

Diagnosing and managing muscle tears in horses

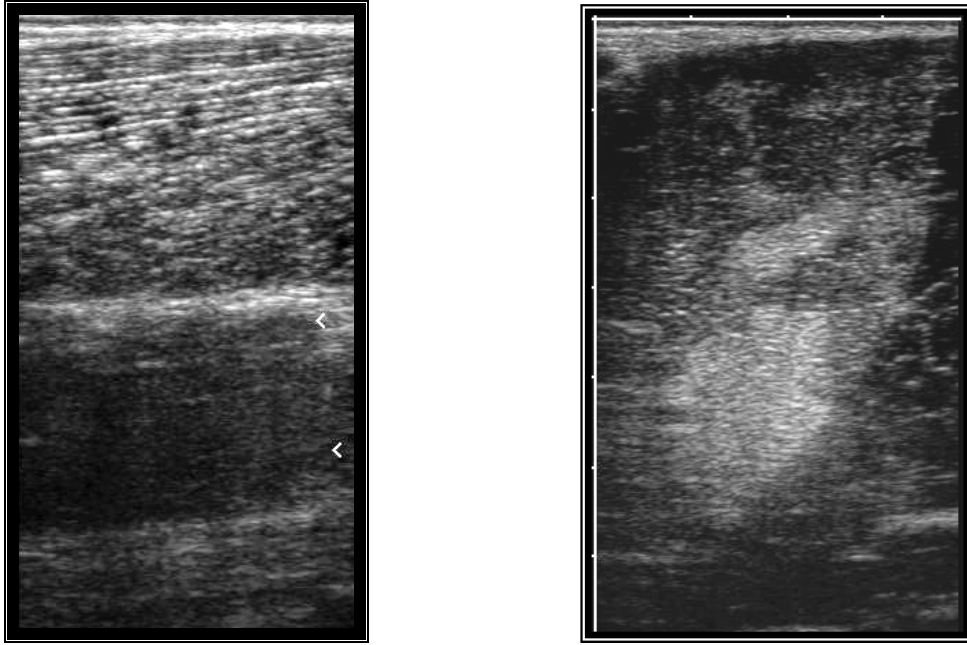
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Muscle strains account for more than 50% of musculoskeletal injuries in human athletes. However, the frequency with which they are definitively diagnosed (with proof they are the cause of lameness) in horses, is far lower. This is likely due to a number of reasons including difficulty in accurately palpating the deep muscle of horses, low levels of lameness caused by mild injuries, and the inability of horses to “tell us where it hurts”. We have reviewed medical records of horses seen at the University of Melbourne and Murdoch University over a seven year period. The aim of this project has been to collate information on these injuries in the hopes of improving accuracy of guidelines for management, and prognosis (outcome) for the more severe muscle tears.

A few points have arisen:

- Most strains are associated with **fast work**, occurring in the gluteals (rump) or hamstrings of the hind limbs.
- Traumatic injuries can occur elsewhere, however, **hind limbs** have been involved in the vast majority of cases.
- **Lameness** in the **first 24-48 hours is severe** (seen at the walk), but improves rapidly with rest
- Swelling, pain and a palpable defect in the muscle is **not** always apparent.

It is important that a definitive diagnosis is made, as much to rule out other serious injuries, such as stress fractures, that can present in a similar manner. Nerve blocks of the lower limb will not alleviate the lameness. Careful palpation of muscles may sometimes, but not always, indicate a site of injury (heat, pain, swelling, ‘defect’). Nuclear scintigraphy (bone scan) has proved useful in identifying ‘hot spots’ of injured muscle, and has the advantage of screening the limb(s) for potential sources of lameness, especially in cases where nerve blocking may be risky (eg. stress fracture). However, ultrasound is probably the gold standard for not only identifying the torn muscle, but also to classify the severity of the injury, which is important for prognosis.



Ultrasound scans of moderate muscle tears in two horses.

Horses have been managed in accordance with recommendations for human athletes:

- 1) Box rest should be given in the early phase with phenylbutazone (“bute”) to reduce inflammation and relieve pain.
- 2) This is followed by a gradually increasing exercise regime (initially hand walking and stretching exercises and slowly building up to small yard turnout and longer periods of walking, hill work or wading).

Whilst time consuming, physiotherapy techniques can be used and may be indicated since complete rest, at least in human athletes, is associated with inadequate healing and reduced prognosis for athleticism. Equally, too rapid a return to exercise may increase the likelihood of re-injury. For this reason, we sometimes recommend repeat ultrasonographic evaluation at around 3 months, before fast work, to ensure that the internal structure of the muscle is healing adequately. **Remember, horses may be sound but still have underlying injured muscle, and be at increased risk of re-injury until it is adequately healed.**

Generally the prognosis (outcome) for athleticism is good for horses with strains of mild to moderate severity, yet poorer for severe strain injuries, which heal with some degree of muscle fibrosis (scarring).