GUIDANCE FOR RADIOLOGISTS REPORTING KNEE MRI REFERRED FROM PRIMARY CARE - RATIONALE

MRI is a modality that is new to most GPs. To guide them in interpreting reports, it is appropriate to make a concluding statement advising if their patient may benefit from referral on to orthopaedics, in the same way that we might advise chest clinic referral when reporting chest radiographs. GPs have stated that such guidance is essential in deciding further patient management and orthopaedics have requested that the criteria shown below be used when issuing this guidance.

A) MENISCAL ABNORMALITY

The following meniscal tears SHOULD NOT BE ROUTINELY REFERRED for an orthopaedic opinion, as they are not helped by arthroscopic surgery

1. A meniscus with an irregular ‘frayed’ internal margin

The following meniscal tears SHOULD BE REFERRED for an orthopaedic opinion, as they are likely to benefit from arthroscopic surgery.

1. Diffusely degenerate extruded torn meniscus, typically seen in association with knee OA

2. Focal radial tear of either meniscus
3. Localised partial thickness superior or inferior surface tear, which does not reach the meniscal periphery

4. A tear with a displaced meniscal fragment

5. A full thickness tear of either meniscus (these may have well defined vertical or more complex morphology, and are potentially unstable)

6. A superior or inferior surface tear that extends to the meniscal periphery (these are potentially unstable)

7. Broad based tears that reach the meniscal periphery (typically the inferior surface of the posterior horn of the medial meniscus)
B) **LIGAMENT INJURY**

In recreational athletes, **ISOLATED LIGAMENT TEARS should initially be MANAGED CONSERVATIVELY**. Orthopaedic referral is only indicated when this has failed.

The **following COMBINATION INJURIES SHOULD BE REFERRED** for an orthopaedic opinion

**Multiple ligament tears**  
eg combined ACL and MCL tears, ACL and PCL tears etc

**Isolated** cruciate or collateral ligament tear **WITH a surgically remediable meniscal tear** (see above for definition)

eg ACL tear and full thickness peripheral lateral meniscal tear

**Example of wording that would be appropriate to use when issuing guidance to GPs in knee MRI reports.**

“Based upon imaging criteria alone, it is likely this patient would benefit from orthopaedic referral.”

Adapted from Dr Barry Oliver  
8 December 2010
CLINICAL SCENARIOS WHERE KNEE MRI IS NOT INDICATED

1. PATIENTS AGED UNDER 15 OR OVER 60

2. ACUTE LOCKED KNEE
   symptoms are continuous, not momentary or intermittent
   a locked knee lacks at least 15 degrees of extension and cannot
   flex to 90 degrees
   (such patients need urgent orthopaedic referral with a view to
   arthroscopy – MRI is unnecessary and delays treatment)

3. PSEUDOLOCKING
   (not to be confused with locking, this is momentary stiffness
   following a period of immobility – typically in obese people with
   patellofemoral OA)

4. KNEE DISLOCATION OR OTHER SEVERE ACUTE INJURY
   (such patients are orthopaedic emergencies and should be dealt
   with by secondary care)

5. MORE THAN MILD OSTEOARTHRITIS ON AN X-RAY

6. ANTERIOR KNEE PAIN
   (usually due to patellofemoral OA, chondromalacia patellae or
   tendon problem which may benefit from physiotherapy)

7. BMI >35 OBESE PATIENTS WITH CLINICAL OR
   RADIOGRAPHIC EVIDENCE OF OA
   (OA is very common in obese people – MRI in knees with OA often
   shows meniscal damage that is not treatable by arthroscopy)

8. ANY PREVIOUS MENISCAL SURGERY
   (post-operative menisci simulate meniscal tears on MRI – direct
   orthopaedic clinic referral is appropriate in such patients)

9. ACTIVE KNEE INFLAMMATORY ARTHRITIS, unless
   symptoms relate to a recent injury
CLINICAL SCENARIOS WHERE KNEE MRI MAY BE INDICATED

 Preconditions:
• Patient should have been symptomatic for 4 weeks.
• There should be no X-ray evidence of OA (mandatory x-ray between 40 and 60 years).

1. SUSPECTED MENISCAL TEAR

previous injury with

medial joint line tenderness and pain worsened by external rotation at 90 degrees knee flexion

or

lateral joint line tenderness and pain worsened by internal rotation at 90 degrees knee flexion

2. INSTABILITY

previous injury

subsequently, knee gives way during rotation or pivoting

Adapted from Dr Barry Oliver
8 December 2010
FLOWCHART FOR KNEE MRI DIRECT ACCESS

Is the patient aged 15-60 years?

NO

YES

Is the knee acutely locked?

YES

Urgent orthopaedic referral is indicated. MRI may delay treatment.

NO

Is this a severe acute injury?

NO

Any x-ray evidence of OA? (mandatory x-ray in patients >40)
Possible locking?
Predominantly anterior knee pain?

YES

OA is likely cause of symptoms. Consider symptomatic treatment or physiotherapy.

NO

Is there an active inflammatory arthritis and no recent injury?

YES

Rheumatology clinic referral may be more appropriate in the absence of a relevant injury.

NO

Has there been previous meniscal surgery?

YES

Consider Orthopaedic referral.

NO

Do clinical features indicate:
INSTABILITY
or
MENISCAL TEAR

YES

MRI REFERRAL may be beneficial to this patient.

NO

Consider symptomatic treatment or physiotherapy.

Flowchart adapted by courtesy of Dr Barry Oliver
NHS Tayside

CSS Office/Rad/GP Inter/Final knee GP guidance flowchart TBO (081210)