

Prevention Strategies

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Updates on Soft Tissue Injuries

#7 in a series:

Prevention Strategies

Soft tissue injuries of the equine athlete generally have a good prognosis for healing, but require a large amount of time and effort to complete the process. Prevention of soft tissue injuries therefore is ideal. The following newsletter is dedicated to outlining prevention strategies.

Conformation:

When purchasing a horse for competition, be aware that several conformational faults are highly associated with soft tissue injuries. Low, underslung heel conformation of the foot places additional strain on the flexor tendons from the hoof to the forearm. "Back at the knee" conformation also places additional constant stress on the flexors. Very straight conformation of the hind limbs, ie too little angle at the stifle and hock places additional stress on the hind flexors. A long back and relatively short croup often lead to back and pelvis problems. If you have a competitive horse with one or more of these faults, corrective shoeing and extra attention to conditioning can mitigate their effects.

Shoeing:

In general, the most simple shoeing that will do the job is the best. Appropriate shoeing should maintain the line of the hoof and pastern without breaking forward or back at the hoof/pastern junction. There should be adequate heel support and a full enough shoe to support the hoof walls well. The feet should be as similar as possible left to right. The inside and outside walls of each hoof should be of equal height.

Nutrition:

Tendons and ligaments benefit from a good balanced diet along with the rest of the horse. While each horse has individual needs, in general providing adequate calories and protein and a proper calcium phosphorous ratio are the basic necessities for an equine athlete. Proper body condition entails adequate weight to have the muscle mass and energy to perform well without fatigue. Excessive weight increases the day to day strain on soft tissue as well as joints. Too little weight adversely affects both sprint and endurance capacity.

Environment:

Soft tissue injuries occur as often at home as they do when the horse is training or competing. Horses that tend to get cast in their stalls often sustain back and pelvis injuries. Stall modifications such as casting bars or a paddock to live in can help break this syndrome. Chronic stall/ paddock kickers are at high risk for hind suspensory ligament and hock injuries. Changing neighbors or feeding routines to eliminate kicking may be helpful. Many horses do not tolerate paddock or pasture turnout in hilly terrain well and sustain repeated soft tissue injuries in that environment. Horses evolved as plains animals and stay soundest when they live on flat or gently rolling terrain.

Training/Conditioning:

Each equine athlete needs a base of general fitness prior to training for their particular sport. Horses are often eager to go forward, and our methods of assessing musculoskeletal fitness are crude, so this is an area that requires strict attention. Assess the horse's condition based on exercise history and body condition. From that base build gradually and consistently to the exercise level needed for competition. In

general, horses should be in regular consistent work a minimum of 4 days per week to prepare for their sport.

Consider the work required for each horse's particular sport. If you are focused on achieving in that sport, avoid cross training that is more difficult than the horse's intended use. For instance, only high level endurance horses compete on hilly terrain. Hill work on even minor slopes has been shown to significantly increase strain on the hind suspensory ligaments. Therefore, using trot work on the flat rather than hill work will protect the horse from unnecessary wear and tear.

NOTES:

Tendons and ligaments have been shown to tear at much higher applied forces when they are preconditioned at walking loads prior to faster work. Joints also benefit from lubrication during walking prior to faster gaits. An effective, simple injury prevention strategy is to walk under saddle for 15 minutes minimum prior to faster work. A 10-minute cool down at the end of exercise allows muscle to metabolize waste products generated during work.

The whole horse:

If the horse is suffering from sore feet or sore hocks, although they may not be overtly lame, they tend to shift weight away from the sore areas during exercise. This places extra load on the tendons and ligaments in the limb(s) that are bearing extra weight. As tendon and ligament have a narrow margin of safety during work, this predisposes to injury. Paying close attention to even minor soreness and treating appropriately will protect the soft tissues as well.

