



TGS® UKA
Val d'Isere
January, 2010
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Disclosure

- Designer (Royalty income) - DePuy A Johnson & Johnson Company
- Consultant on Knee Products for Smith & Nephew Orthopaedics
- General Research Funding - Inova Health System and the U.S. Army Medical Research & Materiel Command and the Telemedicine & Advanced Technology Research Center
- Investor - Alexandria Research Technology

Disclosures made in accordance with Anderson Orthopedic Research Institute Policy

Variables in Unicondylar Arthroplasty


- All unicondylar implants work equally well if optimally placed
- The uncontrolled variable is surgical technique
- TGS-controls the surgical technique variable to optimize results

What are we trying to achieve with tissue guided surgery?

- Optimize the synergy between bone preparation and soft tissue tension
- Minimize surgical trauma
- Control the surgeon variable

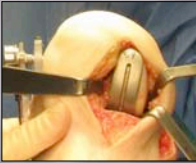
Tibial Preparation

- Traditional tibial resection
- Oscillating saw



Preliminary Femoral Sizing

- Defines the radius of the condyle
- Scribes the center line of the condyle



Primary Femoral Cutter



Primary Femoral Cutter
Mounted to the Distraction Platform

Distraction Platform
Placed on the tibial plateau to maintain the distal femoral condyle in a fixed position




Distraction Platform
Controls femoral condyle position throughout femoral preparation

Transversing femoral condyle maintains femoral condyle position

Under displacement control, the cutter creates a central condylar groove a fixed distance from the tibial plateau.

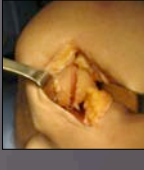
Primary Femoral Cutter




Guide Surface
Minimally Contour and Prepared by the Primary Femoral Cutter

Distraction Platform
Controls femoral condyle position throughout femoral preparation




Primary Femoral Cutter
Mounted to the Distraction Platform. The knee is extended to prepare the Guide Surface





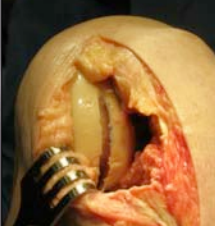
Preparing a "Guide Surface"

- Orient Primary cutter with A/P apex of condyle
- Initiate guide surface preparation in deep flexion
- Visualize guide surface


Preparing a "Guide Surface"

The primary cutter is kinematically guided by the ACL & PCL as the knee is extended. The cutter prepares a guide surface in the condyle.



Secondary Femoral Cutter

- References guide surface
- Starts in deep flexion
- Extend the knee to prepare implant support surface



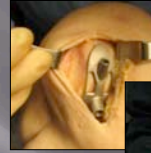
Secondary Femoral Cutters





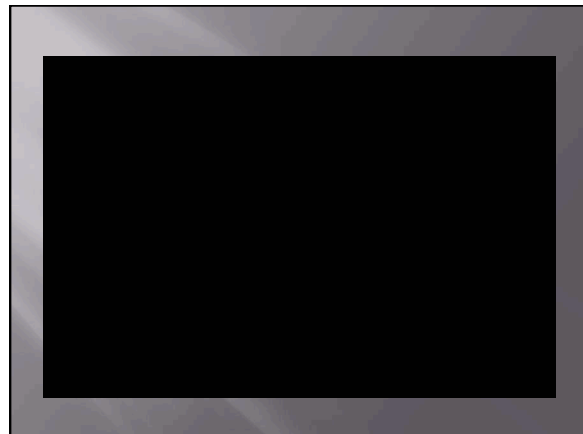
Femoral Condyle Prep & Implant

- Place the Femoral Drill Guide
- Drill for femoral peg
- Place trials



Advantages TGS - UKA

- Optimal component alignment through a full arc of motion
- Optimal soft tissue tension through a full arc of motion
- No planer femoral cuts, no need for lateral patellar displacement



This research was supported by funding received from the U.S. Army Medical Research & Materiel Command and the Telemedicine & Advanced Technology Research Center.
General research funding was provided to AORI by Inova Health System.



Thank You

