12 Facts About Diagnosing Distal Leg Lameness in Horses

Today’s veterinarians have imaging technologies available to them that have changed and improved the way they evaluate, diagnose, and ultimately treat equine lameness in the lower leg and foot. A lameness exam—which many veterinarians will say is both an art and a science—starts with an evaluation of the horse moving, usually on a firm surface. If necessary, the exam then proceeds to imaging modalities, which can include radiography, ultrasound, nuclear scintigraphy (bone scan), and MRI. Singularly or in concert, these modalities can help pinpoint pain-causing problems and offer the veterinarian information necessary to develop an individualized treatment plan for the horse. Here’s a look at 12 facts and resources from The Horse related to diagnostic modalities for the distal limb.

1. Clinical observation, including watching the horse move and manually palpating the limbs, is a key component of the lameness exam and diagnosis. TheHorse.com/38481

2. Hoof testers are a basic tool for lameness exams and can help veterinarians locate foot abscesses, bruises, or fractures. However, a hoof-tester exam is nonspecific for deep pain. For example, a pain response over the frog represents deep pain within the foot, sometimes indicating navicular disease, but study results indicate that hoof testers have only a 50% predictive value for this condition. TheHorse.com/35219

3. The biggest advances in lameness diagnosis have been in imaging, including radiography, nuclear scintigraphy, ultrasonography, and MRI. TheHorse.com/38481

4. Podiatry and managing problem hooves require the veterinarian and farrier to work together to diagnose, trim, and shoe, depending on the condition. Both individuals rely on imaging to evaluate the horse’s hoof and make necessary changes to benefit the horse’s soundness. Radiography is the “bread and butter” of routine hoof imaging. TheHorse.com/38476

5. Radiographs, while useful, can miss navicular bone changes that MRI will detect. In other cases, radiographs can be unnecessarily condemning by suggesting potential bone-related issues that MRI will later invalidate. TheHorse.com/38481

6. Radiographs don’t offer information about soft-tissue pathologies, with the exception of laminitis. TheHorse.com/38481
While radiographs are ideal for diagnosing bone problems, ultrasound is better for discovering tendon and ligament injuries. TheHorse.com/23244

With MRI, magnetic fields produce 3-D cross-sectional images, providing high-quality detail of both bone and soft tissue. Standing MRI, performed under sedation, captures images of the lower limbs. Recumbent (taken while lying down) MRI, which requires general anesthesia, offers a look at a greater anatomical range. TheHorse.com/3689

Using MRI helps veterinarians reach a definitive diagnosis for the many causes of “navicular syndrome” in horses. TheHorse.com/38481

Nuclear scintigraphy uses a radioactive source and a binding agent to identify areas where osteoblasts (bone-forming cells) are turning over (healing) bone. A bone scan can show either bone uptake or increased blood flow. TheHorse.com/35296

Nuclear scintigraphy can provide information to help direct a veterinarian’s use of nerve blocks to localize lameness. TheHorse.com/23244

Treatments available for equine lameness vary. Choosing the right treatment and management plan depends on an accurate diagnosis. TheHorse.com/37164

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Watch Dr. Brendan Furlong’s presentation about diagnosing distal limb lameness available now on The Horse’s Vet On Demand: Equine Veterinary Seminars — on your schedule! TheHorse.com/VetOnDemand

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