

## Performance Problems In The Sport Horse

The above-entitled presentation was made by Mark Revenaugh, D.V.M. of Portland, Oregon on November 22, 2008. The presentation was included in the USDF Region 6 mini convention held at the Holiday Inn Express in Portland. Dr. Revenaugh is the only FEI veterinarian practicing in the Pacific Northwest, and his background includes over 10 years in practice as a USET veterinarian. He mentioned at the beginning of his presentation that many of the reasons he'll offer as to why certain problems develop are strictly his opinion, and presented as such to get the horseman to think, and arrive at sound solutions for the horse's problems. Following are my notes taken during his presentation in an effort to summarize and share this information with my fellow PDE members.

### **Basic Lameness and Performance Problems**

Lameness is defined as an obvious gait abnormality when a horse is observed moving on a straight line or in a circle. The traditional diagnosis for the location of pain is a nerve block which may be used on peripheral nerves, joints, or synovial structures. Where things get difficult to sort out is when there's no obvious lameness, but the horse is "off" in one respect or another (i.e.; stops at fences, heavy to one side, won't pick up leads, favors one side over the other). These types of problems require flexibility on the vet's part to diagnose, and are unfortunately not identified as such until the horse becomes lame due to some underlying injury/problem going unchecked. This is typically when the vet is called to examine the horse. The most effective treatment for all basic problems occurs when the problem is recognized early. To be most effective in your treatment of the problem, to the best of your ability, spend the time and money up front having the problem definitively diagnosed. Too many times, well meaning owners or trainers begin treatment of what appears to be the "big problem" with no diagnosis to find later on the true "big problem" was the underlying cause of what they were seeing, which was merely the manifestation of the "big problem".

The diagnostic approach should be directed as follows: a) Thorough history of the problem-Is it a new problem? Is it getting worse? Did something happen to the horse? b) Observe the horse at work because some problems will only be seen when horse is working. c) Physical exam is performed in hopes to localize pain precisely. Palpation, hoof testers, etc.... are used during exam as situation dictates. d) Observation of horse's entire body, specifically looking for asymmetry, atrophy, etc... Be careful here, often obvious abnormalities are not always the true problem.

Many basic performance problems are due to underlying medical issues in the horse such as heart disease, respiratory infections, eye and neurological problems/deficits, stomach ulcers, parasites, muscle problems, bleeders (EIPH). The most common medical issues seen by Dr. Revenaugh in dressage/eventing horses were mentioned with comments as follows. Bleeders; this condition develops when pressure in the lung's small blood vessels increases such that they rupture, which leads to blood pooling in the lungs and decreased respiratory capacity. Stress can manifest itself in a

number of medical problems such as gastric ulcers, or skin problems resulting from increased cortisol levels. Recent research findings indicate the impact of transportation-related stress is equivalent to that of the horse being walked non-stop, hour for hour. (i.e.; 1 hour of transport = 1 hour of walking non-stop) Also, gastric ulcers were found at a higher frequency than expected even when horse is under minimal stress. Dr. Revenaugh advised the regular use of a good gastric ulcer medication as a smart preventative step with horses under stress from schooling, training, showing, or transport. The best preventative product for the money in his opinion is Ulcer Guard (Omeprazole) by Merial.

Additional medical/physical problems touched on were poor saddle fit, over-nutrition/over supplementation (tendency towards overweight more common in dressage horses than in any other equine athletes he sees), and overweight is the main cause of suspensory ligament problems in the horses Dr. Revenaugh sees at his practice.

Tendonitis, desmitis, arthritis, foot pain, back/neck pain, and suspensory ligament injuries may be successfully treated with shock wave therapy, which is essentially a controlled re-injury that effectively improves localized blood circulation and new cell regeneration. Shock wave therapy has been found to be a safe alternative to other types of more invasive treatments. The horse must have a prescribed lay-up period following shock wave therapy in order to be effective.

### **Head to Tail, the Back is Affected**

Because of the back's comprehensive role in motion and the fact that most soft tissue structures in the back are long and inter-related (i.e; longissimus muscle, spinal cord, regional muscle groups along the spine), this reality is inescapable when dealing with equine performance problems. And, on the other side of the coin, some mouth problems will manifest themselves as back problems. The sacral-pelvic region is a very complex area with respect to the muscles and ligaments responsible for locomotion. In Dr. Revenaugh's experience, poor saddle fit is the primary cause of the back problems he encounters. Other common back problems include kissing spines, facet joint injuries, intertransverse injuries, muscle and other soft tissue injuries, and disc injuries. Kissing spines is the condition where the dorsal processes are hitting/grinding against each other. The two main causes of kissing spines are 1) hard landings over drop-type fences, causing compression of the spine from the degree of hyperextension and hyperflexion required to get over these fences, and 2) genetic predisposition. Kissing spines are most often seen in the wither and mid-thoracic region of the spine. Lower back problems often manifest as non-specific complaints, occasionally causing lameness. They can be bone, ligament, joint, or muscle injuries. A common lower back problem known as hunter's bump is a type of subluxation of the spine in the lower back region. The sacroiliac has a wide range of motion, surprisingly. Lumbar deviation develops when the sacral region is injured, causing the horse to use the lumbar region to compensate, resulting in lumbar deviation and giving the appearance of a "roached back". There are two general types of neck problems; those involving neurological deficits (i.e.; narrowing/compression of the spinal cord) or those without neurological deficits such as neck arthritis or disc injuries.

The trauma and stress to the neck associated with dressage training is typically caused by forced movements from training equipment, repetitive movements when muscles aren't in good condition, lateral flexion, lateral deviations, falls, flips, and other sudden movements. Signs of problems in the cervical region include pain near withers, under-developed neck musculature, feels stiff to one side. Effective treatment of neck and or back injuries absolutely depends on accurate diagnosis.

Treatment options for various problems are follows. Shockwave treatment has been found to be effective in joint, ligament, and tendon injuries. Injections for joint injuries have been found to be effective, with 2 leading products, Legend and Adequan. Oral joint supplements effectiveness limited to horses' ability to absorb the product; thus far Cosequin only product found to be well-absorbed. Some of the newest technologies involve blood-derived products from bone marrow and stem cells; used to proliferate pluripotent cells which are then injected. Growth hormones which are thought to stimulate vascularization to an injured area. Bone inflammation inhibitors (ie;Tildren). Good for bone pain, but not available in the United States.

Most training/performance problems are due to inadequate time spent on the basics. Many neck and back problems are created by the horse's trainer/rider. Horses need consistency in our expectations, demands, and their training regiment in order to progress with minimal physical/ mental problems. The basics are about relaxation, suppleness, forward impulsion, straightness, and "schwung". The horse must be comfortable and strong in order to achieve even the above listed basics. Horses also have bad days like us now and then. Learn to recognize when they happen occasionally. Allow adequate warm up and cool down times. Recognize and address any problems early before they become big problems.

Performance problems can be challenging. Know what you are treating before you begin spending time, money, and energy on a treatment regimen. Get the problem diagnosed first! Not every performance problem is due to physical issues. Sometimes the horse needs a new job. Successful treatment relies on accurate diagnosis, whatever it may be!

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