Knee Ultrasound Imaging for Adult patients
Primary Care Guidance

Introduction

Ultrasound is often used as a first line investigation as the test is readily available, non-invasive and does not involve ionising radiation. Many primary care clinicians express considerable uncertainty as to where it can be used most effectively. These guidelines are designed to help GPs in that challenging decision making process, reducing GP workload and reducing demand for scans where ultrasound is unlikely to be helpful, creating capacity for those who really need it. At the same time, we ask for careful consideration before marking a case as “urgent”. This prolongs waiting times for everyone, and delays some patients being referred for an appropriate test as they wait for an ultrasound, which may not be indicated.

We recognise that there may be specific clinical situations not within the scope of this guidance when an ultrasound is helpful, and if there are any clinical queries please contact the musculoskeletal consultant via eRS for advice and guidance.

Knee ultrasound imaging

Many musculoskeletal pathologies are diagnosed successfully by good clinical examination. Imaging should be reserved for those in whom examination is equivocal or in some cases, when treatment for an expected pathology has failed. Incidental pathology is common and may not be the current cause of symptoms – clinical correlation is always required. BEMUS https://www.sor.org/sites/default/files/document-versions/ultrasound_guidance.pdf

Knee pain is a frequent complaint that affects people of all ages. Most knee pain is not serious and does not require a MRI scan, ultrasound or x-ray to diagnose the problem. In most cases a full recovery is made and by adopting some simple approaches the knee will improve and get better.

Ultrasound is not recommended for the diagnosis of OA (NICE CG177).

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KNEE PAIN

Not indicated

- Ultrasound does not demonstrate intra-articular pathology such as cruciate ligament injuries, meniscal tears and degenerative change. Consider treating the patient symptomatically, review and other imaging/referral as necessary if no resolution 6-12 weeks.
- Popliteal cysts (Bakers' Cyst) (above the age of 45). Diagnosis can be made on physical examination and ultrasound is not required to confirm the diagnosis. A popliteal cyst commonly reflects fluid secondary to internal knee pathology such as OA. Consider treating the patient symptomatically, review and other imaging/referral as necessary if no resolution 6-12 weeks.
- Osteochondritis dissecans (OCD) of the knee is an uncommon cause of pain and swelling, usually (not exclusively) in male children, and young adults. The **etiology** of the condition remains unclear though repetitive trauma or undisplaced fracture within the joint after innocuous event is common.
  There is injury to the bone and joint surface. At this stage symptoms include non-specific pain and swelling, or mechanical pain with weight-bearing, during or after sporting activity. If it is not diagnosed and fails to heal, the fragment can separate as a symptomatic loose body (recurrent locking) causing joint surface damage and early osteoarthritis. It is vital therefore that the condition is investigated and treated early with X-rays, +/-MRI and orthopaedic referral.

Indicated

- The primary use for ultrasound of the knee is for assessing disorders of the extensor apparatus
- Patellar/quadriceps tendinopathy or tear
- Popliteal aneurysm – indicated – vascular US referral
- Soft tissue mass lesions

SYNOVITIS

If inflammatory joint disease or synovitis is suspected please discuss or refer to rheumatology.

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RED FLAGS

Send to Emergency Department or discuss with Orthopaedic REGISTRAR on call

- Following a fall onto the knee or after the knee giving way; if the knee is immediately swollen and the patient cannot straight leg raise.
- Severe knee pain and sudden inability to weight bear +/- history of fall
- Sudden severe significant deterioration of chronic knee pain
- Suspected sepsis
- Systemically unwell

If concern regarding suspected new malignancy, lumps around the knee increasing in size and increasing pain or pain at night *please refer via 2 week wait pathway.*

INORMATION FOR PATIENTS

The NHS Choices website gives useful information about knee replacements for patients including guidance on risks and recovery

If diagnosis unclear then consider the differential diagnosis and whether a diagnostic USS will change your management

The guidance above has been developed in conjunction with the Radiology Department and orthopaedic consultants. Should you feel that there is a need for clinical imaging outside of the criteria stated above then you may find it helpful to obtain advice and guidance from an orthopaedic consultant via eRS.

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