



Unicompartmental Knee Arthroplasty:
Trauma 101 Knee Symposium

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I HAVE NO DISCLOSURES or COI



Outline

- General Philosophy
- Background
- Patient Selection
- Advantages & Goals of Surgery
- Outcomes
- Summary



What this talk is NOT

- Review of treatment options for the young patient with osteoarthritis
- Review of surgical options for medial compartment arthritis
- Comprehensive review of the "uni" knee
 - > Ø PFJ; Ø lateral compartment
 - > Ø Prosthesis design



Global Philosophy

Deep Thoughts

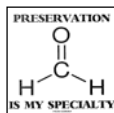
- No good option for early onset OA in the active patient
- Dumbest knee is smarter than the smartest orthopod
 - > Complex kinematics & geometry
 - > The hip surgeons have it right
- TKA is a long recovery
- HTO's are not reliable



Global Philosophy

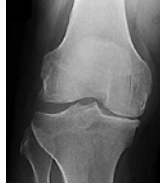
Unicondylar Knee Replacement

- Quicker recovery
- More "normal" feeling knee
 - > Preservation of compartments
 - > Preservation of ligaments
- Temper expectations
 - > Residual OA pain
 - > Few TKAs are PERFECT
 - > Peter vs Paul



Background

- First reports in 1970's
 - Insall et al; Skolnick et al
 - *Only good for lateral side*
- Kozinn and Scott Criteria
 - Unicompartamental disease
 - Age > 60 years
 - Low demand
 - Weight < 82 kg (Ohio?)
 - No rest pain
 - Minimum arc range 5-90°
 - Passive correctable V/V < 15°
- Ritter et al
 - 4.3 % of 4,021 TKR's



Indications are expanding !



Patient Selection

- Isolated tibiofemoral disease
- Asymptomatic PF disease
 - Avoid exposed bone
- Treatment goals
 - Bridge to TKR
 - Or final treatment
- SET EXPECTATIONS
- Ok to phone a friend
 - MRI
 - Start w/ arthroscopy



❖ Avoid in obese
❖ ACL status remains controversial



Preoperative Assessment

- History and physical
- Bert's "one-finger test"
- V/V deformity correctable
- Radiographs
 - AP, lateral, axial PF view
 - 45° flexed PA
 - Full length standing



Surgical Goals

1. Resurface the joint
 - Eliminate OA
2. Retention MCL
3. Reduce joint
 - Coronal plane
4. Re-align limb

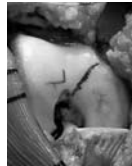


Must leave the OR w/ all goals achieved...
also don't malrotate your components



Advantages of UKR

- Arthritis is eliminated
 - HTO
- Lower surgery morbidity
 - TKR
- NO need to over-correct
 - HTO
 - Advanced cartilage restoration
- Quicker return of function
 - HTO
 - TKR



* Not a panacea



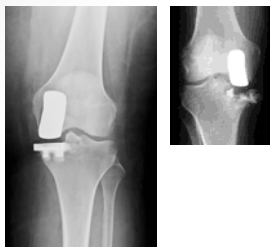
Results

- Berger et al JBJS 2005
 - 96% survival @ 10 yrs
 - 92% good - excellent results
- Price et al CORR 2005
 - 93% survival @ 15 yrs
 - 91% good - excellent results
- Argenson et al JBJS 2013
 - 94% survival @ 10 yrs
 - 74% survival @ 20 yrs



Problems

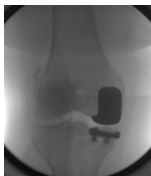
- Disease progression
 - Berger et al
 - Hernigou et al
- Implant failure
 - Tibial side ~ 70%
 - Emerson et al
- Low volume centers (technique)
 - Gioe et al



Special Considerations

ACL Insufficiency

- Does it matter?
 - Suggs et al; Argenson et al
 - Cadaveric instability; abnl load
- Inside vs Outside?
 - Christensen et al; Hernigou et al
 - Clinically no difference (medial)
 - Goodfellow et al
 - Higher failure rate (lateral)
- Combined reconstruction?
 - Ventura et al 2015, Tinius et al 2012, Pandit et al 2006



❖ Identify OA etiology
❖ Pay close attention to slope (<7°)



Special Considerations

Patellofemoral Disease

- Does it matter?
 - Price et al 2007
 - Ignore asymptomatic disease
- Progression?
 - Berend et al 2011
 - No difference in revision rates btwn those w and w/o PF OA



Summary

- UKR offers reliable long-terms results in appropriate candidates
- It all about expectations
- Surgical goals (4 R's)
- No perfect solution exists



END



Thank you!
Questions / Comments