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By David W. Ramey, DVM

Lameness: Diagnostic Tests - Jun 18th, 02

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You've decided to sell your horse. The potential buyer has sent a veterinarian to our farm to perform a purchase exam. As you stand beaming with satisfaction next to who you hope will be the new owner, the veterinarian picks up your horse's left front leg. Bending it at the ankle, he holds it for about 60 seconds, returns it to the ground and asks that the horse be jogged down your asphalt drive. In astonishment, you watch as the horse moves off most decidedly lame. What happened?

What you have witnessed is a phenomenon that can sometimes occur following a procedure called a forelimb flexion test. In a forelimb flexion test, various joints and soft tissue structures of the lower limb are stretched and/or compressed for a brief period of time by bending the limb. Afterward, the horse is immediately trotted off and observed for signs of lameness. Forelimb flexion tests were described in Swedish veterinary literature as early as 1923. They appear to have become an integral part of the evaluation of the horse intended for sale. In performing the tests, a veterinarian will likely pick up the horse's leg and bend it, with the bending force centering around the fetlock joint. He or she will hold the leg for a period of 30 seconds to 60 seconds, in the forelimb – often longer in the hindlimb - and then let go, asking the horse to trot off immediately.

The test is not unlike what you might experience if someone asked you to sit in a crouch for sixty seconds and then run right off. Usually, you can run off just fine, but occasionally, you might experience some soreness or pain in the joint when you first try to run; you might even limp for a few steps. Of course, if you had a bad knee, you probably wouldn't do very well at all on this sort of a test. In horses, as in you, an abnormal response to a flexion test might occur even if the examined limb is normal, or it could indicate a problem.

While forelimb flexion tests are quite commonly performed, veterinarians have not agreed on the optimum duration of the test. Studies have been done in which the duration of the test has varied from 30 seconds to three minutes. Devices have been devised to measure the force applied during the test, but these are not widely used in practice, so there's no consistency. In 1997, a study involving 50 horses was been conducted to determine the effects that force of the test may have on the result. The study suggested that reliance on forelimb flexion tests for a diagnosis of impending lameness or other problems may not be reasonable. The study also indicated that a positive response to the test did not correlate well with other indicators, such as x-rays of the lower limb, no could any correlation be made with lameness that occurred in the 60 days after the test was performed.

Unfortunately, a positive response to forelimb flexion tests, meaning lameness was evident after the limb was released and the horse trotted away, is one reason horses may be deemed unsuitable for purchase during the prepurchase exam. The wide range of significance attributed to these tests

varies according to opinion and the experience of the examiner. While there have been many purchase exams discontinued solely because a positive response to a flexion test in one or both forelimbs, there's really nothing in the veterinary literature to support such an action. Indeed, because of the variable response to the test depending on such things as the force applied, duration of the test, age of the horse and the day of examination, demonstrated in this and other studies, discontinuation of a prepurchase examination based solely on a failed forelimb flexion test is probably unwarranted.

As a result of the 1997 study, as well as another large study of 510 horses conducted at the University of California, Davis, and published in 2003, many people have become increasingly skeptical of the significance of forelimb flexion tests during the examination. Horses can and do perform well for a variety of riding endeavors even then they do not perform well on a forelimb flexion test.

What should you do? If your horse does respond to forelimb flexion test, don't stop there. Further examination of the horse through the use of x-ray may be warranted. Look for other signs of a problem, such as lameness, loss of limb flexibility or a painful response to palpation and/or manipulation of the area that you suspect may be a problem. With a complete examination, you will likely find the answer you're looking for.

Dr. David Ramey is a 1983 graduate of Colorado State University. After completing an internship in equine medicine and surgery at Iowa State University, he entered private practice in southern California. His practice is devoted to the care of pleasure and performance horses of many different breeds and occupations. He is the author of numerous books and articles on horse health. He presented his findings during the 1997 AAEP Convention in Phoenix, Arizona.

[« Back](#)

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