5th Advanced Course in Knee surgery
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The lateral approach

Mike Carmont
President BOSTAA
Princess Royal Hospital, Telford
Northern General Hospital, Sheffield
United Kingdom

ESSKA BOSTAA EFOST

Princess Royal Hospital, Telford

Valgus knee

- Lateral compartment
  - Osteoarthritis
  - Rheumatoid Arthritis
- 10-15% TKR patients
- Female prevalence (9:1)
- Also
  - FFD
  - External rotation deformity
  - Smaller lateral femoral condyle & more distal medial condyle

Medial approach

- Standard technique medial arthrotomy & lateral release
- Inside out "pie crusting"
- Suitable valgus deformities < 20˚
- Inside out releases
- Does not address pathologic anatomy
- Patella mal tracking more common
- Increased potential inaccurate flexion-extension gap balancing
- Less than optimal femorotibial stability

Medial approach technical disadvantages

- Indirect
- Increases External rotation of tibia
- Access to Posterolateral corner more difficult
- Extensive lateral release required
- Joint seal and prosthetic soft tissue coverage is difficult
- Vascularity to quadriceps and patella tendon decreased
- Does not allow for correction of external rotation contracture of tibia
- May encourage over releasing of deep soft tissues

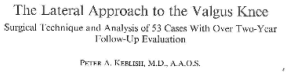
Peter Keblish 1936-2011

Rationale Lateral Approach

- Direct
- Provides extensive lateral release with exposure
- Decreases skin undermining
- Internally rotates the tibia with improved access to PLC
- Allows better titration of sequential releases based upon flexion-extension gap balance requirements
- Preserves vascularity because medial side untouched
- Better soft tissue gap and prosthetic coverage
- Centralizes the QPT mechanism optimizes patella tracking
- Improves femorotibial stability
- Rehabilitation unimpeded

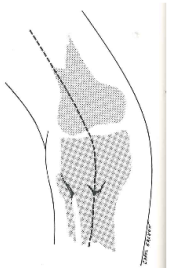
Lateral approach

- Less familiar
- More demanding
- Patella tendon & tibial tubercle presents obstacle
- 1980
  - 79 valgus knees, OA
  - Valgus 12˚-45˚, flexion -5˚-50˚
  - 94.3% good excellent


The Lateral Approach to the Valgus Knee
Surgical Technique and Analysis of 53 Cases With Over Two-Year Follow-Up Evaluation
PETER A. KEBLISH, M.D., A.A.O.S.

Surgical technique

- Skin incision follows Q angle
- Slightly lateral to the patella, the lateral border of the patellar tendon and the tibial tubercle
- Long incisions
- Sham incision to check healing potential

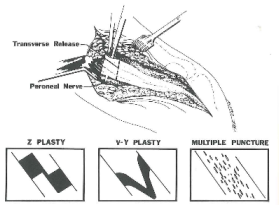


6 major steps

- 1 I-T band release/lengthening
- 2 Lateral arthrotomy: coronal plane Z plasty
- 3 Patella dislocation & joint exposure
- 4 Tibial sleeve release osteoperiosteal, distal LCL (Keblish) & proximal LCL lengthening (or sliding condyle osteotomy: Briard)
- 5 Instrumentation/prosthetic insertion
- 6 Soft tissue prosthetic joint cover

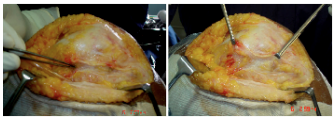
I-T band release

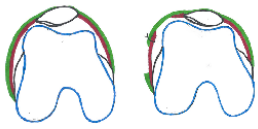
- Decreases bowstring effect
- Allows initial correction, insertion off the linea aspera
- 10cm proximal joint line
- Prevents migration of distal tibial sleeve
- Allows reattachment
- Decrease the potential for peroneal nerve compression
- Correction 10˚-15˚ accomplished



Lateral Arthrotomy

- Separates superficial & deep layers- coronal Z plasty
- Superficial lateral retinacular incision
- Lateral Arthrotomy 2-4cm
- Extends distally to mid-point of Gerdy's tubercle
- Enters knee joint angle 45˚ oblique arthrotomy
- Osteoperiosteal release laterally & tibialis anterior fibers
- Fat pad oblique incision 70:30 meniscus to patella tendon



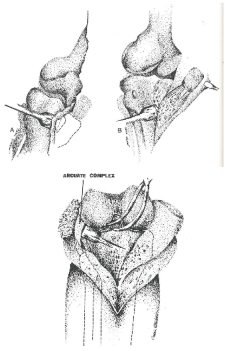


Patella dislocation

- Extended lateral exposure and elevation Gerdy's tubercle
- Patella dislocated medially
- Internally rotate the tibia major advantage of approach

Tibial sleeve release

- Started in extension
- Completed in flexion
- Extends around the posterior corner to PCL insertion

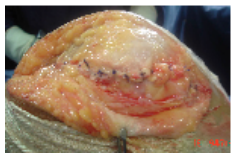


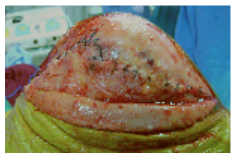
Femoral sleeve release

- Osteo-periosteal release
  - Femoral attachments popliteus, LCL and posterolateral capsular attachments
- Sliding lateral condyle osteotomy

Prosthesis soft tissue cover

- Knee flexed
- Lateral soft tissue sleeve attached to medial sleeve, expanded coronal plane z Plasty





JBJS Essential Surgical Techniques

Satish JBJS Am 2013

Lateral Parapatellar Approach Without Tibial Tubercle Osteotomy for Fixed Valgus Deformity Correction in Total Knee Arthroplasty

Bhava R.J. Satish, MS, DNB, Jutty C. Ganesan, DNB, MCh, Prakash Chandran, MS, FRCS, Praveen L. Basanagoudar, MS, FRCS, and Damodarasamy Balachandar, MS

Keblish Clin Orthop Relat Res 1991

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