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Subtle or Hard to Diagnose Equine Lameness: What Horse Owners Should Know

Your performance horse (of any discipline) is not performing up to the level he has before. Maybe he won't take a lead, or won't engage his hindquarters in quite the same way as he has in the past. Maybe he won't hold his sliding stop, or can't perform a dressage movement that he usually performs consistently. You notice that his back seems sore and tight after work. Is it a training or behavioral issue? Is there something subtle that might be causing him pain? Is he just back sore? You watch him trot around on a lunge line and you are not sure. Maybe he seems a bit stiff, maybe not...

This is a very common history for equine veterinarians to hear. Very subtle lameness is often the reason for inability to perform. The problems may be so subtle that they are missed by the rider and may barely be apparent to the veterinarian. In this article, I discuss what horse owners do, the process that veterinarians typically go through to diagnose lameness, and why sometimes we cannot make a diagnosis using that approach. I then discuss more advanced diagnostic approaches useful in these cases.

WHAT HORSE OWNER'S DO

Subtle, hard to diagnose lameness are a common cause of poor performance by horses in all disciplines. When faced with this problem, horse owners take one of many approaches:

- Some may not notice a problem and will keep working the horse, even though they wonder why he is not performing to standard. Unfortunately, this is very common and often contributes to the problem.
- Some seek out alternative therapies or buy expensive supplements without taking the time to find out what the underlying problem is. Without a diagnosis, this approach tends to be costly and ineffective and may also contribute to the problem.
- Some simply turn their horses out for extended periods of time believing that a bit of rest may solve the problem. In many cases, this works. However, frustration arises when the problem persists despite the rest. At this point, horse owners need to consider contacting their veterinarian.

- Some call their veterinarian, who attempts to diagnose the problem so that it can be treated appropriately.

THE VETERINARIAN'S APPROACH

The lameness exam is a routine of veterinary procedures that narrows down the cause of lameness in a methodical way. These exams are often satisfying for all involved and end in a definitive diagnosis of the problem causing lameness, allowing appropriate treatment. In some cases there is swelling, heat, or obvious pain which causes the veterinarian to focus on an area of interest. In other cases, there may not be visible injury but “blocks” (regional anesthesia of specific nerves, joints and other structures followed by reevaluation of the degree of lameness) can help narrow an area or structure as the source of the lameness.

Following blocking, the next step is imaging of the bone and soft tissues (of the blocked area) using radiography (x-ray) and ultrasound, defining the nature of the injury. Radiography generally provides an image of bone. It is very useful for the bony components of an injury but does not give much information on other tissues. Ultrasound is excellent for visualizing the structure of muscles, ligaments, tendons and other soft tissues. Once we have imaged the affected area, we usually have characterized the problem. We are then ready to discuss available treatment options and prognosis.

Unfortunately, however, this neat process of diagnosis and treatment is not always possible. The lameness exam may be able to rule out many causes, but there are cases in which we are not able to rule in a definitive cause for the lameness. This situation is very frustrating for both the horse owner and veterinarian. The most common area in which this occurs is in the upper hind limb and back. In these places there is so much muscle mass that it is almost impossible to examine and image the structures.

Failure to make a definitive diagnosis can happen in a number of ways. The lameness can be so subtle or hard to characterize that the veterinarian does not feel that he or she can meaningfully interpret the results of blocks. All possible blocks are performed, but the horse remains lame. Blocks localize the lameness to an area but our methods of imaging do not show a significant problem. This is common in the foot because of all of the soft tissue structures in the foot and the limited imaging capabilities of radiography.

ADVANCED VETERINARY DIAGNOSTICS

In cases where a diagnosis cannot be made using the usual approach described above, horse owners now have the option to utilize several advanced veterinary diagnostics. These diagnostics have become more available and useful in the past 10-15 years.

MAGNETIC RESONANCE IMAGING: MRI is an advanced imaging method that gives a very detailed image of both bone and soft tissue. It has shown us a level of detail in the lower limb only that we had never been able to see. MRI has changed the way we think of foot lameness. It has defined a whole variety of injuries that we did not know

existed. MRI primarily only visualizes the lower limb. As in human MRI, the patient part being examined must be within the working parts of the machine. This makes it impossible to examine the large body parts of horses. Not all MRI machines are created equal, they vary in quality of image and how large a body part can be imaged. MRI usually requires general anesthesia so that the patient is adequately still. This diagnostic is expensive, costing \$1500-\$2500.00 per exam at this time.

NUCLEAR SCINTIGRAPHY or BONE SCAN: This technique is especially useful in cases where a conventional lameness exam and blocking may have ruled out many areas of the limb but not defined the location of the problem. This is a technology that allows a picture of the whole horse skeleton to be viewed at once. It involves the injection of a radioactive isotope bound to a molecule that when injected quickly travels to normal but especially actively changing bone. Once the isotope has been injected and time allowed for it to spread throughout the body, the horse is photographed with a radiation counter (a gamma camera). The injured area within bone “lights up” on the gamma camera image. This modality is excellent for hard to diagnose lameness. It is especially helpful for skeletal problems high up on the limbs where other imaging modalities cannot be used.

These units are rare because they are extremely expensive to purchase and operate. There are strong restrictions on their use because of the use of the public health concerns of using radioactive compounds. Because of these factors, nuclear scan tends to be expensive, usually \$1000-\$2000.00 per study.

CT or CAT SCAN: X-ray Computed Tomography is an imaging method in which a large series of x-rays are taken of an area, from different angles and at different exposures. Using powerful computer processing routines, these images are assembled into a detailed 3 dimensional image of both soft tissues and bone. This diagnostic is also expensive, and the cost can begin at \$1500.00.

Alternative Approaches: Horse owners faced with difficult to solve performance problems often become frustrated and seek an answer on the Internet and from other sources. Here they find advertisements for individuals and products with claims to be able to solve every kind of equine performance problem. Horse owners should be very skeptical of all of these claims, and use their veterinarian as a guide to help choose an appropriate path. If it sounds too good to be true, it generally is.

Alternative medicine may be helpful in some cases of obscure hind limb and back problems. In cases where a conventional Western approach fails to define the problem, I encourage my clients to pursue these options if they are otherwise inclined. In addition, alternative therapies can be used in combination with or a supplement to Western approaches. I always recommend seeking a dedicated, professional practitioner (usually also an equine veterinarian) with advanced training in one or more of the alternative therapies. This practitioner should use the information already gathered by the primary veterinarian to help them in formulating their own diagnosis of the problem and in their formulation of a treatment plan.

CONCLUSION

It is important for horse owners to recognize subtle lameness problems that might be causing poor performance, resistant behavior and secondary problems like back soreness. Even if you don't see a lameness, remember how subtle these problems can be, and encourage your veterinarian to do a thorough lameness evaluation. Most of the time a diagnosis will be made and treatment options will be available. If the results of this are questionable, it then becomes important to discuss referral to a center that can offer more specialized diagnostics. If this is not an option for whatever reason, exploring alternative therapy referral or extended turnout/rest may also be an option.

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