



4075 Iron Works Parkway • Lexington, KY 40511  
Phone: 859-233-0147 • Fax: 859-233-1968  
e-mail: [aaepoffice@aaep.org](mailto:aaepoffice@aaep.org)

[« Go Back](#) | [Print This Page](#)

---

By Doug Thal, DVM

*Lameness: General* - Jun 14th, 06

*"Every horse owner should have a basic understanding of lameness."*

*Doug Thal, DVM*

Lameness accounts for more losses to the equine industry than any other condition. Hundreds of millions of dollars are lost annually due to lameness, more than twice the amount caused by colic. Horses are affected by lameness in a variety of ways, ranging from subtle reduced performance to complete loss of mobility requiring euthanasia. Lameness can create significant pain and suffering for horses of all breeds and disciplines. Sadly, many horses are asked to perform when they are in pain because owners fail to recognize lameness. Understanding the basics of lameness and working with an equine veterinarian who has experience with lameness can help horse owners in important ways, including:

- Purchasing horses that do not have current lameness and that are conformationally less likely to become lame (a strong argument for the pre-purchase exam);
- Recognizing conformational predispositions in their horses and managing for prevention and treatment;
- Understanding that lameness, as well as training issues, may be the root cause of a horse's poor performance
- Insuring lameness problems are diagnosed early and treated promptly.

In addition, understanding lameness and its relationship to basic form and function helps breeders make decisions that result in conformationally sound horses that are less likely to become lame.

## CAUSES OF LAMENESS

Lameness can be caused by pain coming from any part of a limb that has nerve endings. This includes wounds to skin, connective tissue bruising, muscle pain, arthritis (joint inflammation), tendon sheath and bursal inflammation, tendon and ligament injury, and injuries to bone. Lameness is often related to conformation. Horses with poor conformation are more likely to experience problems with joints, tendons, and ligaments than are horses of "normal" conformation. For example, angular limbs such as pigeon toe can set the stage for uneven mechanical forces that can lead to damage of joints and arthritis.

## FORELIMB AND HINDLIMB LAMENESS

A high percentage of lameness in the forelimb occurs below the level of the fetlock. Upper limb lameness is not common in adult horses. It is more common in younger horses because

developmental orthopedic disease is common in the upper limb in young horses. Forelimb lameness is easier for most people to recognize and, generally, easier to diagnose than hind limb lameness. The massive musculature of the upper hind limb makes diagnosis much more difficult.

## DIAGNOSIS

The lameness exam, a thorough, methodical exam, is the cornerstone of lameness diagnosis. It is a detailed veterinary procedure and includes the following steps. (Note: Horse owners should be prepared to haul horses for the diagnosis of complex lameness problems. For many reasons, these exams are better performed in a clinic setting.)

1. Thorough history, including information on breed, age, and use; the date that lameness was first noticed; and how the injury occurred, if known.
2. Standing examination, beginning with observation at a distance to evaluate conformation and demeanor, then followed by an exam up close, including palpation of specific structures to identify any swelling, heat, pain, etc.
3. Exam in movement, primarily evaluating the lameness at the trot and usually performed on firm to hard, even footing. This often includes circles in both directions and may include inclines or specific patterns. Sometimes having a rider up is advantageous.
4. Flexion exams, stressing specific joints or regions of the limb for a specified time. The degree of lameness is assessed before flexion. The limb is then held in flexion, the horse trotted off, and the lameness compared. This helps identify the source of the lameness. As with many parts of the exam, flexion tests are interpreted in consideration of what is normal for that specific horse.
5. Hoof testers, using pressure placed on specific regions of the foot in search of a pain response. Once these steps are taken, the examiner should have identified which limb is lame and may have some idea about what part of the limb is causing the problem. If so, imaging (step 7) is likely to follow. If this has not yet been established, the exam may continue with nerve blocks (step 6).
6. Nerve blocks, used to methodically numb portions of the limb. A temporary "block" is produced with injection of a local anesthetic around specific nerves or into specific joints or other structures. The horse is assessed at the trot before the block. Then the area in question is numbed, and the horse is asked to trot off again. If there is no improvement, the process is continued on specific nerves, progressing up the limb until the lameness is lessened or abolished. This identifies the specific region of the pain.
7. Diagnostic imaging can then be used to visualize the structures in the area. Imaging may include x-ray of bone, ultrasound of soft tissues, or less common modalities like magnetic resonance imaging (MRI), computerized axial tomography (CAT scan) and nuclear scintigraphy (two-dimensional imaging).

The complete lameness exam synthesizes the results of these parts to reach a conclusion about what kind of treatment may be helpful. Carried out and interpreted correctly, the lameness exam

should provide an accurate diagnosis. The usefulness of the lameness exam relies heavily on the expertise of the veterinarian. To be performed effectively, it requires a thorough understanding of anatomy, hands-on experience, and a methodical approach. Because some of these component tests are subjective, a lameness exam is as much an art as it is a science.

## THE FUTURE OF LAMENESS DIAGNOSIS

The MRI is now used more commonly in lameness diagnosis and is changing our understanding of lameness in the foot. MRI allows both soft tissue and bone to be examined in never-before-seen detail. MRI currently can image only the lower limb. This information can allow more targeted treatment and a better understanding of the prospect for recovery. Although this kind of new technology will add knowledge to the field, it will never be a substitute for a good lameness exam.

*This article provided courtesy of The Horsemen's Voice, May 2006 issue.*

[« Back](#)

Copyright © 1996-2008 American Association of Equine Practitioners.  
All rights reserved.  
American Association of Equine Practitioners  
4075 Iron Works Parkway • Lexington, KY 40511  
Phone: 859-233-0147 • Fax: 859-233-1968  
e-mail: [aaepoffice@aaep.org](mailto:aaepoffice@aaep.org)