

No Hoof No Horse

W 785

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With roots back to the mid-18th century, the phrase "no hoof, no horse" still holds true for horses today. A horse's soundness relies heavily on a solid foundation from the hoof, and even a minor injury or insult to the hoof can be painful to the horse. Hoof quality is influenced by many factors including genetic makeup, conformation, environment, climate, body weight and condition, nutritional management, preventative care, and use.

Body Weight

Use proper nutritional management to prevent hoof conditions from developing or worsening. Horses that are underweight (body condition score 1-3) or overweight (body condition score 7-9) are predisposed to hoof issues.

Preventative Maintenance

Hooves should be trimmed every 4 to 8 weeks.

Environment Is Key

Hard and dry, or soft and wet conditions can perpetuate hoof problems.

Body Weight Balance

Horses carry approximately 60 percent of their weight on their front legs and 40 percent on their rear legs. Laminitis and navicular disease are often seen on the front limbs due to increased weight bearing.

Hoof Bones

Encased within the hard hoof capsule lie the coffin and navicular bones. See below for conditions relating to these structures.



To Shoe or Not to Shoe?

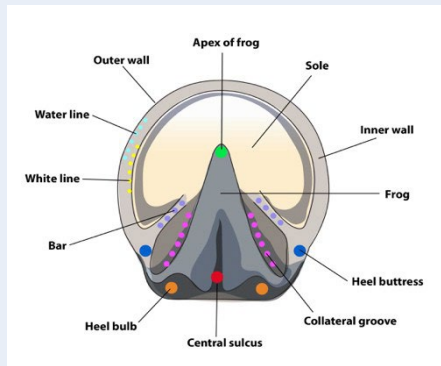
Check with your farrier to determine if shoes are needed for traction, support, treatment or condition management.

Watch for Lameness

Short stepping, limping, reluctance to walk, head bobbing, and toe pointing can all be signs of lameness. Check with your veterinarian if you suspect your horse may be lame.

Hoof Structures

Familiarity with the hoof can help identify problem areas if/when issues arise.



Supplementation

There are no nutritional supplements that can fix poor environmental condition or conformation. A properly balanced diet should not need to be supplemented. Biotin (20mg/d), Iodine (1mg/d), and zinc (175-250 mg/d) have been shown to improve hoof quality.

Special Credit

Created in part by Abby McCalmon for ANSC 496.

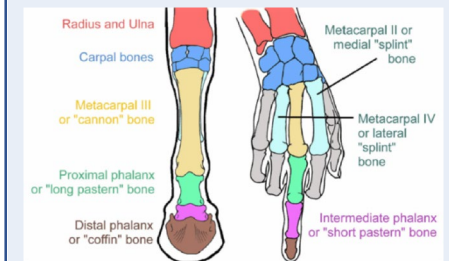
Hoof Balance

Proper hoof angle, and balance side to side, and front to back of the hoof are critical to preventing lameness.



Comparative Anatomy

Through evolution, horse lower limb structure contains the same bone types as a human hand, but has transferred the horse's weight to the equivalent of a human middle finger!

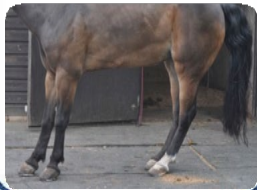


HOOF CONDITIONS

Consult with a veterinarian for diagnosis and treatment options. For more information on managing your horses or operation, contact your local Extension agent.

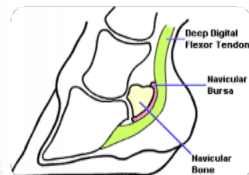
Laminitis

The laminae are sensitive and insensitive tissues that interlock to connect the coffin bone to the hoof wall. Disruption of blood flow to the laminae causes inflammation that weakens the tissue's ability to hold the coffin bone in place, known as laminitis. This process is very painful to the horse, and often horses suffering from laminitis will shift their stance back toward the hind end, and may also display varying grades of lameness. In severe cases of laminitis, founder, or a severe deformity of the hoof caused by downward rotation of the coffin bone, can result. Onset of laminitis can be triggered by nutritional, hormonal or mechanical situations. Minimizing trauma to affected feet and providing pain relief are important in treating acute cases. Resolving underlying cause(s) is critical in preventing future cases or chronic conditions.



Navicular Disease

The navicular bone functions to provide a pivot point where the deep digital flexor tendon changes angles within the foot. Navicular disease is classified by inflammation or degeneration of the navicular bone and the surrounding soft tissues, resulting in heel pain. Quarter horses, Thoroughbreds, and warmbloods tend to be diagnosed more frequently than other breeds, but all breeds can develop the condition. Other common predisposing factors include underrun, or contracted heels, improper hoof angles, and small feet compared to body size. Many horses respond positively to shoeing and medication(s).



Thrush

Thrush is caused by bacterial, and occasionally fungal, infection(s) affecting the central and lateral sulcus (grooves) of the frog, resulting in a black, foul-smelling discharge. Often, the frog will become necrotic or begin to die off. A moist environment combined with lack of removal of debris from the foot, poor hoof balance, and lack of exercise can cause thrush. Keep stall and turnout areas clean and dry and increase exercise in dry footing to treat thrush. Additionally, astringent or chlorine solutions can be used at the direction of a veterinarian.



White Line Disease

The white line is visible on the underside of the hoof as a narrow, light-colored band between the hoof wall and sole. White line disease is classified by progressive hoof wall separation affecting the toe and quarters of the hoof, often caused by fungal spores. Also known as seedy toe, hollow foot, stall rot or wall thrush, this condition is marked by areas of crumbly, powdery black or grey tissue at the white line. Removal of infected tissue, application of an antifungal product, and protecting new horn growth are important treatment factors.



Abscess

Hoof abscesses are small, isolated areas of pus caused by infection within the hoof capsule. Most abscesses are caused by wet to dry environmental cycles, penetrating wounds or nails, hoof bruising, and dirty stalls. Severity of the infection determines the onset of clinical signs, which include swelling heat, drainage tracts, increased digital pulse and evidence of hoof damage. Horses may also display rapid onset lameness and toe pointing in the affected limb. A veterinarian may drain an abscess and booster tetanus. A clean environment is critical to success of treatment. Epsom salt foot soaks and hoof wraps can also prove helpful.



Cracks

Hoof cracks develop for many reasons and can be serious or superficial. Types of cracks include grass, sand, heel, bar, toe and quarter. Determining the cause of a crack is critical to preventing recurrence. Uneven landing of the hoof, poor nutrition, lack of exercise, changes in ground moisture and abscesses can cause cracks. Altering management practices to ensure stalling and turnout remain clean and dry may be necessary. Stabilization of the crack by a veterinarian or a farrier is important to resolve the crack and may be done through resection, wire and screws, or polymer and acrylic patching materials.





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