



MRI

What is MRI?

MRI is a valuable diagnostic imaging technique that is used as part of a lameness examination.

MRI produces highly detailed anatomical images of the bone and soft tissue structures of the area being examined.

These high definition images are complimentary to other imaging modalities, for example radiography and nuclear scintigraphy. It is used most extensively to assess horses in which lameness is arising from the feet but can also be used to image higher up the leg.

MRI is a very safe imaging technique as, unlike other imaging techniques, it does not involve ionising radiation.



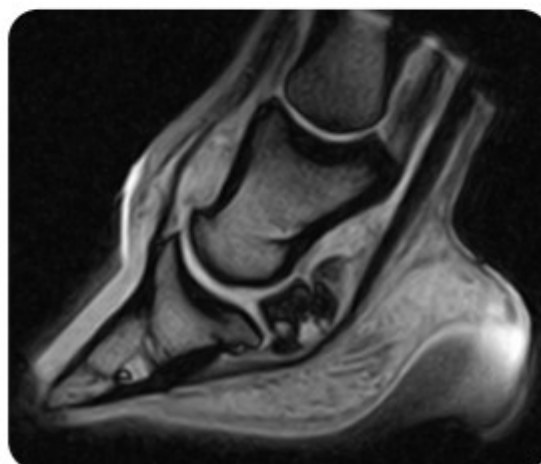
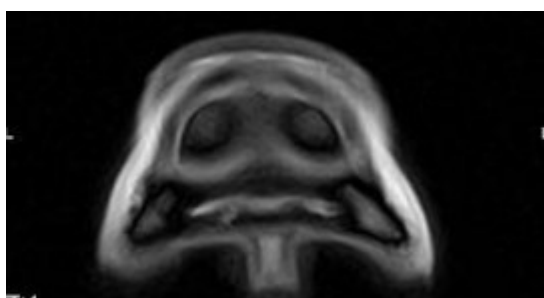
Why is MRI useful?

MRI is particularly useful for evaluating the bony and soft tissue (e.g. tendons and ligaments) within the equine foot.

Many horses with chronic lameness affecting the front feet have a variety of soft tissue injuries which cannot be accurately diagnosed using more conventional techniques.

Furthermore the increasing use of MRI in horses over the last decade has increased the ability to diagnose and understand many causes of lameness in the fetlock and proximal metacarpal/metatarsal regions.

It is important that the results of MRI are interpreted in conjunction with other clinical findings and diagnostic investigations (e.g. nerve blocks and radiography).





Kings Bounty Equine Practice Client Fact Sheet

The procedure

An MRI scan involves your horse standing within a large magnet, with a radiofrequency coil placed around the region of the limb which is of interest. A signal is received back via the coil which is then generated into a detailed image by computer software.

A horse's shoes must be removed before entering the magnet to prevent interference with the strong magnetic field. This is also imperative for the horse's safety as the magnetic forces used in the MRI scanning are very strong.

If the horse's feet are being scanned, digital radiographs are taken before the MRI scan to ensure that the feet are free from all metal.

Your horse will need to be sedated throughout the procedure to make sure they stay still. MRI is a non-invasive and non-painful imaging technique so is well tolerated.

For the purpose of the MRI scan, each region (e.g. foot, pastern, or fetlock) requires approximately 45 minutes to 1 hour to image.

Multiple image sequences are collected in order to obtain a 3 dimensional image of the area being scanned.

Types of injury suitable for evaluation using MRI include:

- Navicular bone injury and early stage degenerative disease
- Soft tissue injuries of the foot
- Coffin joint disease
- Hoof wall masses
- Foot penetration injury assessment
- Bone injury of the pastern and fetlock region
- Fore limb upper suspensory ligament injuries



MRI results

A complete MRI examination generates between 300 to 500 images. The images are read by a specialist veterinary surgeon and the results will be reported to the horse's vet. This is a vast amount of information to be assessed and therefore an immediate result is not possible.