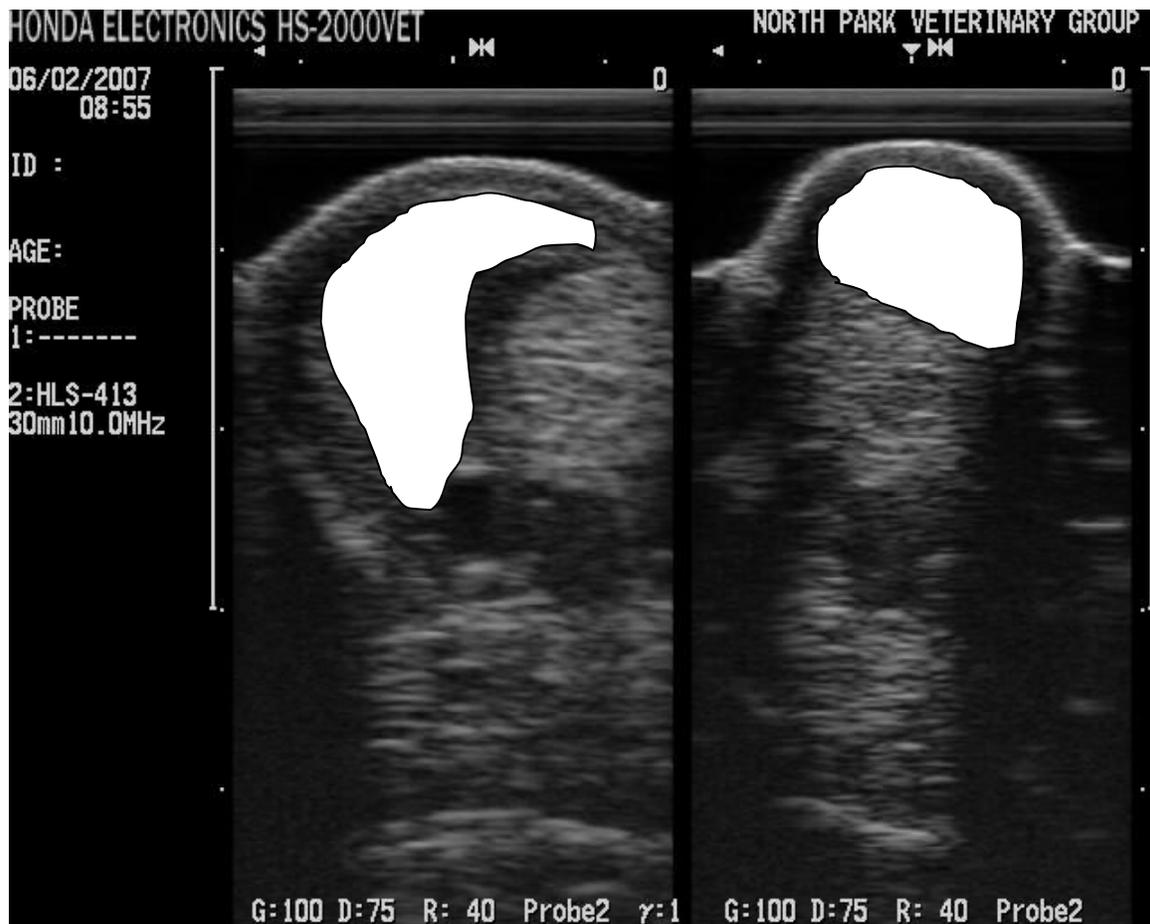


Another frequent cause of lost racing and premature retirement is injury to the Superficial Digital Flexor Tendon. Tendons have a crimp pattern in their fibrous collagen anatomy which only allows a stretch of 1-3%. Most of the real stretch comes from the associated Superficial Digital Flexor muscle in the forearm. The tendon has a slightly narrower cross sectional area in the mid cannon region which explains the high incidence of breakdown at this site. In addition this area is at the furthest reaches of the blood supply coming either from above or below. Strangely the severity of the lameness doesn't seem to equate to the severity of the damage when imaged with an ultrasound scanner. Some lame horses have minimal visual damage, whilst others that are hardly lame show extensive lesions. Diagnostic ultrasound however has allowed vets to monitor the rate and quality of tendon repair to reduce the numbers of horses suffering a further tendon breakdown because of a too rapid return to fast work. Commonly the 'good leg' is also affected to a lesser degree. A common sense approach is to err on the side of caution and not to advocate too rapid a return to racing. However many horses still have a further episode of damage whilst training and too few horses resume a full career with no further tendon problems.



The areas in white above are the cross sections of the Superficial Digital Flexor Tendons. The left one is enlarged and displaced with areas of tendon damage.

Depressingly there have been many treatments used to 'cure' tendon breakdowns. This usually means none of them are very good. Rest for 12-18 months and controlled exercise programmes along with repeated assessments form the back bone of any treatment regime.

'Firing' is as old as the hills but I cannot rationalise the theory that causing severe burns to the skin overlying the tendon somehow supports the tendon as it is placed under tensile stretch. Firing does however enforce a rest period.

Tendon splitting – is a surgical treatment thought to allow inflammatory fluids to escape from the core of the damaged tendon thereby limiting further damage. However a scalpel cutting into the tendon must produce damage of its own – (Carried out soon after the injury seems to give the best result)

Polysulphated glycosaminoglycans can be given as a course of intramuscular injections or administered directly into the site of tendon damage. They have shown a success in trial work in order to gain a product license and are a useful treatment for both tendon and articular cartilage repair.

'Bapten' injections into the damaged area of the tendon had variable results and did not reproduce the early successes from the USA. Boehringer Ingelheim developed the medication, identified as B-aminopropionitrile fumarate, in the late 1990s for use during rehabilitation of tendon injuries to interrupt cross-linking of fibres during early scar formation.

The latest treatment holds more hope in that it has a very simple logical rationale. **STEM CELL THERAPY** collects bone marrow from the affected horse. Stem cells are separated and multiplied in the laboratory then injected into the core lesions in the damaged tendon. Stem cells have the ability to mimic most tissues and when placed in tendons give a much superior result with lower scarring and a better ultrasonic visual fibre density indicating good tendon tissue. Again we are at the early stages of this form of treatment but successes have already occurred. As you can imagine this treatment is relatively expensive and still needs rest and a controlled exercise programme along with repeated assessments of the tendon.