

### MRI has become the initial investigation in the management of certain conditions in the primary care setting, as determined by the Established Standard of Care.

The following indications and expected results are for conditions commonly presenting to General Practitioners. The many other indications not listed in this document are appropriately performed after specialist referral.

#### Some of the Advantages of MRI examinations are:

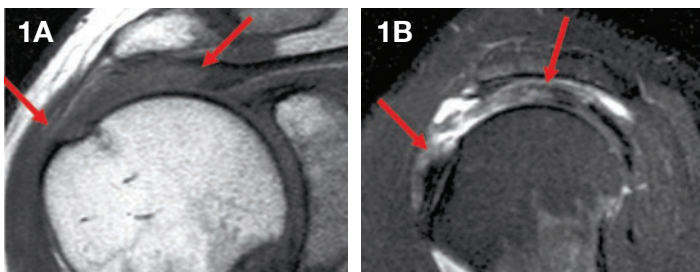
- Avoid unnecessary radiation exposure, especially for younger patients
- Accurate knowledge will facilitate appropriate management by the general practitioner
- Fast track onward specialist referral, especially when immediate intervention is required

## Musculoskeletal System

### Shoulder Region

- Rotator cuff tear
- Impingement syndrome
- Post-dislocation/recurrent dislocation associated injury
- Adhesive capsulitis
- Labral tear / SLAP injuries
- Chondral injury

MRI is the only imaging technique that can directly demonstrate the glenoid labrum and suprascapular nerve compression. Intraarticular contrast injection may be used for added further information



1. A/B Scans showing 'Full thickness tear – supraspinatus tendon'.

### Elbow Region

- Tennis Elbow
- Bicipital Bursitis or Distal Biceps Tendon Tear
- Golfer's Elbow
- Ligament Injury

Pathology of the distal biceps tendon is best shown on MRI. Lesions of the common extensor and flexor origins of forearm muscles, and compressive lesions of the radial and ulnar nerves are better seen than on other imaging methods.

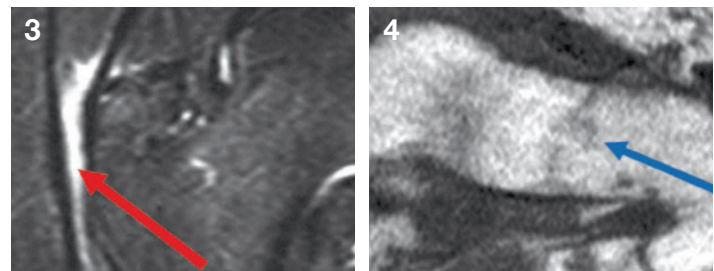


2. Avulsion of insertion of bicipital tendon from the radial tuberosity (red arrow) surrounded by gross haemorrhage and oedema (bright signal).

### Hip Region

- Avascular necrosis
- Greater trochanteric bursitis/Gluteal tendonopathy
- Stress fracture
- Occult fractures of pelvis and hips in elderly
- Transient osteoporosis

MRI can show avascular necrosis and Perthe's condition before any radiographic changes are evident. MRI is the most sensitive and specific method to demonstrate trochanteric bursitis.

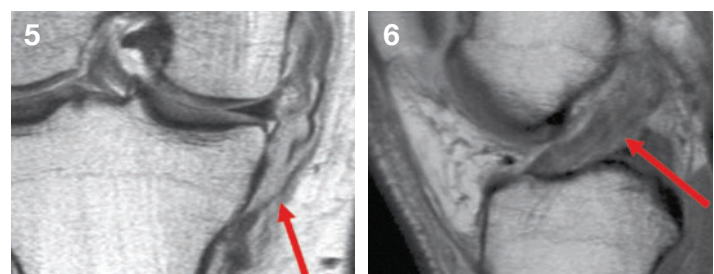


3. Trochanteric Bursitis: MRI directly visualises Trochanteric Bursitis showing the bursal collection and surrounding tissue oedema (red arrows).  
4. Insufficiency fracture, neck of femur: Fracture line (dark) seen through neck of femur (blue arrow).

### Knee Region

- Meniscal Tear/Pathology
- Internal Derangement, especially cruciate or collateral ligament tear
- Haemarthrosis
- Patellar Chondromalacia, Pain or Subluxation
- Locking symptoms
- Osteochondritis dissecans

MRI is the only imaging method that can show the menisci and cruciate ligaments directly and without invasive procedures or contrast agents. The surfaces of the joint cartilage are clearly shown by MRI.



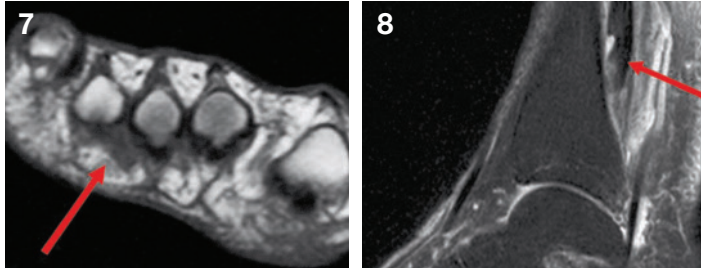
5. Grade 3 Tear of Medial Collateral Ligament: A near complete disruption of the Medial Collateral Ligament (red arrow) is surrounded by gross haemorrhage and oedema. 6. Anterior Cruciate ligament tear: Complete tear of ACL (red arrow) disruption.

## Musculoskeletal System CONT

### Ankle & Foot Region

- Avascular necrosis
- Post-traumatic Bone Contusion
- Talar Dome Injury
- Morton's Neuroma
- Plantar Fasciitis
- Tendon Injury – Achilles, Tibialis Posterior, Peroneus brevis
- Ligamentous Injury

Talar dome injuries and bone contusions which are often associated with ligamentous sprains cannot be shown by other imaging methods.



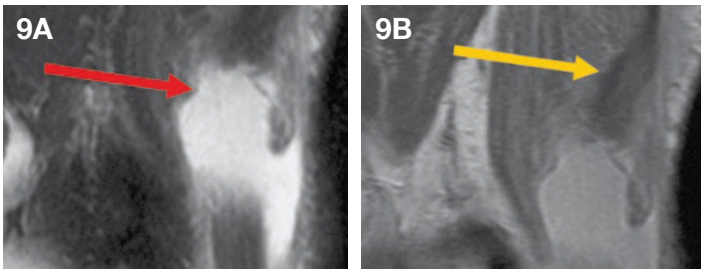
7. Morton's Neuroma: The T1 image shows a Morton's Neuroma between the third and fourth metatarsal. 8. Tibialis Posterior tendon tear: Discontinuity and retraction of the tendon (dark) is shown (red arrow).

### Suspected Acute or Chronic Muscle Tear

The field view of MRI compared to ultrasound results in superior demonstration of the anatomical planes with much clearer distinction between haematoma and torn muscle fibre. Well suited to assess and grade quadriceps and hamstring tears.

### Suspected Acute Tendon Tear

Most tendon injuries are better shown on MRI than ultrasound. Associated soft tissue and bone injuries are also demonstrated.



9. A/B Acute Biceps Femoris tendon tear: High grade distal near complete tear of biceps femoris tendon from fibular head. The bright area shows the extent of oedema and haemorrhage (red arrow) plus retraction. The discontinuity and retraction of the tendon is shown (yellow arrow).

"Our expert Radiologists and MRI Technicians would be pleased to discuss MRI in general or any specific case concerning patient management."

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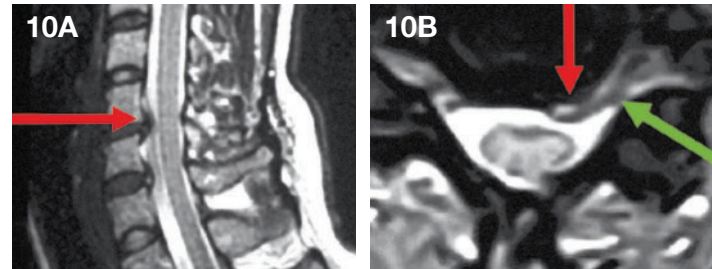
## The Spine

### Cervical Spine

- Radicular pain, paraesthesia or sensory loss of the upper limbs
- Canal stenosis, cervical myelopathy

### Lumbar Spine

- Canal stenosis
- Sciatica
- Radicular Symptoms

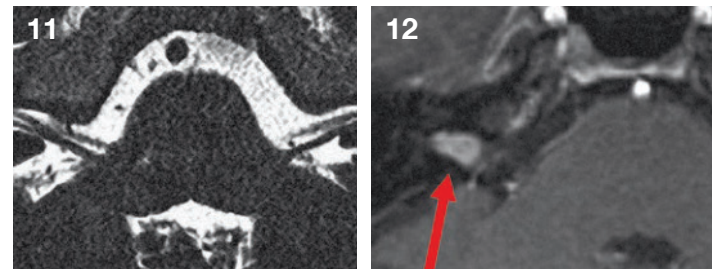


10. A/B Cervical Disk extrusion: A left posterolateral disk protrusion (Red arrow) compressing the left C6 nerve root within the C5/C6 foramen. The nerve root is swollen (green arrow).

## The Central Nervous System

### Acoustic Neuromas

MRI is the modality of choice for imaging of these lesions which are only detected on CT when larger. Studies can be targeted to exclude acoustic neuroma.



11. Acoustic Nerves: High resolution scanning shows the acoustic nerves. 12. Intracanalicular Acoustic Neuroma: Intravenous contrast combined with high-resolution images highlights the extent of the neuroma.

## Tumours

### Soft Tissue & Primary Bone Tumours

MRI is the accepted gold standard when used with a radiograph for the primary diagnosis, characterisation and local staging of soft tissue tumours and primary bone tumours.

MRI can also be used for bone marrow staging with multiple myeloma and other metastases and may help with diagnosis, severity, staging and treatment planning eg. radiation / surgery.



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