Unicondylar Knee Replacement

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The knee joint

- Remember there are four joints!
  - Medial tibial femoral
  - Lateral tibial femoral
  - Patella femoral
  - Prox tib-fib
- Where are the symptoms?

The knee joint
Symptoms

- Pain
  - Night pain
  - Up and down stairs
  - ? Where
    - Which compartment?
    - Is it from the hip?
    - Is it from the back?
    - Is it arthritic or meniscal?

The knee joint
Symptoms

- Mobility
  - Can they complete a round of golf?
  - Housebound?
  - Wheelchair bound?
  - Walking distance severely restricted

The knee joint
Indications

- Correct Xrays
  - AP standing is essential
- How many joints are involved?
- Will they benefit from conservative management still?

Unicondylar replacement
Indications

- Medial OA
- Medial symptoms
- No lateral symptoms
- Intact ACL
- Correctable deformity
- ROM>100º
- FFD<15º

Uncondylar replacement (Medial)

Uncondylar replacement (Medial)

Unicondylar Replacement
Indications

- Age range
  - 30-84

Unicondylar Replacement
Contraindications

- No inflammatory Arthropathy
- No systemic connective tissue disorder(eg Sjogren's)
- BMI>40
- ?very small individuals

Unicondylar Replacement

Contraindications

Unicondylar Replacement

Investigations

- Lachman test
- Valgus stress test
- ? X-ray

Unicondylar Replacement (Medial)

Investigations

- ? Arthroscopy/MRI
- AP standing film
- Lateral of knee

Unicondylar knee replacement
Investigations

- Consider 30° flexion film

The knee joint
Surgery

- Total Knee Replacement
  - gold standard
  - 90+% 10 year survival in most cemented knees
  - ? Value of cementless

The knee joint

Surgery

- Total Knee Replacement
  - Younger patients (<60)
    - JBJS 2003:52-6
    - <60 overweight males
    - Bad Results!
    - Females not as bad

The knee joint
Surgery

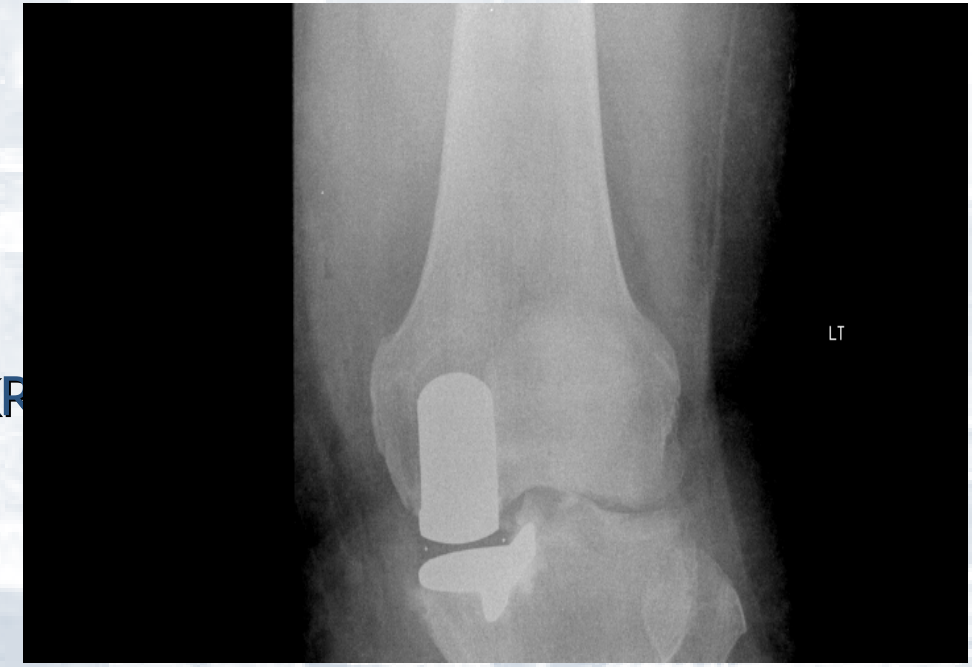
- Total Knee Replacement
  - Should we replace the patella?
  - Should we use mobile bearings in younger patients

The Knee joint
Surgery

- Total Knee Replacement
  - BMI!
  - >40 bad results
  - 30-40 equivocal literature
  - ? Increased infection
  - ? Increased malalignment

Unicondylar Replacement (Medial)

- Advantages
  - Minimally invasive
  - Quicker recovery
  - Increased range of motion
  - Survival as good as TKR
  - ? Easier to revise
  - ? Decrease infection risk



Unicondylar Replacement (medial)

- Disadvantages
  - Have they got lateral joint disease as well?
  - Technically move demanding
  - ? More technical failures

Unicondylar Replacement (medial)

Unicondylar Replacement (medial)

Unicondylar Replacement (medial)

Unicondylar Replacement (medial)

Unicondylar Replacement (Lateral)

- Unicompartmental replacement (Lateral)
  - Usually post traumatic/Post lateral menisectomy
  - 10% dislocation rate of UHMWP meniscus
  - Results otherwise similar

Unicondylar replacement (Lateral)

- Technically more demanding
- Slower Rehabilitation rates
- Less minimally invasive

Unicondylar replacement (Surgery)

- Tibial cut confirms integrity of ACL
- Essentially anteromedial wear

Unicondylar knee replament (surgery)

- Equivalent to tibia first in TKR
- Cut the bone to match ligaments
  - ie ligaments determine bone cuts
- Femur first = cut bone and then balance ligaments

Unicondylar replacement (Surgery)

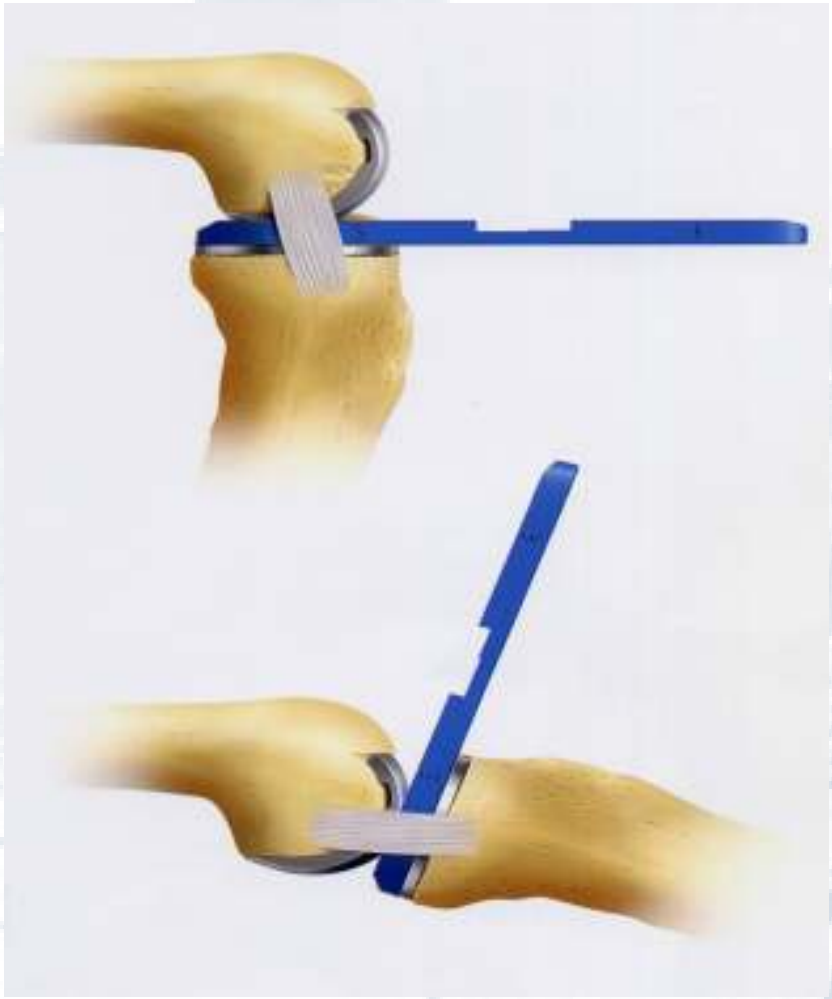
- Posterior femoral cut to give flexion gap
- Must be aligned with femoral axis

Unicondylar replacement (Surgery)

- Femur reamed/cut to give extension gap

Unicondylar replacement (Surgery)

- Flexion gap must = extension gap

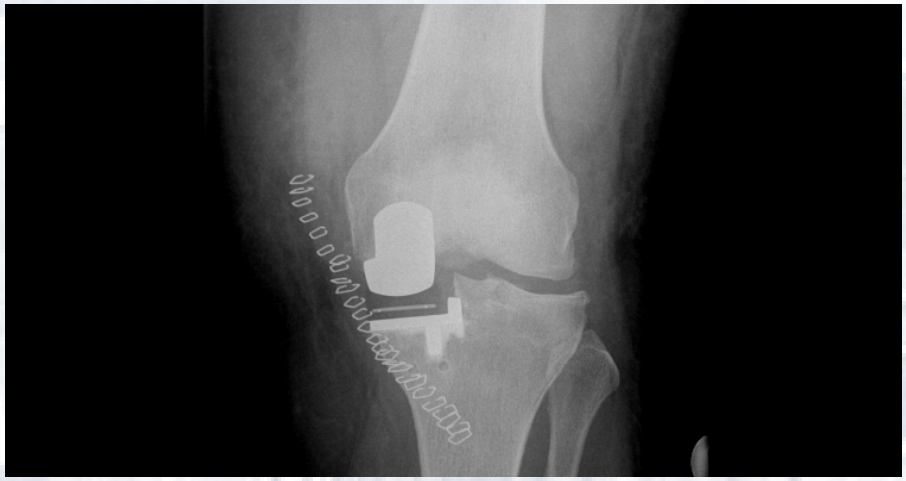


Unicondylar replacement (Surgery)

- Adrenaline and Marcaine mix into posterior and anterior structures before cementation

Unicondylar replacement (Rehab)

- mobilise the same day
- Check x-ray the same day
- Home when comfortable
- Full extension up to 1 year



Clinical Data

- 87 operations
- 3 lateral
- 4 bilateral

Clinical Data(2)

- 3 infected
- 1 revised
- 3 anterior knee pain
- 2 currently enduring persistent medial joint pain

Clinical data (3)

- 1 MRI for lateral joint pain
- 1 arthroscopy for lateral joint pain
- 2 arthroscopies for loose bodies
- 1 arthroscopy for anterior knee pain
- 1 arthroscopy for anteromedial pain
- 2 arthroscopies for unexplained medial pain

Conclusion

- Good operation
- Generally functionally better(Trial on going)
- Complication rate of about 10%
- Comparable to TKR
- Technically more demanding than TKR
- Large learning curve


Thank you
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