Total Knee Arthroplasty in Rheumatoid Patients

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Patients with R.A.

**Facts:**
- Systemic disease
- Multiple joints (Knee: 90%)
- Osteoporotic bone
- Medications
- Complications
Patients with R.A.

Pre-operative considerations:
- Discontinuation of medications
- Sequence of joint reconstruction
- Type of anaesthesia
- Choice of operative approach, type of implant, soft tissue balancing
Patients with R.A.

**Medications:**

- Steroids (HK X3)
- Immunosuppression Methotrexate > ? increased % of sepsis
  
  *Stop 1-2/52 before and start 2/52 after*

- anti-TNF
  
  *? No discontinuation*
Patients with R.A.

**Pre-operative assessment:**

- Sites of infection
- Cervical spine instability *(5-10% require stabilization)*
- Skin (thin, atrophic)
- Catabolic disease ? Nutrition
- Medications
Patients with R.A.

Choice of anaesthesia

- General > flexible laryngoscopes
- Spinal / epidural : ideal
- regional
Patients with R.A.

**Surgical priorities**

- Lower limb first except:
  - hand function
- Hip before knee, except:
  - extreme valgus and/or flexion contractures

*Consider:*

? Simultaneous knee replacement or hip and knee
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*Intra-operative controversies:*
- Surgical exposure
- Cement or not
- PCL: preserve or sacrifice
- Patella: replace or not
- Soft tissue balancing
- Implant choice
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**Exposure**

- 40% - 50% valgus deformities
- 40% flexion contractures > 10°
Extreme stiffness:
quads snip / tibial tubercle osteotomy
synovectomy?
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*Soft tissues:*

- Routine release to obtain complete balance
- Watch peroneal nerve
- Implant choice
  - PCL retaining
  - PCL substituting
  - Semi constrained
  - Constrained
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**PCL**
- Pannus infiltration, degeneration and collagen breakdown
  - Neurath : Ann Rheum Dis
  - Hagen et al : Int Orthop

**PCL retaining implants**
- Schai, Scott, Thomhill, CORR 1999
- 52 patients (81 knees) 11-year follow up
- Thirteen-year survivorship 97%
- Late hyperextension and subsequent instability may be a concern in the second decade of follow up
PCL substitution

- Tanq et al, Arthroplasty 2004
  94% survival after 10 years F-U
- Jacobs et al, Cochrane Database 2005
  Comparative study: PCL retention, sacrifice and substitution
  Marginal superiority of PS arthroplasties, but methodology variable and confusing
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Choice of implant:
Rotating hinge prostheses –
the role of stemmed components
in transferring shear
and rotational stresses
in bone-cement interface
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CEMENTLESS
Rosenqvist R et al 1986
34 PCA TKR > 50% displacement and radiolucent zone after only 17/12

Swedish Knee Arthroplasty Register 1997
Statistically significant increase of loosening and revision in 4381 TKA 1985-1995

Vigano et al CORR 2008
47 patients (64 knees)
Survivorship was 98.4% at 10 years postoperatively
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Patella ? Absolute indication for replacement
Females are more satisfied with resurfacing.
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COMPLICATIONS:

- Delayed wound healing
- Late instability
- Loss of extension
- Infection
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Infections:

- Increased risk compared to OA (~X3)
    Finnish register
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**MATERIAL - RESULTS**

- 44 patients, 48 arthroplasties
- 42 women, 2 men  Age: 39-67 (av. 54)
- Follow-up 4-17 years (av. 9)
  - 32 Rotating hinge / 15 PS / 1CR
  - All cemented
  - No patella resurfacing
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**RESULTS**: excellent functional improvement and no pain

**Complications**:
- 3 revisions (6%):
  - 1 infection (2 stage revision)
  - 1 gross loosening with periprosthetic fracture
  - 1 CR loosening
- 2 delayed wound healing
- 2 flexion contractures > 5 deg
Thank you...
Patients with R.A. and Orthopaedic Surgeons

- Trauma
  - Conservative treatment
  - Operative treatment

- Joints
  - Joint replacement
  - Fusion
  - Synovectomy
  - Tendons