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Lameness: General - Jun 18th, 02

THE SPORT

The athletic demands placed upon the elite show jumper are huge. It must be able to jump large fences with precision, accuracy, and care, sometimes at speed. It must be supple and able to make sharp turns and jump from a virtual standstill, while also being able to jump almost from a gallop. It must have tremendous strength in the back and hindlimbs to be able to adjust stride length and jump from "deep" and bascule, with the capacity to jump large spread fences.

The majority of successful, modern, elite show jumpers are naturally well-balanced, loose-moving athletes. They are relatively large horses, most being between 1200 and 1500 pounds body weight. Unlike many other disciplines, there is a reasonable balance of males (geldings and stallions) and mares, although there does not appear to be any difference in susceptibility to injury. The majority of elite show jumpers are warmbloods that vary in their conformation, but are generally well-proportioned. The feet are a notable exception. The feet of warmblood horses are often not well-conformed or well-proportioned in size and shape relative to the horse's body weight. Thus this can be regarded as a conformational fault, sometimes compounded by poor foot trimming. Greater attention to foot balance may help to prevent some lameness.

The elite show jumper generally has a heavy competition schedule with little time for recovery from injury before it is next expected to compete. It also has to withstand traveling long distances between competitions and often confinement in relatively small stables, with little opportunity for turnout. Therefore, exercise is restricted to ridden work and handwalking. Since elite show jumpers travel so much, use of the same farrier becomes difficult, so the horse may be subjected to variable trimming and shoeing. Due to the intensity of competition, early identification of any potential problem is crucial; therefore, regular, comprehensive monitoring of the musculoskeletal system is recommended.

CHRONIC ONSET LAMENESS

The stresses placed on the hindlimb suspensory apparatus on take-off and the forelimb suspensory apparatus at landing are enormous. There is also immense torque placed on joints when making quick turns. Thus, there is the potential for subclinical lamenesses, causing low-grade intermittent or continuous pain, compromising performance without resulting in overt lameness. Nonetheless, some horses are able to perform very successfully despite low-grade overt lameness. Some problems that a horse can cope with adequately when performing at lower levels may become a problem when the horse is subjected to

extreme demands on its athleticism.

Low-grade problems may first show up as a change in performance rather than overt lameness. Signs of a musculoskeletal disorder may include:

- Not pushing evenly off both hind limbs, with the hindlimbs drifting to one side therefore not jumping squarely across a fence
- Reluctance to turn
- Refusing to land with one forelimb leading
- Difficulty in making the distances in a combination fence
- Difficulties in alteration of stride length
- Reluctance to get deep into a fence, or a tendency to have rails down in such circumstances
- Rushing fences
- Stopping (refusing)
- Changing legs behind in canter

Chronic lameness must be identified and controlled to: 1) enable a horse to pass mandatory veterinary inspections at international competitions, 2) optimize its performance and 3) reduce the risk of the development of secondary, acute problems.

ACUTE ONSET LAMENESS

There are many potential causes of acute onset lameness which are not unique to the show jumper, elite or otherwise. There are, however, a number of conditions which seem to occur with higher frequency in elite level show jumpers, compared to horses performing at lower levels. These include:

- Inflammation of the accessory ligament of the deep digital flexor tendon in the forelimb
- Superficial digital flexor tendonitis in the forelimb
- Deep digital flexor tendonitis within the forelimb hoof capsule
- Inflammation of the suspensory ligament in the forelimb and less commonly the hindlimb
- Inflammation of either branch of the suspensory ligament in either the forelimb or hindlimb
- Inflammation of the digital flexor tendon sheath

CLINICAL EXAM

Successful management of the elite show jumper requires knowledge of the individual, how it normally moves both in straight lines and in circles on both soft and hard surfaces, and how it responds to a variety of manipulative tests. It is essential for the veterinarian to have a good working relationship with not only the rider, but also the groom, who may have the greatest knowledge of any subtle changes in the horse's action or behavior.

A comprehensive clinical examination should include careful palpation of the limbs and back for detection of areas of heat, pain or swelling, and muscle tension. The development of fluid swelling in the joints, even in the absence of overt lameness, should be regarded with suspicion. Flexion and twisting of joints should be performed to assess both mobility and the presence of pain.

A significant number of elite show jumpers exhibit some degree of shivering-type behavior in one or both hindlimbs (involuntary muscular movements of the limbs and tail).

Frequently this does not appear to be associated with any compromise in performance, but it does complicate the evaluation of the response to flexion of the hindlimbs.

The horse should be evaluated moving freely in-hand on a hard surface and on the lunge on both the left and the right reins and on both soft and hard surfaces. The response to flexion of each limb should be assessed. In some instances, it is necessary to evaluate the horse while it is ridden, and if necessary, jumped, in order to detect a problem. It may also be necessary to rely on the feeling of the rider that the horse is "not right."

Local nerve blocks are invaluable techniques for isolation of the site(s) of pain, either to temporarily remove overt lameness or to improve performance. It is sometimes necessary to medicate a suspicious joint on a diagnostic basis, since a better effect may be achieved. Nuclear scintigraphic examination can be invaluable in identifying suspicious areas in cases of low-grade poor performance, but due to the large variation in scintigraphic appearance between clinically normal horses, it is usually necessary to desensitize a suspicious region with a local nerve block to confirm that it is indeed a source of pain. Radiography and ultrasonography are essential components of the diagnostic toolbox as well.

MANAGEMENT FOR OPTIMAL PERFORMANCE

The development of fluid swelling within a joint, pain on passive manipulation of a joint, or lameness after flexion are all indicators of possible significant problem which may merit treatment by judicious medication directly into the joint. While recognizing the potential benefits of intermittent medication of joints that have low-grade problems, it must always be understood that there are inherent risks; therefore, this should only be done when necessary. The joint should be evaluated radiographically in order to determine the presence of a pre-existing joint problem, or, if a recurrent problem, progression of any previously identified abnormality. However, not all radiographic abnormalities are necessarily of current clinical significance.

The back should be assessed carefully since it is very prone to low-grade muscular injury and bony abnormalities such as impingement of the tops of the vertebrae can cause recurrent low-grade discomfort in elite athletes. However, mild impingement can be present but not result in clinical signs; therefore, its significance should be assessed by clinical examination, response to local infusion of numbing solution and, if necessary, nuclear scintigraphy.

Attention should be paid to the way in which the horse is trimmed and shod to ensure correct foot balance and the most appropriate shape of shoe for the horse's foot. Studts should be used with care, since, while providing extra traction, they can themselves unbalance the foot and concentrate forces delivered through the foot.

Finally, the horse should always be looked at as a whole rather than as separate bits in isolation. The show jumper, like other horses, requires variety in work pattern and time to relax. Keeping the mind sweet is just as important as keeping the body in good shape.

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