Key points

- Early signs of injury may manifest as behavioral abnormalities
- Accurate, early diagnosis is key to management
- Objectively-based treatment and rehabilitation are needed to maximize prognosis

Because of its size and speed at which horses work the equine athlete is sometimes considered the ultimate athlete in terms of managing musculoskeletal injuries. In this review the diagnosis, management and expectations of injuries in the equine athlete will be discussed.

Management of injuries in equine athletes can begin at a young age. It is not uncommon to see developmental orthopaedic disease in young foals, weanlings and yearlings which may be traumatic in nature. Management of these diseases at a young age is critical in order to place the horse in the best situation for soundness in the future.\(^1\)\(^2\) Athletic injuries can be acute in nature but in most cases are chronic fatigue injuries of bone, joints and soft tissues.\(^3\) Consequently the insidious onset of chronic fatigue injuries may first manifest themselves as behavioral issues with training. It is critical that these horses be monitored in order to identify subtle clinical signs that may be indications of disease. In the equine athlete manifestations of such signs may be behavioral in nature secondary to musculoskeletal pain, secondary to gastrointestinal ulceration or neurologic in nature. Therefore, the ability to properly diagnose problems that lead to training issues is difficult. It is critical that an accurate diagnosis be made during the early stages of disease so that proper treatment and/or rest can be instituted to prevent these lesions from becoming significant and performance limiting.

Once a disease entity is diagnosed then an accurate prognosis needs to be discussed with the owner. In some cases an accurate prognosis may be difficult to develop and consequently the horse must be monitored over time during the rehabilitation phase in order to determine how best to manage that case.

There are various treatments available for managing musculoskeletal injuries. Although there have been significant advancements in biological and non-biological medications to treat such injuries, appropriate information on proper rehabilitation is lacking. Stall rest, hand walking and gradual return to exercise have been used in the past however, the increase use of aquatic therapy, including swimming and underwater treadmill therapies have improved outcomes. For instance, there is objective evidence that underwater treadmill therapy improves symptoms of experimental joint disease in horses.\(^4\) Work in this area needs to be expanded in order to find the best ways to manage recovery from injury. Another area that is difficult to manage and needs further investigation is the behavioral management of horses during rehabilitation. For those horses that need controlled exercise as opposed to turnout, it is sometimes difficult to manage their behavior especially if stall rest is part of the management scheme. In these cases it is not uncommon to use some kind of pharmacological intervention to manage the behavior in order to control the exercise.

Constant monitoring of the disease process is necessary to dictate the level of exercise necessary to strengthen the tissues. Once pain has significantly reduced and the tissues appear to be healing based on imaging results, then some form of exercise is needed in order to strengthen the tissues. It has been shown that proper loading of musculoskeletal tissues will result in
improvement in strength thus improving the rehabilitation outcomes.\textsuperscript{5-8} Once the horse is back into full work then re-injury is a possibility regardless of which musculoskeletal tissue is involved therefore, constant management is needed and periodic imaging techniques used to reassess the injury.

In summary, management of equine athletic injuries is difficult and requires constant vigilance and reassessment. Imaging techniques are of great importance to managing these problems.