

How to Perform a Specialized Examination of the Jumping Sport Horse

Philippe Benoit, DVM; and Richard D. Mitchell, DVM

Authors' addresses: Clinique Equine, 4 Route de Vilpert, Les Breviaires, 78610 France (Benoit); and Fairfield Equine Associates, P. C., 32 Barnabas Road, Newtown, CT 06470 (Mitchell); e-mail: philippebenoit@equineclinic.fr (Benoit). © 2006 AAEP.

1. Introduction

Equine veterinarians are frequently asked to evaluate the jumping sport horse during times of competition to assess performance issues that a more conventional clinical exam may fail to reveal. Examining a competing horse requires a working knowledge of the discipline, the rules, and the technical nature of the jumps themselves.

In show jumping, the examiner must understand the level of competition and the ability of the rider to accurately assess the condition of the horse. The performance of the horse in competition provides a specialized succession of tests that will help the practitioner to evaluate the horse and appreciate sometimes subtle characteristic changes in attitude around and over the jumps. This observation should be made in addition to normal physical and dynamic exams. A possible assessment can be made from watching videos, observing horses warming up, and watching the competition.

2. Materials and Methods

Specific phases of the examination should include¹

1. physical and dynamic examination
2. observation in the paddock area (warming up) on the flat

3. observation of warm-up jumping
4. evaluation of jumping performance in the ring

Physical and Dynamic Exam

More credit should be given to how the horse moves early in the day. Preferably, watch the horse move out of his stall, and check his gait amplitude and elasticity as well as back motion.

At this time, palpation, hoof tests, and passive flexions are conducted. The horse should then be moved in hand, and all dynamic tests should be performed. Observing the horse under tack may afford the practitioner more information that is not available in the normal clinical examination.

Warming Up

The practitioner should take into account environmental effects such as location, footing, and climate that may interfere with performance.

Climatic conditions (i.e., heat and humidity) can affect the ability of the horse to properly warm up and recover and therefore, affect performance. Lung disease and chronic muscle issues may further affect the warm-up process. Footing that is deep or extremely firm can dramatically interfere with the

NOTES

performance of horses having chronic musculoskeletal issues. It is well documented that some orthopedic problems are highly related to certain competition surfaces.² The practitioner should take into account the type of boots and bandages, shoeing, and shoe studs that are in use in conjunction with the type of footing.

We primarily see two kinds of footing at high-level show-jumping competitions in Europe and the United States: grass and sand. With grass, a good root system will help hold the soil and allow for a firm and comfortable surface. Many such surfaces have a sand base, and hydration has a significant relationship to comfort and depth of the footing. With sand (or sand and fiber mix), the footing is normally kept well hydrated, and it makes for a very fast, holding, and non-slippery surface. This footing is often firmer than that seen on most training surfaces, but the addition of fibers (synthetic and natural) help retain water and provide a smoother and softer surface. The footing depth should normally offer some lateral or longitudinal motion of the foot to limit joint and ligament strain.

As stated above, environmental stress can greatly affect the performance of the sport horse. Information about transportation to the event may be helpful in assessing the possible pathologies affecting the horse. So-called “shipping fever” may induce fever, pleuropneumonia, or abnormal gastrointestinal function. Respiratory disease may be related to excessive or insufficient airflow during transportation. Additionally, pharyngitis and laryngitis can be associated with pollen and dust inhalation from hay bags and bedding in the transport vehicle. Such conditions may induce a light cough or laryngeal inflammation that may interfere with exercise recovery and normal pulmonary function.

Gastric-ulcer syndrome is recognized to be, at least in part, a product of transportation stress, and it can have a profound affect on performance. Prolonged travel stress may result in dehydration and gastrointestinal stasis (impaction). A good anamnesis and general physical can provide much information.^{3,4}

Different Tests to Be Performed Under Tack

When the horse is cold and walking in the warm-up ring, great importance should be given to the freedom and amplitude of movement of the forelimbs and shoulders. Pelvic axial and longitudinal motion should be viewed from the lateral and caudal aspects. When asked to trot, observe the horse in a small figure eight (~10 m in diameter) to see how the horse bends on both sides. Observing the posting and sitting trot may give different insight as to the comfort and flexibility of the horse while working the figure eight. Careful attention should be given to how the horse lands on all four limbs as well as the way it bends and swings the hindlimbs. The trajectory of the hindlimbs should also be ob-

served to evaluate the possible lack of adduction and abduction.⁴

At this stage of the examination, it may prove helpful to ask the rider for his/her feelings regarding the symmetry and feel of the horse during various gaits and turns of different directions.

At the canter, back motion becomes crucial to evaluate. Longitudinal bend gives the observer a significant amount of information on how the horse may jump by the way it collects or extends the stride. The movement of all parts of the back should be assessed. Palmar-foot and suspensory ligament pain may alter the way the horse moves underneath itself with the foot opposite the lead foot. Asking the rider to work the canter in small circles, then extend the canter on a straight line, and end in another small circle will allow the observer to more completely assess the horse's motion.^{5,6} Careful attention must be paid to the rider's abilities, because this can affect the horse's performance.¹

Jumping in the Paddock

There are different phases of the jump: the last two strides, the pushing off of both forelimbs and hindlimbs, the movement over the jump, the landing on the front feet, the landing on the hindlimbs, and the first few canter strides. Great significance should be given to the different parts of the back and to the movement and trajectory of each limb. A more relaxed horse in the warm-up ring may present a different picture of abnormalities than a horse under stress in the competition arena.

It may prove useful to note how much time the rider takes to warm up the horse. Some may feel that the horse needs considerable warm up and subsequently canter 50% more than others. Such practices may help the veterinarian better understand the needs of the horse and how excessive or inadequate warm up may affect the performance of the horse. Taking note of the number of practice jumps a rider may choose to do may give insight into behavioral and fatigue-related problems that can arise.

In the Show Ring

During competition, the horse is being asked to do its maximum to clear the jumps and negotiate the course. Speed can be a factor because of time limitations or times used to break ties. Greater strain is produced by maximum jumping effort at the increased pace.

The rider will normally have a plan for pace and the number of strides to be taken between jumping obstacles. The practitioner, to be a learned observer, must have some understanding of the sport and the difficulties encountered on a particular course.

The practitioner is seeking to observe the behavior of the horse carrying himself between the jumps, the style of jumping over the obstacles, and the difficulties or ease of negotiating the course overall.

3. Results

The above steps will enable the practitioner to collect a wide range of information that can be combined with conventional exam and imaging observations. If the horse has no history of lameness or gait abnormality, the practitioner should match his observations with potential comments of the rider to make decisions for more diagnostic steps.

4. Discussion

Watching how the horse uses its body while on the course will give a good indication of possible performance issues. Noticing how the horse negotiates short turns (is there a lead change?) and how he copes with long and short combinations of jumps that require extension and collection of stride may give insight into some problems. Some jump combinations provide good information relative to the comfort of the horse.^{1,6,7} A Liverpool (a wide jump) with 5–7 strides to a vertical can give a good indication of the horse's ability to lengthen, collect, and jump up using the hindlimbs for propulsion. Short distance (7.3 m or 24 ft) combinations of vertical jumps are useful indicators of back and pelvic comfort. Horses should be observed through such obstacles from the lateral view as well as coming and going away, if possible. Some horses may be viewed to jump with a very flat or even inverted back. The comfortable horse will have a rounded top line at the top of its jump. Note should be taken of how the rider works to adjust the horse to negotiate the obstacles. Jumping to the right or left, unless intended by the rider, can change necessary stride length, cause jumping faults, and be a significant indicator of jumping discomfort.¹

Twisting and jumping right or left may result in the horse landing recurrently on a preferred limb. This should be investigated, because it may have serious consequences for the preferred or opposite limb. A thorough clinical exam should be conducted, especially scrutinizing the opposite limb. Nerve blocks may be appropriate, but care should be taken to rule out serious trauma before performing nerve blocks to avoid potentially disastrous consequences of self-inflicted injury. Of course, medication regulations and time of future competitions should always be considered when dealing with the performing show jumper.

Lead swapping, on turns and in front of jumps, is a common problem that affects the performance of the show jumper. Sometimes, this may be the product of an action by the rider, either intentionally or unknowingly. More often, lead swapping is an indication of lumbosacral soreness or weakness and therefore, suggests the need for a complete evaluation of the back and neck.^{1,8} Additionally, such swapping may be indicative of distal tarsitis, proximal suspensory desmopathy, or stifle soreness, but often, these ailments are more evident on the in-hand examination.

5. Conclusion

Although the thorough physical and dynamic in-hand clinical examination of the horse is a must, the observation of the performing jumper has proven to be very useful in evaluating athletic problems. The authors now consider the “in-ring” examination to be an integral part of the lameness examination of the show jumper. This practice offers the opportunity to build stronger relations between the trainer, rider, and veterinary surgeon. Performance examination is an integral part of the overall follow up of the high-level jumper.

References

1. Benoit PH. Examen du cheval de CSO en situation, in *Proceedings des 33rd. Association Vétérinaire Equine Française*, Pau (FRA) 2003;107–109.
2. Château H, Degeurce C, Denoix JM. Influence de la nature du sol et de la ferrure sur la biomécanique des articulations digitales, in *Proceedings de la 31^{ème} journée de la Recherche Equine* 2005;35–44.
3. Mitchell RD. Prevalence of gastric ulcers in hunter/jumper and dressage horses evaluated for poor performance, in *Proceedings. 20th Association for Equine Sports Medicine Convention* 2001.
4. Andrews J. Gastric ulcers in horses. *J Anim Sci* 2005;83: E18–E21.
5. Denoix JM. Spinal biomechanics and functional anatomy. *Vet Clin North Am Equine Pract* 1999;15:27–60.
6. Jeffcott LB. Disorders of the thoracolumbar spine of the horse—a survey of 443 cases. *Equine Vet J* 1980;12:197–210.
7. Boswell R, Mitchell R, Dyson S. Lameness in the show hunter and show jumper. In: Ross MW, Dyson SJ, eds. *Diagnosis and management of lameness in the horse*. St. Louis: W.B. Saunders, 2003;965–975.
8. Denoix JM, Dyson SJ. The thoracolumbar spine. In: Ross MR, Dyson SJ, eds. *Diagnosis and lameness in horses*. St. Louis: W.B. Saunders, 2003;509–521.