

Diagnosing Gait Irregularities in Horses

by: Heather Smith Thomas • October 01 2011 • Article # 19322

To get to the bottom of subtle performance-limiting gait abnormalities, veterinarians must consider every piece of the puzzle

During a routine trail ride or an afternoon hack, you realize your horse's gait is slightly "off." Concerned, you wonder what's causing his discomfort. Could he be suffering from structural lameness or from soreness due to saddle fit or rider balance? This can be a difficult issue to sort out.

Owners and veterinarians usually can spot the cause or origin of a "true" lameness fairly easily, but according to Gary Baxter, VMD, MS, professor of surgery in Colorado State University's Department of Clinical Sciences, a group of more nebulous lamenesses that are simply performance-limiting might not be detected through a simple physical examination.

Duncan Peters, DVM, of Hagyard Equine Medical Institute in Lexington, Ky., says horses that are just a little "off" are an interesting challenge. Initially, you don't know whether the horse is experiencing temporary soreness or the beginning of something more serious. "Owners or riders may look to the veterinarian, chiropractor, or acupuncturist for an instant answer, but a slight gait irregularity or soreness may take a while to decipher," says Peters. "Even though we have good diagnostic tools, it may take trial and error."

In this article we look at the steps you and your veterinarian might take to determine the cause of a perplexing and frustrating gait abnormality.

History

Most gait irregularities show up as poor performance--your horse just isn't doing his job as well as he usually does. "We try to determine if there were any changes that correlated with development of gait abnormality," says Peters. "Perhaps there was a specific incident where the problem began, or maybe it's come on gradually or fluctuates back and forth."

For instance, has the horse moved to a different trainer? Does he have a new farrier? Have you changed saddles, bits, or equipment? Has the footing you ride on changed? "Many factors must be considered," Peters explains. "The veterinarian should also talk with the owner and trainer to see what (treatment options have) already been tried."

Is It Normal?

Some horses with gait abnormalities still perform well--all horses move differently and an irregularity might be "normal" for that particular horse.

"A horse with a club foot, or even a slightly more upright foot on one leg and an underslung heel on the other, will have an uneven stride, yet is sound," says Peters. "Some of those horses do very well, and it's not something that needs to be corrected." A farrier might even make things worse by trying to correct a conformational flaw, he notes.

"The abnormality may be something you need to manage, rather than ignore, but you don't need to 'fix' it," Peters explains. "We see this situation with old injuries that leave the horse with a gait imperfection. Perhaps he had a suspensory injury when racing, then became a hunter-jumper or event horse. He may drop down more on one fetlock, and there may be a change in the way he canters on one lead versus the other. But that's just the individual horse and not something you need to deal with."

He cites an old injury in the sacroiliac area (where the pelvis connects with the spine)--the so-called "hunter's bump"--as a common abnormality that doesn't require correction. "When you watch these horses from behind, there's a dip and hitch in the gait," he notes. "An old injury like this will produce gait irregularity, but that horse can perform just fine."

To determine whether your horse's gait is "off" or if an irregularity is "normal," have a veterinarian perform a complete physical and lameness exam. "This can determine if there is a structural or pain-related problem, versus a nonpainful gait abnormality," says Baxter.

The Physical Exam

When a veterinarian examines a horse for a gait irregularity, says Baxter, he or she might first try to rule out any foot problems that might cause the horse to move oddly--particularly bilateral problems (both front feet, or both hind). "A horse that's sore in both front feet has a short-striding gait," he explains. "This is true lameness, whereas some of the other problems may be hard to determine whether they're pain-related or just the horse."

Peters says the physical exam should be hands-on and very thorough, from front to back and top to bottom. He looks at the horse's mouth, palpates the head and neck, and sees how the horse reacts to bending/moving/manipulating his head and neck. "I palpate through the withers and put pressure through the back, trying to get extension and flexion--and lateral movement--of the back, withers, and neck and see what response the horse gives," he says.

"I go down over the topline and over the croup to the tail," he continues. "I pull on the tail and see how the muscles respond, from one side or the other. I watch horses' reactions in righting themselves when pushed from one side or the other. I look for subtle neurologic problems." All these assessments can help a veterinarian determine if a horse's gait irregularly could be related to a neurologic condition such as equine protozoal myeloencephalitis, a structural problem such as arthritis in the back or neck, or a developmental problem such as a narrowed spinal column.

When palpating limbs, the veterinarian should move down each leg and then flex it. "I evaluate range of motion and check for any abnormalities in terms of soreness or swelling," Peters says. "This may give an idea of something to look for when I watch the horse move."

Peters recommends using a hoof-tester on all four feet to see how the horse reacts to pressure applied to different areas of the foot. He also examines the horse's shoes to see if there's more wear on one side than the other, if the choice of shoe is appropriate for the horse, how the shoe is positioned, and whether this might be a factor in gait abnormality. For instance, "If a horse has a shoe that's a size smaller on one front foot, this may be a concern, as can a heel that's higher on one foot than the other," Peters says.

He also watches the horse's posture: "Does he always want to rest a certain leg, or stick one front leg out farther? Subtle things like shifting weight from one leg to another can give clues (as to what's bothering the horse)."

How the Horse Moves

After the physical exam, the veterinarian should watch the horse travel on a longe line in both directions. "I observe how he carries himself and how he carries his head and neck--how relaxed he looks, and how comfortable," says Peters. "I note whether the back muscles are soft and relaxed and how he places his feet.

"I watch to see if he wants to pull to the outside to go more in a straight line--or is comfortable bending around the arc of the circle," he continues. "I relate that to what I saw in the physical exam." A horse that didn't like to bend his neck to the left, for instance, might also pull the handler to the outside when longeing/traveling in a left-hand circle.

"After watching him move, I do flexion tests (this time to observe whether the horse becomes lame and for how long after the vet flexes and releases the lower limb joints) on the lower and upper leg on all four legs," Peters continues. "Some horses look fine on the longe line, and then you flex the legs and maybe the left front lower leg flexion changes their way of going."

Under Saddle Observation

After this initial series of tests, if everything is symmetrical and the horse moves fine, Peters suggests longeing with tack to see if the horse exhibits any changes under saddle. For example, "One horse with a skin condition showed no problem at all until we put the saddle on; he moved completely different because he was so sensitive," says Peters.

However, "most of the true performance-limiting lamenesses are not related to saddle fit," says Baxter. "A saddle that's grossly not fitting could be a problem, but this should be obvious to the owner or rider," he says.

If the horse also moves normally while saddled, the veterinarian might then examine him while being ridden.

"The rider is a piece of the puzzle," explains Baxter. "A good rider can make up for insufficiencies in a horse, and a poor rider can hinder the horse. Those things are best evaluated with the horse working in its natural environment with a rider." If the veterinarian spots a potential problem area when the horse is working, the next step might be to perform a nerve block in the suspected area--whereby the veterinarian injects local anesthetic to numb a particular region temporarily--then see if the horse improves.

Another reason to evaluate the horse while he's being ridden by his normal rider is that some gait irregularities occur as a result of rider imbalance. This is particularly evident if a horse's movement improves when the rider or trainer changes.

Training Issues

A gait issue might also be related to stage of training. Baxter explains that some Western performance horses that are --started very young have to work through some physical issues. "We see the same problems, however, in Warmbloods that are started later," he explains. "I think many horses go through a stage where they may not be performing adequately--related to immaturity and muscle development. They must develop the proper muscles for their job, proper balance, and the proprioceptive ability (an awareness of where their feet are) that goes with that discipline. So we have to assess a gait irregularity and determine if it might be a training issue, rather than a structural problem."

Further Diagnostics

If the horse does not show true lameness, a simple nerve block is not likely to be a very effective diagnostic tool because the area of lameness is so subtle. Instead, says Peters, "we might do X rays to see if there's a chronic concern that's starting to show. Some horses with subtle gait changes, or something in the history or physical exam that alerts you to a problem, might benefit from radiographs or bone scan (nuclear scintigraphy, which shows "hot spots" of bone remodeling), and if (the location of the problem is) specific enough we may MRI that area. If there's swelling associated with a soft tissue problem we can use ultrasound to see if there are -irregularities."

Baxter says veterinarians sometimes use thermography to assess minor problems and look for heat changes in certain body areas--particularly in the back muscles. Back soreness, for instance, tends to make a horse travel less freely.

"We may find a number of areas we need to explore further to determine the reasons for poor performance," says Peters. "It may take awhile to hit the key area, and you may get there by a circuitous route to sort things out."

Take-Home Message

Team effort and process of elimination are often key to getting to the bottom of a gait abnormality. "It may take several tries to fill in all the pieces of a puzzle," says Peters. "If I determine 'an area of interest'--such as a stiff neck--during the physical exam or when watching the horse move, I focus diagnostics on this area to determine if enough change (detectable damage in the structure) exists to explain the poor performance. Based on diagnostic findings we can then come up with a treatment or management plan."

Sometimes, however, a horse that feels "off" might just have a mild problem, whether caused by inflammation or the developmental process, that needs time to heal. Peters acknowledges that technology is not always the answer. "With most sprains or strains," he says, "if you take the pressure off, they take care of themselves with a little medication and (10 days to two weeks of) rest."