Knee

DRAFT version !

Disclaimer:
Read the disclaimer at medimaps.co.uk/disclaimer

References:

1. Martyn Snow lecture
2. The management of prosthetic joint infection in the community, RJGP, Feb 2017, vol 67, no 655, page 88.
3. Mr Selzer orthopaedic consultant July 2020
4. Orthopaedic surgeon Mr Dunbar, webinar Sept 2020.
5. Orthopaedic surgeon St Lukes NHS, webinar Feb 2021

Osteochondritis disecans

- Disrupted blood supply to bone and cartilage.
- Might fragment and form loose body.
- Occurs after injury or impact e.g. running, jumping.
- More common in children.

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- Pain.
- Swelling.
- Popping/locking.

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- Xray.
- MRI.

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- Rest.
- Avoid stress your joint e.g. running, jumping.
- Crutches for short time.
- Brace for a few weeks.

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- Surgery after 4-6/12 (not commonly used in children as heals with conservative management).

Locking

- Means locked in flexion, so cant extend. This is meniscus issue.
- In a true locking, pt will wiggle knee to free it up.
- If just pain causing locking (restricted ROM) this is not the type of locking that an orthopaedic surgeon needs to intervene in i.e. it is not a meniscus issue.

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- Medial joint line pain on deep squatting.

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- Occured suddenly = urgent meniscal arthroscopy.

Knee giving way

- Rotational movement causes it = ACL deficiency.
- Pivoting to one side with patella jumping = patella instability.
- With squatting and medial pain = meniscal tear.
- On stairs and actually falling = patella dislocation.
- Severe pain occurs first = quads muscles being inhibited to avoid more pain.

Swelling

- A new swelling = significant finding. There has to be something wrong.
- Think of a mechanical problem.
- Remember, the MCL sprain is outside of the knee joint so will not see an effusion.

→ age can sometimes give a clue to differential →

Sweep up medial side and then the lateral and see if bulges back into medial side.

0-12y
- Discoid lateral meniscus.

12-18y
- Osgood Schlatters usually medial.
- Osteochondritis dissecans.
- Patella dislocation (females).

18-30
- Bucket handle meniscal teats.
- ACL tears.
- Chondromalacia patellae (females).

30-50y
- RA.

- 40-55y
- Degenrtive meniscus???

- Onset < 4hr (usally < 1hr) = most commonly is an ACL tear (as large blood vessel that runs through middle of ACL, so get haemarthrosis).
- They cannot continue their activity.
- Treatment depends on age and expectation.
- As get older you need less ACL as the knee stiffens up anyway, so there is less need for the ACL function.
- If young, they will get damage to the meniscus and develop arthritis by age 20.

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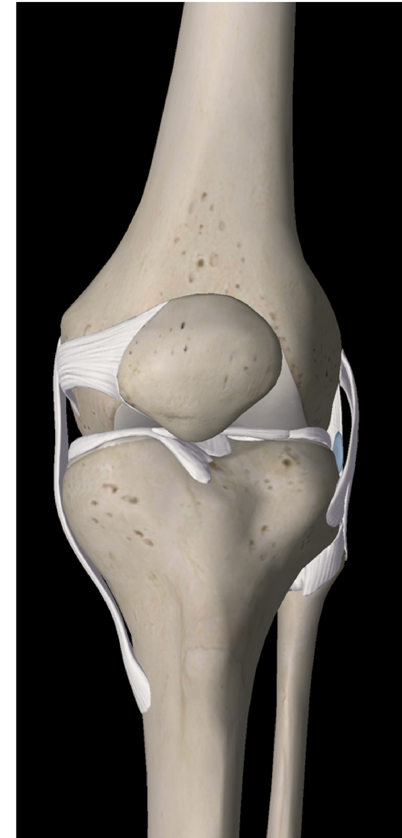
- Urgent referral.
- If non wt bearing = A&E.

- Onset > 4hr = meniscal tear with blood supply.
- Crunching or grating sensation.
- Localised pain in joint line.
- Mcmurrys test.

→

- Urgent referral.

- After activity = OA.
- Outside knee joint = bursa.
- Lateral joint line swellings after activity = meniscal cyst.



Tibiofemoral pain

- Generalised referred pain radiating down the proximal tibia.

Runner's knee

- Post meniscal shearing effect.

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- Rest for few months.
- NSAIDs.
- Brace.

ITB syndrome

- Lateral knee pain.

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- Good running shoes.
- Physio.
- Stretching.

OA

Investigations

- Standing knee xray.

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- But not required to Dx if clinically fits OA.

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- > 45y.
- Activity related joint pain.
- Crepitus.
- Restricted ROM.
- Fixed flexion deformity (can't straighten fully).
- Functional impairment.
- Morning stiffness < 30 min.
- Muscle weakness/wasting.
- Bony swelling.

Management

Not recommended

- Hyualndronic acid does not work = NICE review.
- ROH does not use it.

- Arthroscopic washout does not work.

Conservative

- Supports → - Pain causes quads to stop working hence it gives way.
  - Tubigrip is as effective as fancy brace.
  - It's about increasing feedback/proprioception.
- Wt loss → - Diet if can't exercise.
- Neutraceuticals → - Glucosamine.and chondrotoitin 1500/1000 dose for 2/12.
  - Avacodo soyabean unsaponifiables.
  - Omega 3 fatty acids.
- Exercise → - Swimming (front crawl, back stroke).
  - Cycling (high saddle & low gear).
- Walking stick → - Hold in opposite hand so you lean away from the affected side.

Injection

- Only 3-4 per year.
- ???9ml of 0.25% bupivacaine. Note: the 0.5% is chondrotoxic.???
- If inject and good pain relief your barking up the right tree incase coming from hip

Replacement

- ???Too young for TKR. There is no age limit. Its about QOL.
- ???No other option for bi/tri compartment.
- If single compartment can do unilateral knee replacement.
- 16% not fully satisfied post TKR.

TKR infection

- A red knee is an infected knee = NO.
- Remain hot and red for up to 1 yr post op.
- A truely infected knee replacement = painful, loss of range, feel unwell, not walking about, increased trends of ESR/CRP.
- See below guide to help figure out if normal healing or infected.

0-2/52 post op

- Faint clear yellow staining on dressing.

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- Not infected.
- Natural healing process.
- No referral needed.

0-6/52 post op

- Slightly pink wound.
- No discharge

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- Not infected.
- Natural healing process.
- No referral needed.

- Faint erythematous wound.
- No discharge or little discharge.

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- Could be normal healing process
OR
- Infection.

- Refer to next availbale fracture clinic appointment (via on-call orthopaedics).

0-3/12 post op

- Fever.
- Gross cellulitis.
- Gross swelling.
- Discharge (clear or purulent).
- ↓ ROM

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- Infection likely.
- STAT referral via on-call orthopaedics.
- Do not start Abx as just drags on the infection even longer and complicates the Dx as messes up culture result later.
- Need aspiration in sterile conditions, washout and IV Abx.
- They can save 80% pt's knee's if referred STAT.

≥3/12 post op

Acute picture

- Was happy with knee.
- Maybe 1 yr or longer down the line, suddenly signs of infected knee.
- Source of infection usually haematological e.g. dental, UTI, cellulitis.

Chronic picture

- 'Never quite been right doc'.
- Arthritis pains still there.
- Received Abx post operatively.

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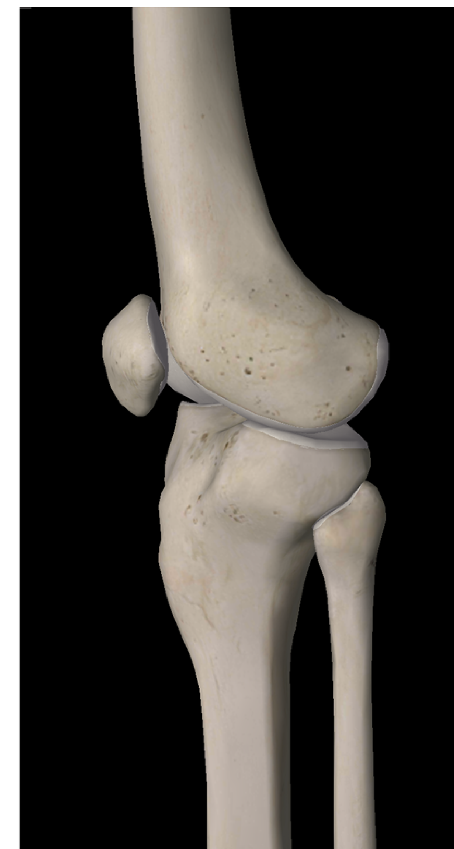
- Possbile late infection.
- FBC.
- CRP.
- Xray of joint may show loosening.
- Refer to orthopaedics out patient, to operating consultant.
- May need prosthesis removal.



Anterior knee pain

- Is the back pain of the knee world !
- Poorly understood and poorly treated.

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- All should have physio first before referal to ortho.
- Ortho will not touch unless physio for 3/12.
- Important to work on muscle and proprioception.
- Advise small amounts of execise only.
- Steroid inj can help with pain to allow the exercise.

Patellofemoral pain syndrome

- Worse with sitting.
- Crepitus and grinding.
- Worse going up and down stairs (5x body wt on patella).
- Low chairs, toilet seats.
- Anterior knee pain due to problems with soft tissues and bone around the patella.
- Potential causes are inflammation, malalignment, overuse e.g. runner's knee, jumper's knee.

Chondromalacia patella

- Softening of cartilage under the patella.

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- Rest.
- Cold pack for 20 min after activity.
- Physio exercises: quad strengthening, hamstring, calf and IT band stretching, patella tracking physio.
- Soft footwear.
- Knee braces.
- Kinesia tape.
- NSAIDs.

Patella dislocation

- Must have xray first time as 2% risk bony fragment.
- Refer to physio.
- If 2-3 times dislocated, then refer to ortho as risk of early patellofemoral OA.

Baker's cyst

- USS and MRI

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- Very rare to need surgery.
- Treat underlying cause.