2 Red flags

Quick info:
Consider admission/urgent referral if:

- history of or suspected malignancy, investigate and refer as appropriate
- consider red flags of unexplained weight loss, night pain and high inflammatory markers
- suspected fracture, dislocation or infection, refer to ED
- suspected inflammatory condition, investigate and refer to Rheumatology
- severe injury with gross instability consider ED and inform Orthopaedics
- acute knee injury with a suspected haemarthrosis

4 No red flags

Quick info:
NB. The initial decision is whether the injury is acute or chronic. For those patients with evidence of injury with mechanical derangement: ACUTE = Injury within 4 weeks of referral - Refer to knee clinic. CHRONIC = Injury more than 4 weeks before referral - Refer to Orthopaedic Consultant

Acute knee injury:

- management:
  - consider analgesia and NSAIDs
  - advise PRICE
- self help/patient information:
  - www.nhs.uk
  - www.arthritisresearchuk.org
- injections:
  - not indicated
- investigations:
  - all acute knee injuries with haemarthrosis should be treated as a torn ACL until proven otherwise and referred to Orthopaedic Knee Surgeon
  - all acute injuries of this type require X-ray AP, lateral and skyline views to rule out fracture MRI not indicated
- referral:
  - refer to differential diagnosis advice

5 Sub acute knee injury

Quick info:
If may benefit from early surgery eg meniscal tear, ACL, refer to specialist

7 Differential diagnosis

Quick info:
ACL rupture:

- there will be a significant injury in the history, eg: injured during football, netball, skiing, and dance etc. Usually injury involves non-contact running associated with an acceleration/deceleration and change of direction. Torn ACL is common in skiing due to knee position and skiing impact/twisting injuries
- symptoms: often patients describe a “pop” or a “snap” in the knee and they have an immediate Haemarthrosis. Some describe the knee as ‘it dislocated’, meaning the Tib/Fem joint itself rather than a dislocated patella.
**Knee pain**

- test Lachman’s, (this is more reliable than anterior draw but hard to an inexperienced clinician). Suspect torn ACL if the injury is described in the history. Patients will describe giving way/buckling/swelling and it “not feeling right/stable”. Test all other ligaments/ menisci, (see below). If suspect torn ACL +/- associated injury, refer directly to Orthopaedic Consultant.

**Acute Meniscal tear:**

- in young people usually Meniscal injury is an associated injury. Always suspect that the ACL has been injured, menisci are often injured during weight bearing and twisting
- symptoms: sharp/stabbing pain on the med or lat joint line/locking/giving way and effusion. They usually lack extension/can be locked/can lack end range flexion and have positive Meniscal tests: positive scoop test, painful joint line palpation, possibly positive McMurrays/Thessaly’s
- refer urgently to Orthopaedic Consultant. If acute and locking refer to the consultants “Knee Clinic”

**MCL injury:**

- valgus injury, Grade I, II or III: medial knee pain/local swelling/bruising possibly tracking down the leg. Check if lax in extension and slight flexion and check for associated injury. If lax and suspect other injured structures, eg: ACL/Med meniscus: refer urgently to Orthopaedic Consultant. If mild local pain only, no instability or suspected associated injury refer to Physio urgently.

**LCL injury/postero-lateral corner (PLC):**

- varus injury Grade I, II or III: Lateral pain, this is a more serious injury and often has associated damage to meniscus/ACL/PCL/ PLC. Check if lax in extension and slight
- check gait and if knee gives into varus +/- is effused and has increased movement, check dial test and refer urgently to Orthopaedic Consultant. If stable, refer to Physio.

**PCL injury:**

- hyperextension injury/dashboard injury, suspect associated Postero-lateral Corner (PLC) damage. Suspect PFJ chondral damage/ pain and possible Meniscal damage. Observe posterior sag and test posterior draw. If sag is obvious and knee not settled, refer to Orthopaedic Consultant. If sag minimal and knee feels stable and settled, refer to Physio.

**Chondral injury/defects:**

- usually are associated injuries. If there is persistent effusion/pain/locking/ catching/possible loose body/ (Osteochondritis Descicans), consider referral to Orthopaedic Consultant.

**Patella Dislocation/Subluxation:**

- can be traumatic or recurrent. Often painful medial to the patella border. Possible associated avulsion fracture of the MPFL, possible inferior pole patella fracture. Usually have inhibited/atrophied quads and AKP. If acute and effused with positive apprehension, refer urgently to Orthopaedic Consultant. If settling and negative apprehension, refer to Physio.

**AKP/possible plica:**


**Other considerations:**

**ITB friction syndrome:**

- often report a clicking/snapping lateral knee pain as the ITB flicks over the lateral femoral condyle. Refer to Physio for full biomechanical/muscle imbalance assessment

**OA flare up - see OA knee pathway**

**Knee osteoarthritis pathway**

**Differential diagnosis:**

- Referred pain from the Lumbar spine/Lumbar radiculopathy
  - Symptoms of leg pain, parathesia/anaesthesia, altered neural tests. (See Back pathway)
- Referred pain from the hip
  - OA hip often causes knee pain. (See Hip pathway)
- Meniscal tear, acute or chronic degenerative
  - You often see a block to end range extension +/- flexion. Consider referral to consultant for for potential Arthroscopy - only if got mechanical locking/giving way/effusion.
Knee pain

8 Direct Access MRI

Quick info:
Mid Notts Referral Criteria - Direct Access MRI
• exclude absolute contra-indications to MRI:
  • pacemaker or cardiac defibrillator
  • cochlear implant
  • neurostimulator
  • orbital or signal metallic foreign body
  • untested intracranial aneurysm clips
  • infusion pumps
  • implanted drug infusion ports
• patient is age 16 years or over
• suspected meniscal tear:
  • inability to extend the knee suggesting the possibility of acute meniscal tear (McMurray test positive)
• ligament damage:
  • positive anterior drawer test or Lachman test

9 Initial self care

Quick info:
Initial Self Care:
• physiotherapy
• weight loss
• footwear advice
• handheld information
• analgesics (as per WHO Pain Ladder including NSAID/Gels)
• Non surgical alternatives – injections carried out by trained GP or Community Service

14 Is OA suspected?

Quick info:
Knee joint OA:
• management:
  • consider conservative management, maximise analgesia/NSAIDs all ages
• elf help/patient information:
  • www.nhs.uk
  • www.arthritisresearchuk.org
• injections:
  • consider x1 into knee joint depending on severity of symptoms and X ray findings
  • not indicated if surgery might be an option
• investigations:
  • MRI not indicated
  • X-rays AP (standing), lateral and skyline - refer to threshold information below
• referral:
  • non-surgical – where surgery not indicated and no improvement with 6 weeks of conservative management, consider referral to Specialist
  • surgical - agreed clinical threshold for knee replacement:
    • patient experiencing moderate-severe persistent pain not adequately relieved by an extended course of non-surgical management and pain is at a level at which it interferes with activities of daily living - washing, dressing, sleeping and

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Knee pain

quality of life; AND
• the patient is fit for surgery with a BMI <35. Patients with a BMI >35 should be advised and given appropriate support with referral to specialist services if indicated and this should be documented; AND
• X-rays of: knee, AP (standing) lateral and skyline views which confirm evidence of OA have been carried out within the past 6 months
• the GP referral letter should contain evidence that:
  • the recommended hierarchy of management has been followed (with reasons why a treatment is not appropriate)
  • non-pharmalogical treatments (topical and systemic analgesics, physio, aids etc.), have been tried
  • patients to have been made aware of the options available as an alternative to surgery and given written information about surgery including the associated risks
  • patient’s fitness for surgery has been properly assessed and they have been medically optimized (BP and diabetes etc.)
PF join OA:
• management:
  • consider analgesia and NSAIDs
• self help/patient information:
  • www.nhs.uk
  • www.arthritisresearchuk.org
• injections:
  • consider x1 into knee joint depending on severity of symptoms and X ray findings
  • not indicated if surgery might be an option
• investigations:
  • X-rays AP (standing), lateral and skyline if suspicion of osteophytes, moderate/severe OA
• referral:
  • if no improvement with 6 weeks of conservative management consider referral to Specialist