



10261 Co Rd P38A ~ OMAHA, NE 68142
PHONE: 402-533-1151 ~ FAX: 402-533-1159

Michael J. Black D.V.M.
Kimberly N. Conover D.V.M.
Michael P. Thomassen D.V.M.

NEBRASKA EQUINE VETERINARY CLINIC

Equine Lameness Examination

We have great hopes and expectations for our equine athletes. Our goals for horses demand that they are in excellent health so that they can enjoy life and compete at high levels. Lameness can greatly affect the athletic ability of a horse. This is the first article in a series addressing different aspects of lameness exams, the diagnostics used and treatment options available for lameness.

Lameness is defined as an alteration in the gait of a horse. This alteration may be mild and only noted at high intensity levels of exercise or may be severe and noted when the horse is walking or standing. A 1998 United States Department of Agriculture study concluded that there are between 8.5 and 13.7 lameness cases per 100 horses. A single episode of lameness resulted with an average of 110 days of lost use and cost \$432. From this study we can see how frequently lameness affects our horses and why it is important to reach a diagnosis as soon as possible so that treatment can be initiated.

A lameness exam begins with careful observation of conformation. Palpation of all four limbs and response to hoof testers is observed to help identify any areas of soreness. The horse is then watched while walking and trotting in a straight line, typically on a flat, hard surface. A variety of flexion tests can be performed to help identify a painful region in a particular limb. The horse may then be lunged in a circle traveling both directions. Some lamenesses are only apparent when the horse is being ridden so the lameness exam is performed while the horse is ridden. A uniform lameness scale has been developed by the American Association of Equine Practitioners to assist with record keeping and communication between veterinarians. The scale is shown below:

0: Lameness not perceptible under any circumstances.

1: Lameness is difficult to observe and is not consistently apparent, regardless of circumstances (e.g. under saddle, circling, inclines, hard surface, etc.).

2: Lameness is difficult to observe at a walk or when trotting in a straight line but consistently apparent under certain circumstances (e.g. weight-carrying, circling, inclines, hard surface, etc.).

3: Lameness is consistently observable at a trot under all circumstances.

4: Lameness is obvious at a walk.

5: Lameness produces minimal weight bearing in motion and/or at rest or a complete inability to move.

This scale helps but obviously some Grade 3/5 lamenesses are easily noted at a trot and others are more difficult to detect. Once the lameness has been identified in one or more limbs, isolating the pain to an area on the limb is the next step.

Because horses cannot verbalize where the pain is coming from, the next step in most lameness exams is to use local anesthetic to define the region of pain. Diagnostic regional

anesthesia, also known as a “nerve block” is used to desensitize an area of the limb. For example, a horse has a Grade 3 left front lameness. Local anesthetic is first used to desensitize the foot. After the “block” has taken effect, the horse is then trotted and observed for left front lameness. If the left front lameness has resolved, then the pain that is causing the lameness is originating from the foot. If the lameness does not improve after the block, the next block is performed slightly higher on the leg. This process is continued until the lameness improves significantly or resolves. This type of nerve block desensitizes an area but does not identify the structure in the area that is causing pain.

Once the area of pain has been determined, additional diagnostics such as radiographs (x-rays) or ultrasound can be used to examine structures in the area of concern. If the structure (joint, ligament, tendon, etc.) that is causing pain can be identified, then treatment options can be discussed. A joint block could be used at this time to specifically isolate a joint or joints in the region of interest. A joint block is when local anesthetic is deposited into a joint. This helps to determine if some or all of the pain is coming from a joint. As you can imagine, a lameness exam can take a significant amount of time to perform and several exams may need to be performed on different days to determine the exact cause of the lameness. However, it is ESSENTIAL that a diagnosis is reached because without a diagnosis a prognosis cannot be determined.

Other specialized diagnostics that can be performed include thermography, arthroscopy, magnetic resonance imaging and nuclear scintigraphy. Most of these procedures are performed at a large referral institution such as a veterinary school.

Treatment varies based on the cause of lameness but may include rest, anti-inflammatory medication, joint injection, shockwave or surgery to list a few. Newer treatments include Interleukin-1 Receptor Antagonist Therapy (IRAP), Platelet Rich Plasma (PRP) and stem cell therapy. These newer treatment modalities offer very promising results in many cases.

This article’s purpose is to introduce terms and concepts involved in a lameness exam. The next two articles will give examples of cases that we have seen in our practice recently.

Sources consulted:

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