



New treatments for tendon & ligament injuries



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We all know injured tendons and ligaments heal poorly and slowly. Deficiencies of various growth factors and progressive loss of cells are incriminating factors. This has prompted recent investigations into the use of bone marrow as an aid to enhance repair and regeneration of damaged tendons and ligaments. Bone marrow can be collected from the sternum or brisket of affected horses and used in two ways. Firstly the sample can be centrifuged and the supernatant or fluid fraction collected and injected directly into the damaged area or "core lesion". The supernatant contains growth factors important in stimulating formation of new tendon fibres and reduction of scar formation. The technique is relatively easy to perform, can be done quickly with no time delay, avoids post injection inflammatory swelling associated with some other treatments and is cost effective. An alternative more expensive treatment involves growing stem cells from the bone marrow and injecting them back into an injured tendon. It is thought that these stem cells can turn into tendon cells thereby improving healing and reducing inelastic scar formation. The technique is now available in Australia and results from a small sample of horses are encouraging. There is a delay however of approximately 4 weeks while the stem cells are cultured. This however means that injured tendons must be diagnosed early so the stem cells can be injected as soon as possible before the 'core lesion' starts to fill in with granulation tissue. Another treatment called Tendotrophin© or Insulin-Like-Growth-Factor-1 has also been used to stimulate healing in damaged tendons. It has been shown to have a positive effect in the laboratory and anecdotal success in clinical cases. It is probably best suited to small core lesions in younger horses. All of these treatments are aimed at acute or fresh 'core lesions', and different treatments methods may be used in horses with older and less severe injuries. The best results are achieved when these treatments are combined with regular ultrasound monitoring and a graded exercise program. North Queensland Specialist Equine Service and Townsville Veterinary Clinic can provide advice on all aspects of diagnosis and treatment of tendon and ligament injuries in performance horses.