

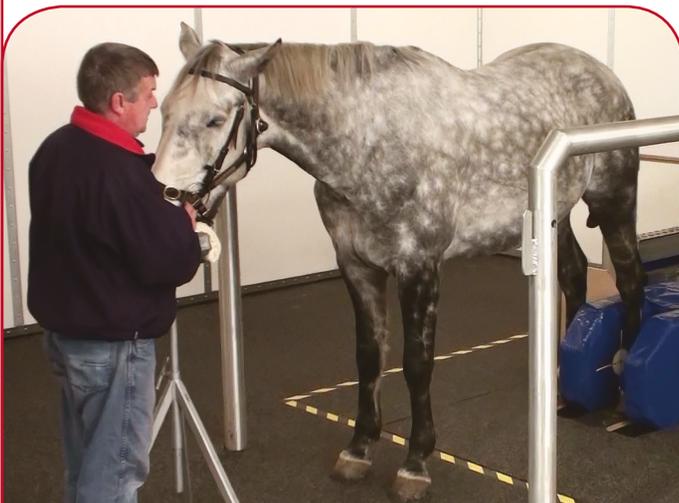
# Magnetic Resonance Imaging (MRI)



MRI (Magnetic Resonance Imaging) is an imaging technique that involves placing the horse within a strong magnetic field. Radio waves are applied to the area to be examined and the signal produced is analysed by a computer to produce an image. The high tissue contrast achieved allows assessment of cartilage, ligament, tendons, joint capsule and bone; all on one image. MRI can image deep inside structures and in three dimensions so changes can be found that may not be seen using other imaging e.g. x-ray. MRI is most commonly used for lameness investigations.

## MRI technology

First used in horses in the late 1990's, MRI is now becoming a commonly available imaging technique for diagnostic use in equine veterinary medicine. Initially, MRI was used on horses under general anaesthesia, as it required the area of interest to be completely immobile. However, more recently, with the development of standing MRI, it is now possible to scan the horse's lower limb whilst the horse is under sedation. This has made using MRI more practical on a commercial basis.



**HIND FETLOCK MRI BEING PERFORMED UNDER STANDING SEDATION**

## Indications for an MRI scan:

- When nerve blocks have localised the source of lameness to the lower limb but a diagnosis has not been achieved by other diagnostic methods such as x-rays or ultrasound scans;
- To monitor the progression of healing of an injury;
- If a detailed view of the head and neck are required.



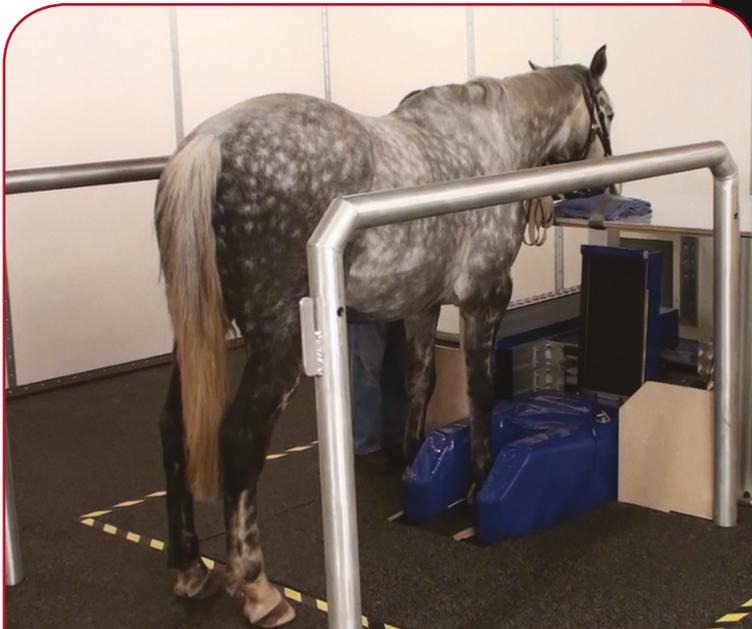
**MRI IMAGES OF THE FETLOCK REGION**

### CONSIDERATIONS PRIOR TO MRI

- If your horse is insured, check with the insurance company well in advance of the scan. Insurers have varying policies regarding MRI scans, so it is important to check what cover you have.
- Shoes will need to be removed, check with the clinic first, but it is often easier to have this done before arriving. The horse's feet will be x-rayed to check there are no remaining clenches left in the feet. These can cause a great deal of damage when placed in the magnetic field of the MRI machine.
- Many clinics will ask you to leave your horse for the day, so be prepared for this.
- MRI produces a large amount of images and data. Which takes time to analyse so do not expect the results straight away.

### WHERE CAN AN MRI SCAN BE DONE?

There are a number of centres in the UK, both in university and private hospitals, where MRI is available. Machine types vary, so individual clinics may have the facility to scan differing areas of the body.



MRI SCANNING A FRONT FOOT

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### WHAT IS INVOLVED IN THE PROCEDURE?

- The horse will be admitted to the hospital and allowed to settle.
- Prior to the MRI the horse will be sedated.
- The horse is walked into the scanner and the lame area placed in the magnetic field.
- Scanning normally takes one to two hours.
- After recovery from the sedative the horse will normally be allowed to return home.
- The images are read by a specialist and results, when available, will be reported to the horse's owner and vet.



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