
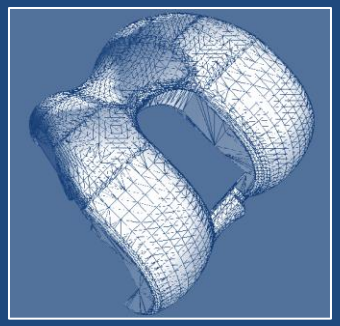
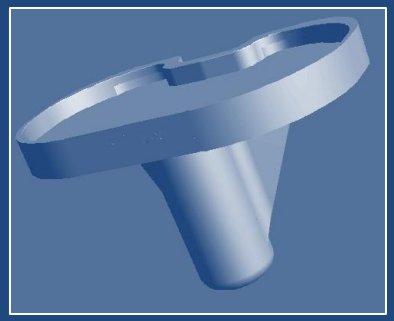


Posterior Stabilizing (Cruciate Sacrificing)
Surgical Technique

Freedom® Total Knee

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Disclaimer

This information is for illustrative purposes only. It is not meant to replace or augment the intended use for this product. Please consult with the product's instructions for use for completes instructions.

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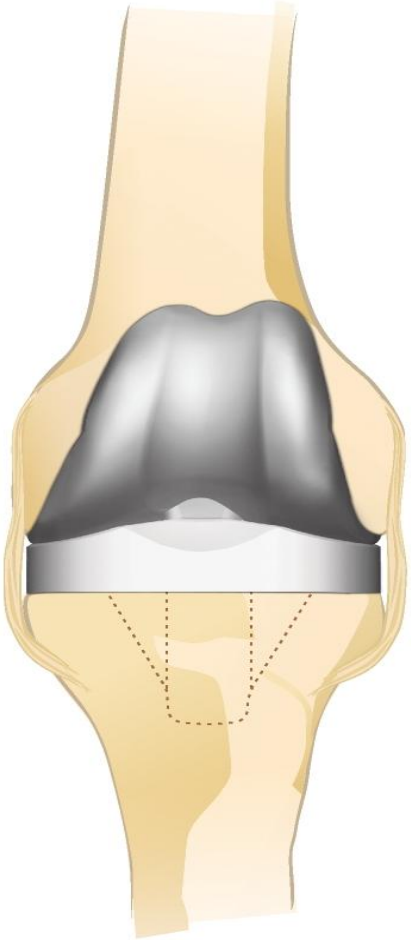
The Freedom Total Knee



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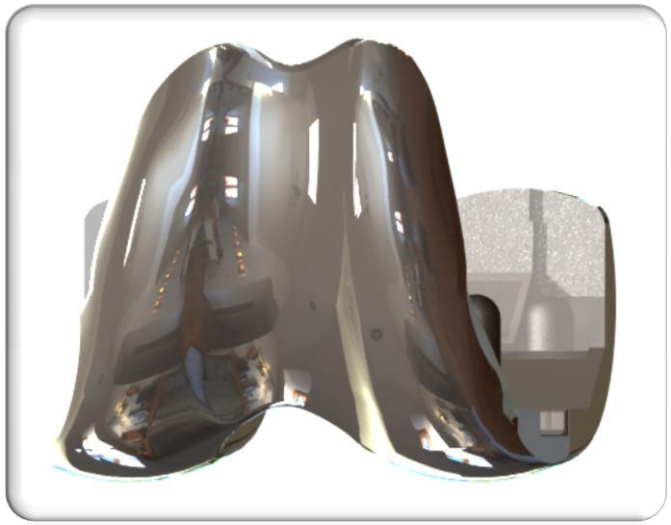
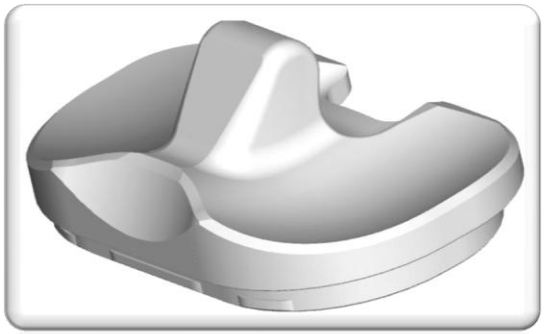
Freedom Knee Components





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Surgical Technique

The knee is prepped and draped and placed in 30 degrees of flexion

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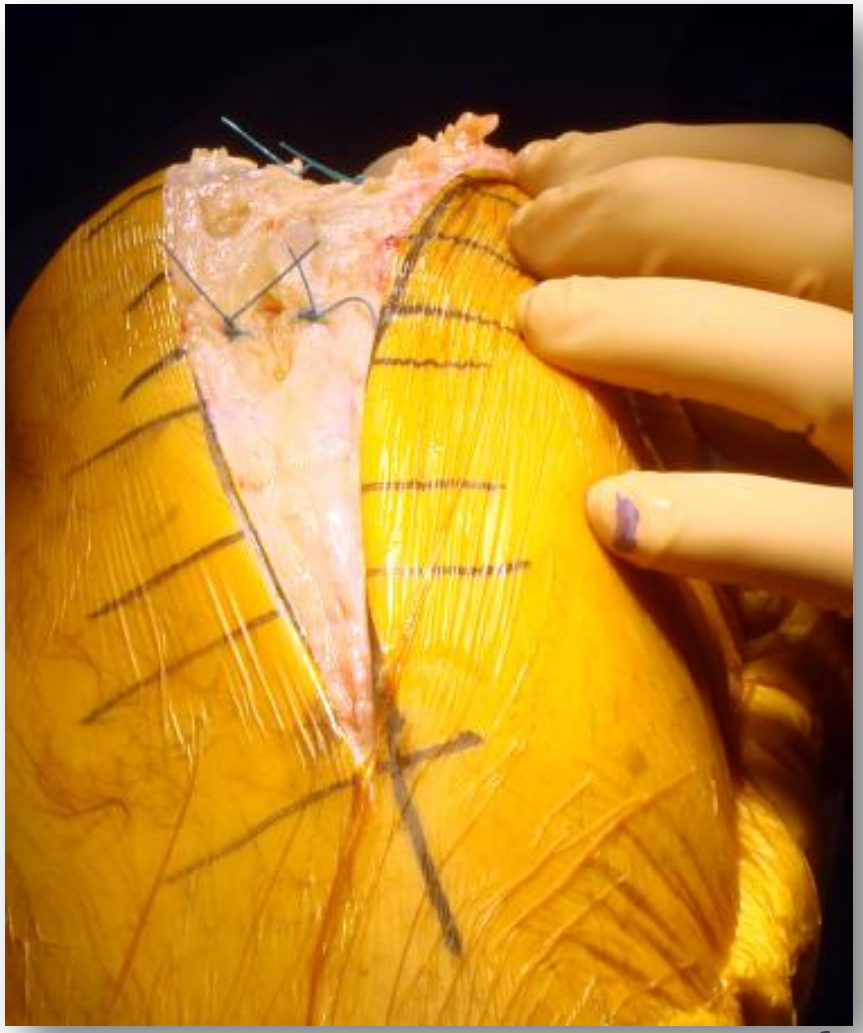
Incision

An anterior midline longitudinal incision is made proximal to the superior pole of the patella passing medial to the tibial tubercle



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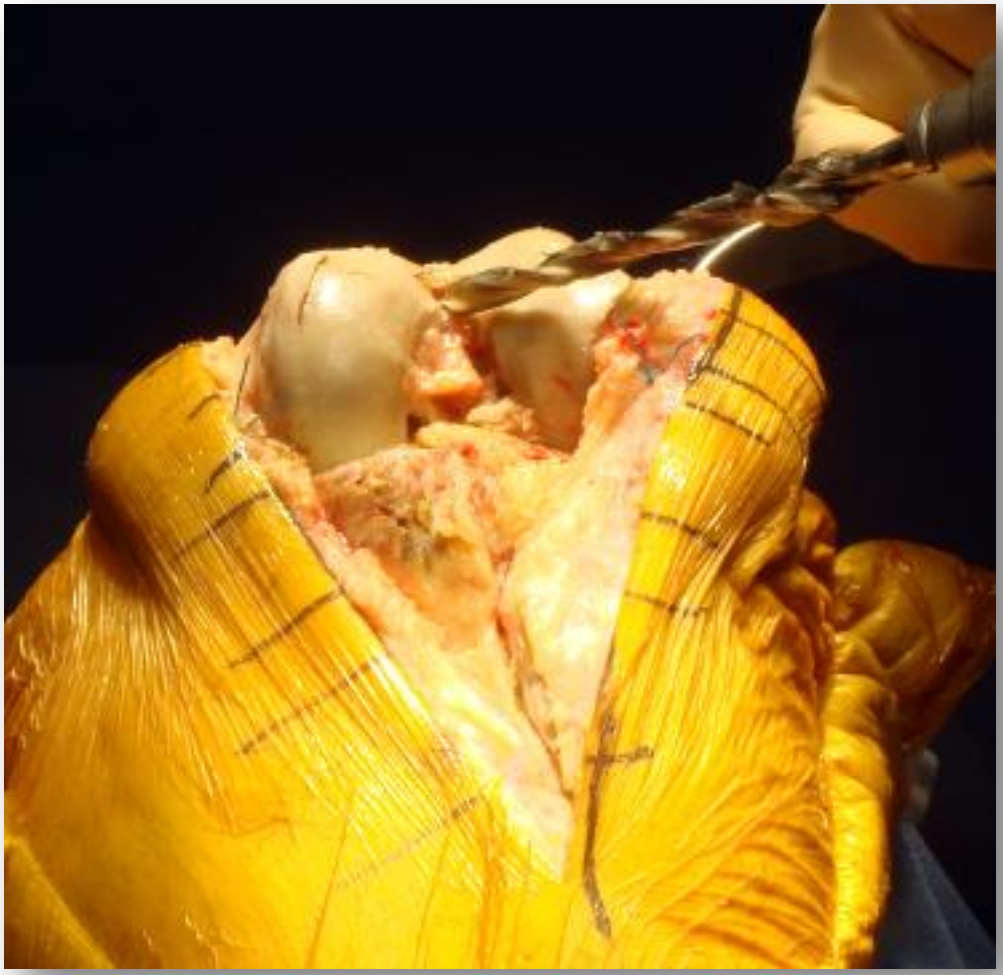
Femoral Step Drill

Entry is made into the medullary canal with the 8mm Femoral Step Drill. The starting point is anterior to the PCL attachment and medial to the midline axis



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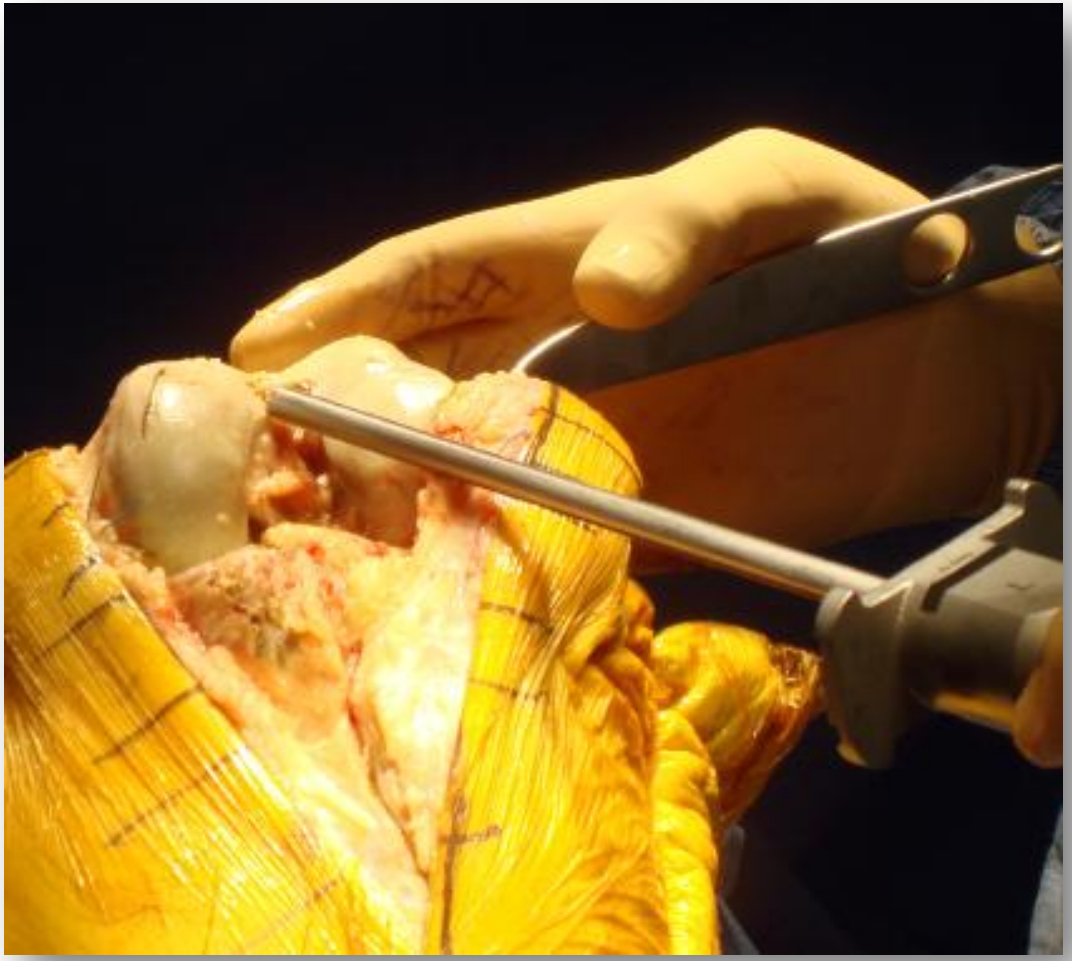
Distal Femoral Cut Guide

The Distal Femoral Cut Guide (DFCG) is advanced slowly until the endplate rests on the distal condyle with the appropriate side (L or R) facing up 6 degree valgus



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Distal Femoral Cut Jig

The DFCG Jig is mated with the DFCG using the adapter and pinned in place using 2 smooth pins

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Depth of Cut

The DFCG provides for a 6 degree valgus cut. The Jig is set for a standard measured cut of 9mm. The optional cut slot on the jig provides for a 13mm cut for circumstances that require this option

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Femoral Sizing Guide

The Femoral Sizing Guide is placed against the distal cut surface with feet placed under the posterior condyles and the stylus resting on the anterior cortex

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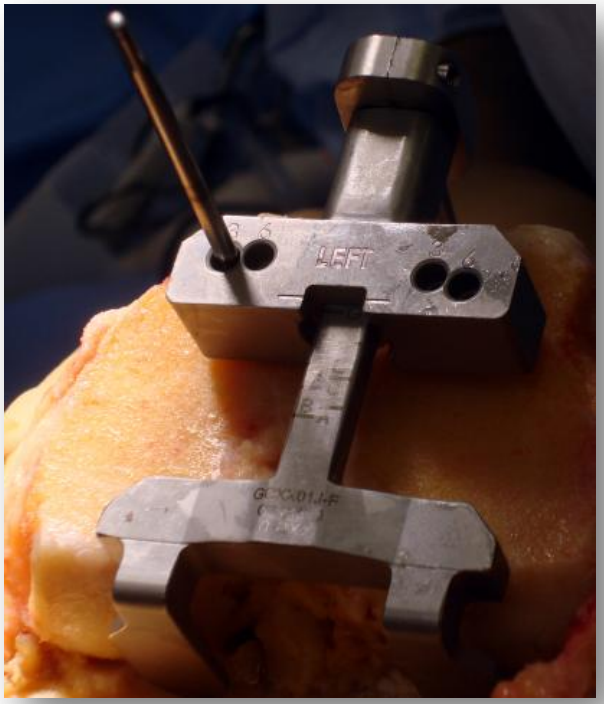
Femoral Sizing Guide



The femoral size is read and smooth pins are inserted through holes marked for 3 degrees of external rotation

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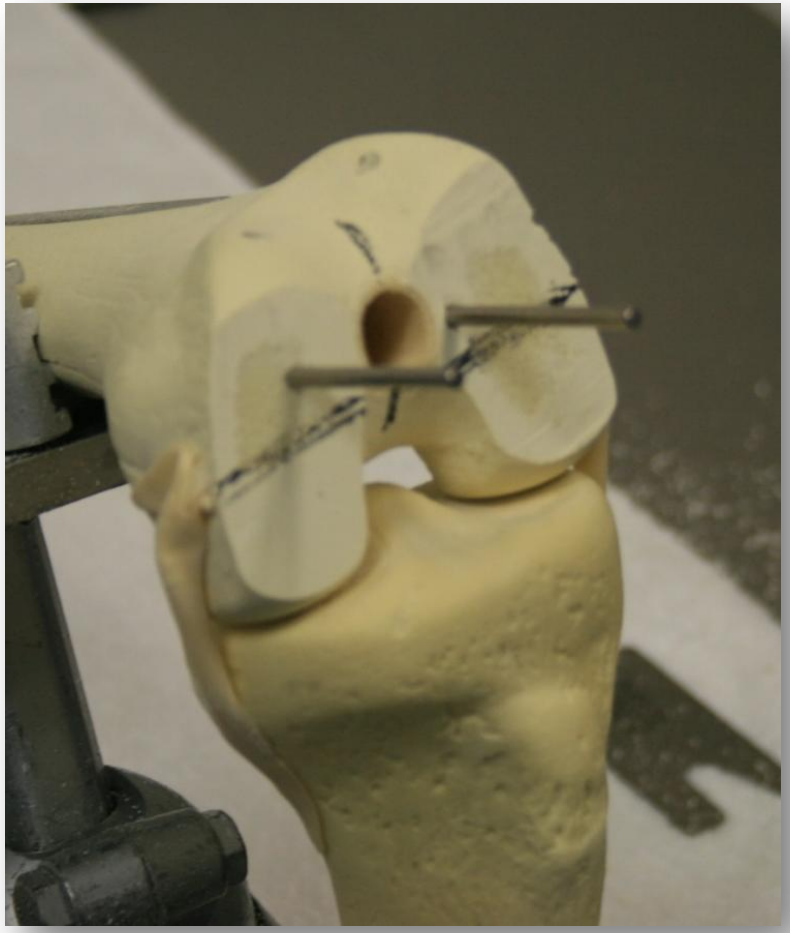
Alignment

The sizing guide is removed leaving the smooth pins in place



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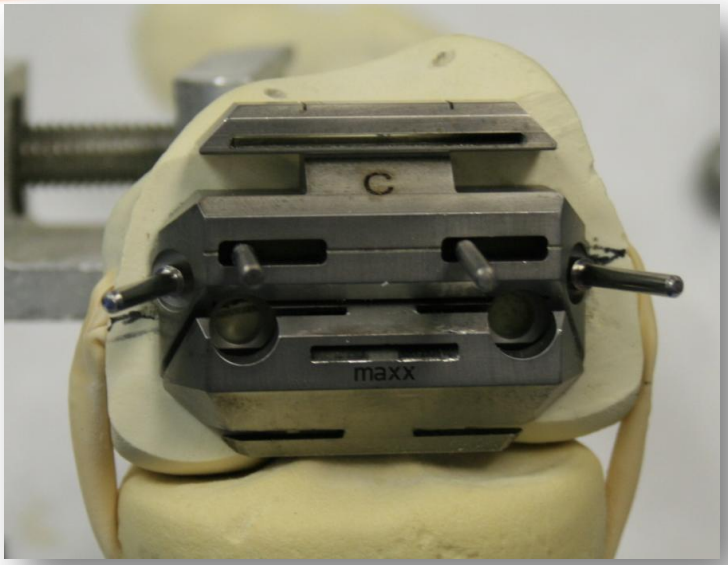
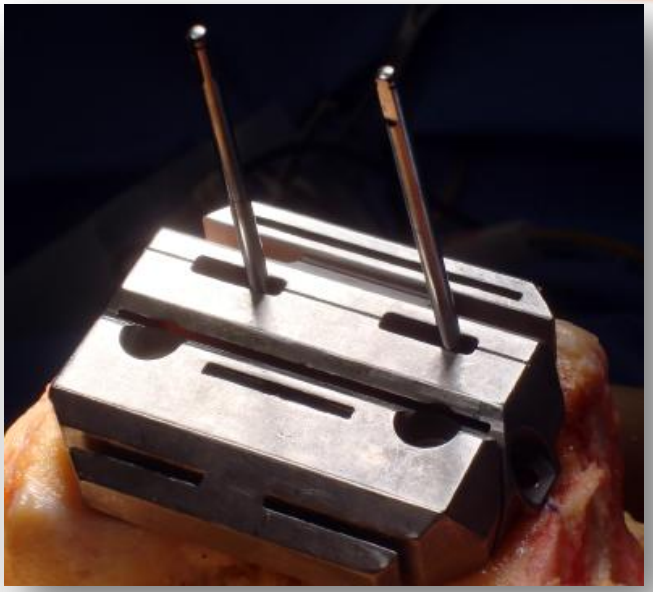
5 in 1 Cut Block





The appropriate size 5 in 1 Cut Block is positioned medial/laterally over the headless pins and then secured with headed pins through lateral slots

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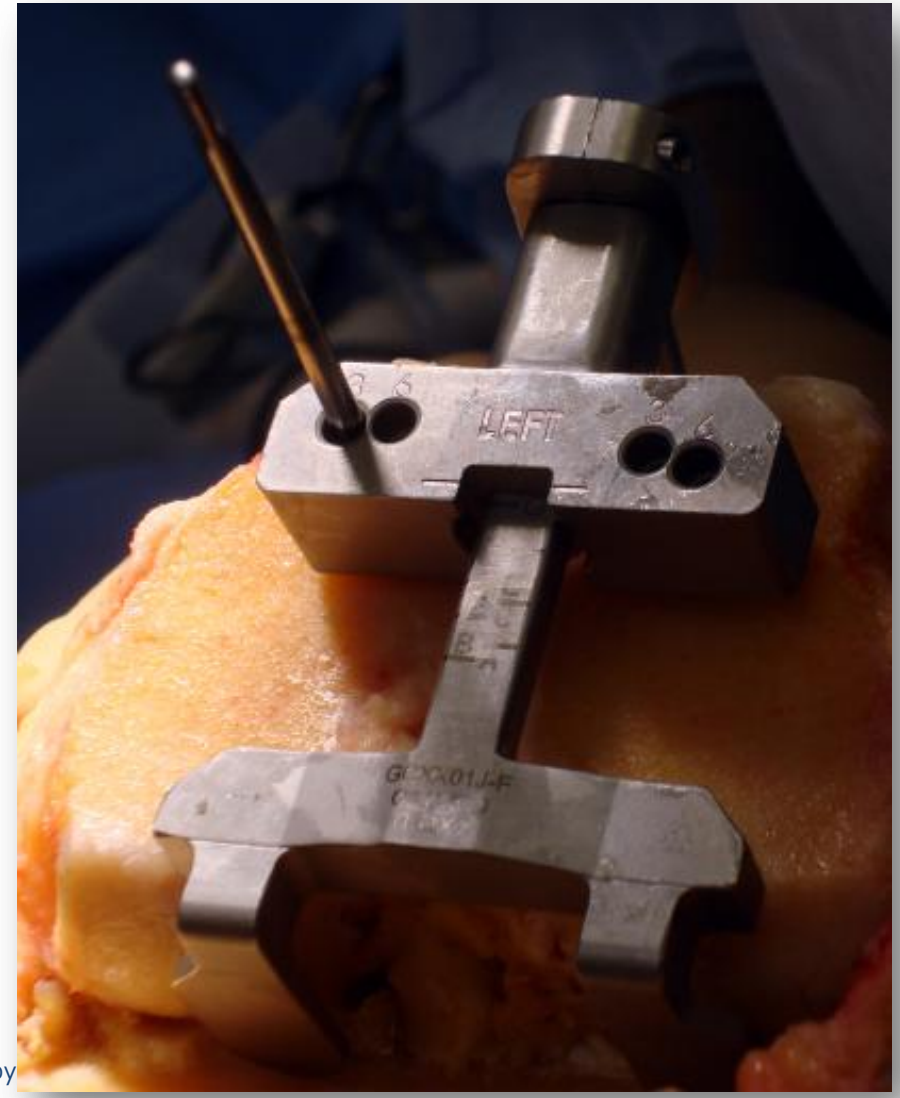
Alternate Method

An alternate that allows for matching the patients natural femoral rotation calls for placing a single pin through the 3 degree slot on the medial side



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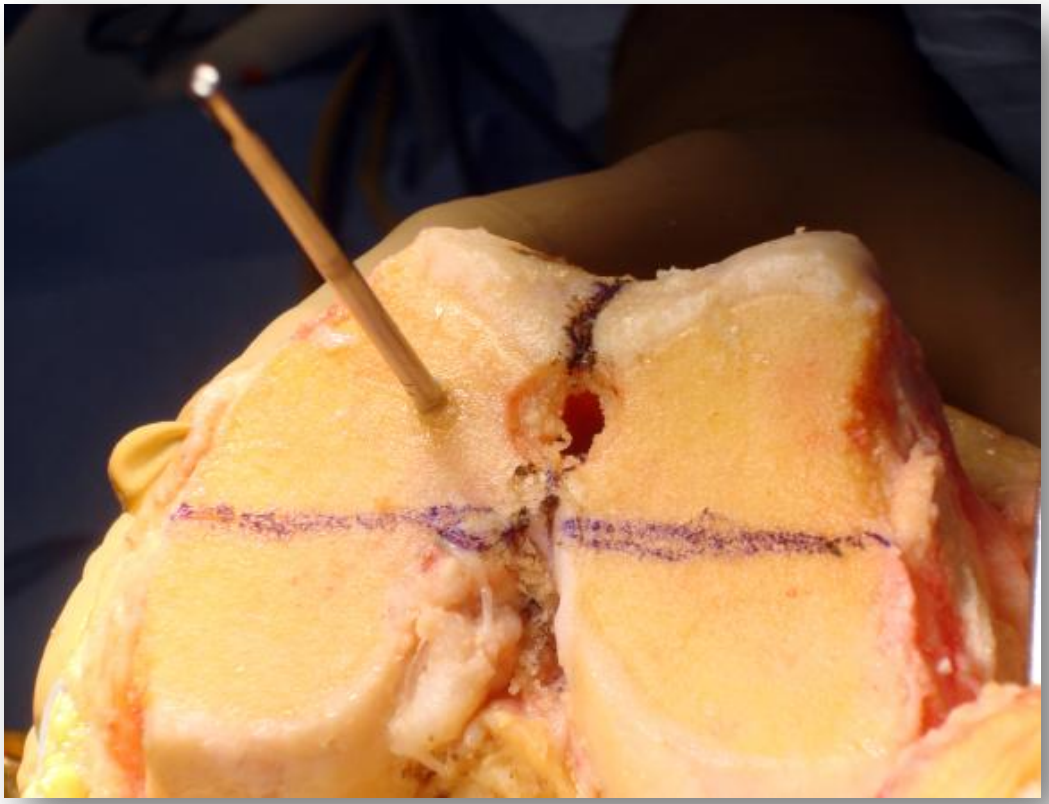
Femoral Rotation

The guide is removed, Whiteside's Line and the Epicondyer Axis are marked



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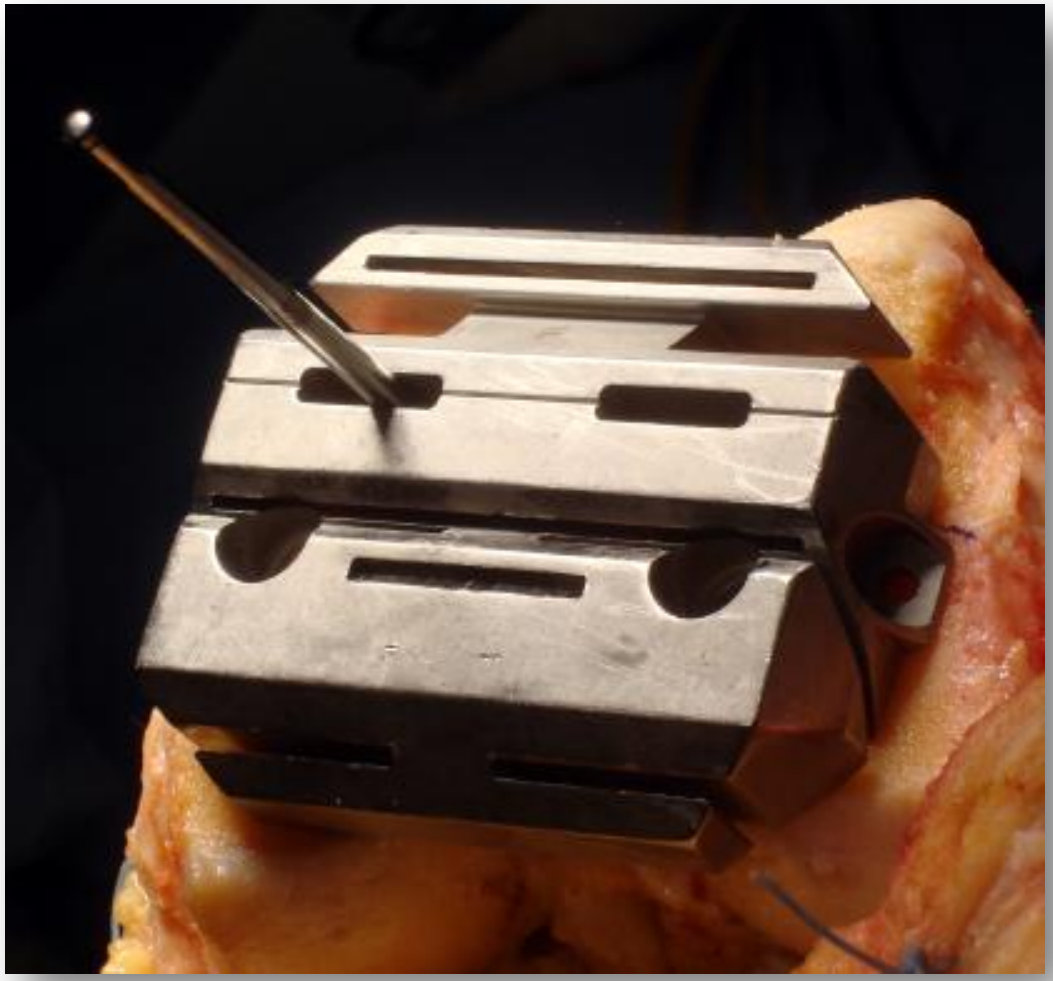
Femoral Rotation

The 5 in 1 cut block is placed over the single pin and aligned with the patient's femoral rotation



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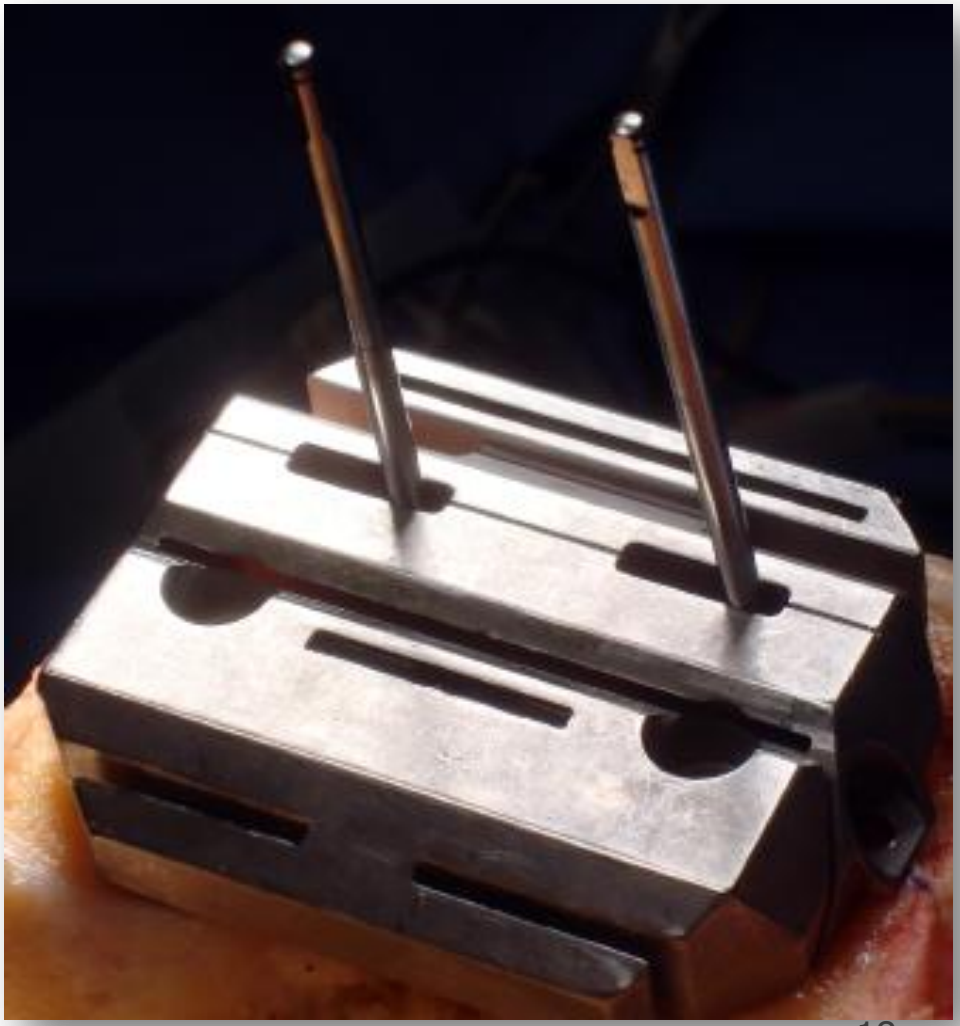
Femoral Rotation

The second pin is then placed to secure the block in place



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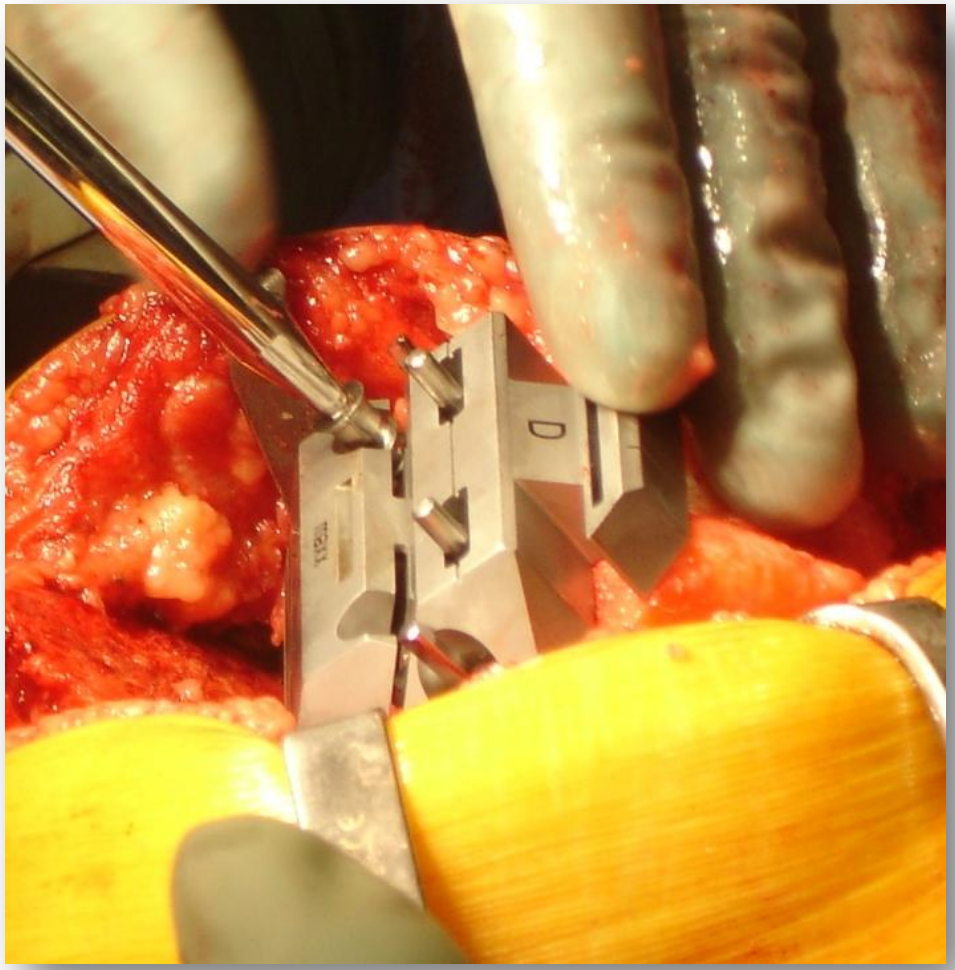
6.5 Cancellous Screws

Place 6.5 x 35mm screws through two lug slots – the screw will assist with fixation and in addition create the lug holes for the femoral component (care is taken not to over turn the screws maintaining fixation)



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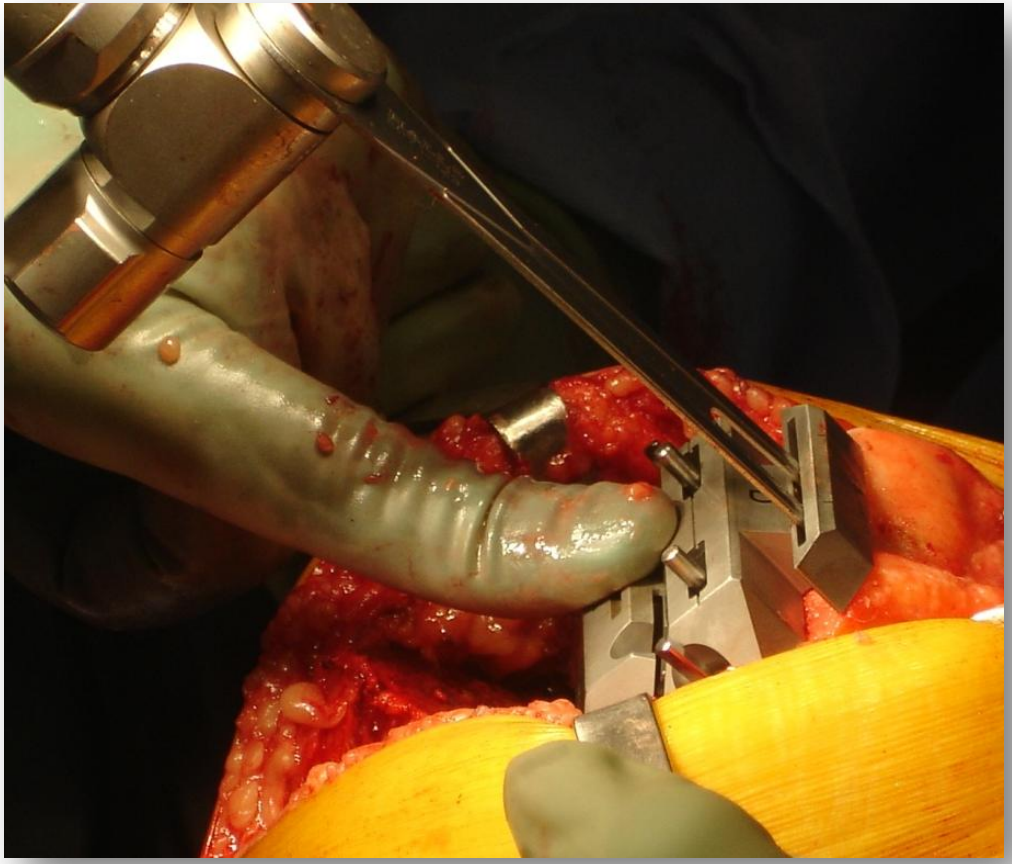
Additional Stability

Additional stability can be achieved with finger pressure on the center of the block



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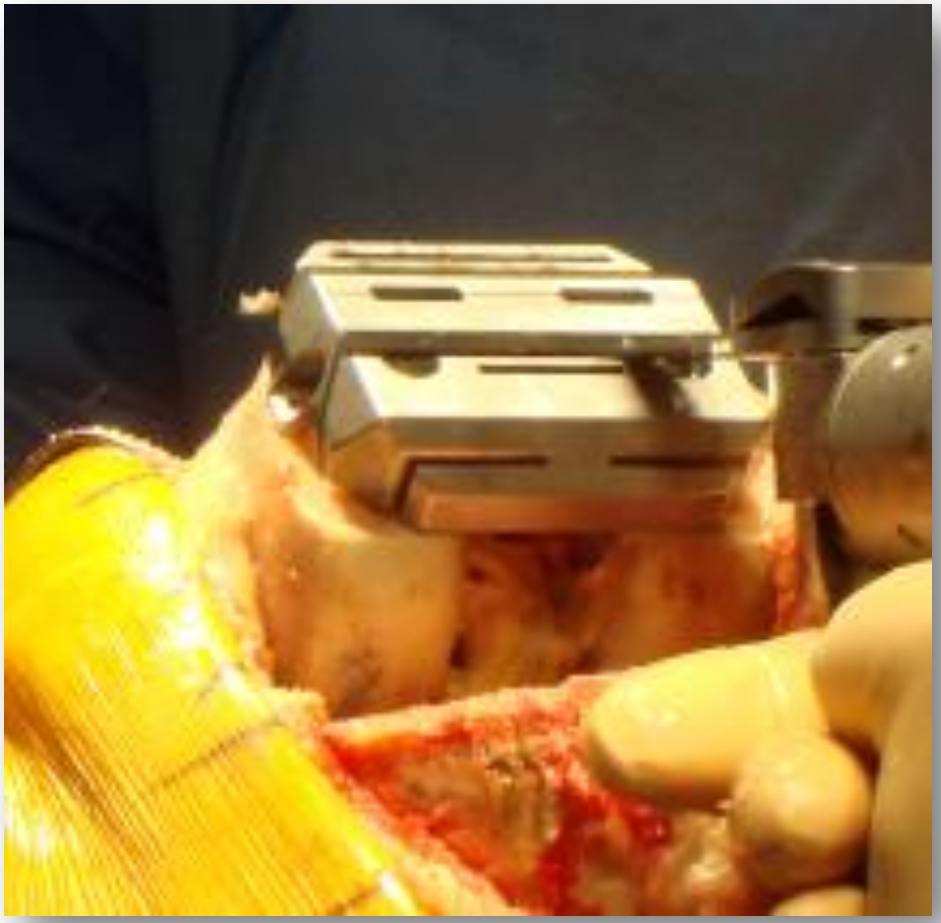
Perform Cuts as Detailed

Using an oscillating saw perform cuts in the following order:

1. Anterior cut
2. Posterior cut
3. Anterior Champher cut
4. Posterior Champher cut
5. Trochlear cut



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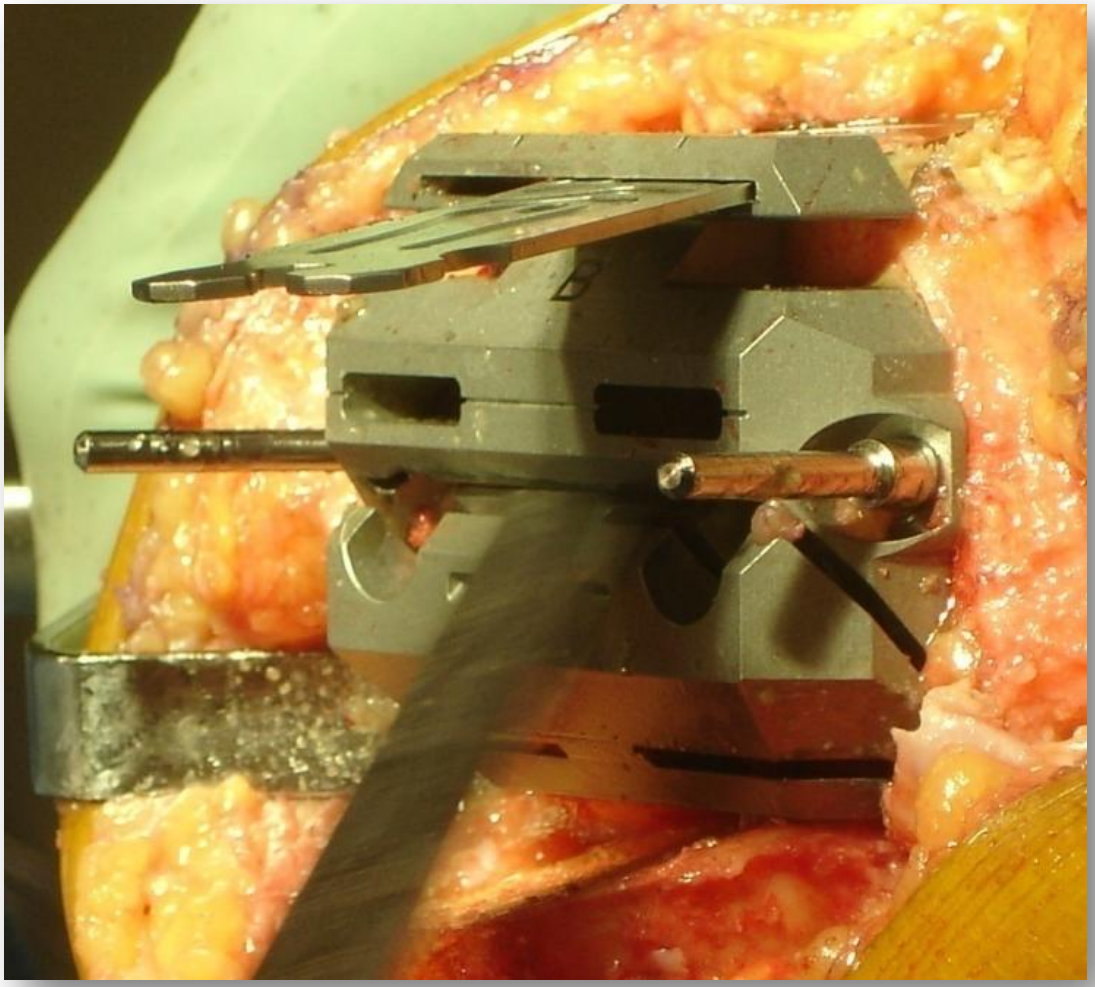
Anterior Stability

An extra level of stability can be achieved by placing a loose saw blade or feeler gauge through the anterior slot after the anterior cut is made



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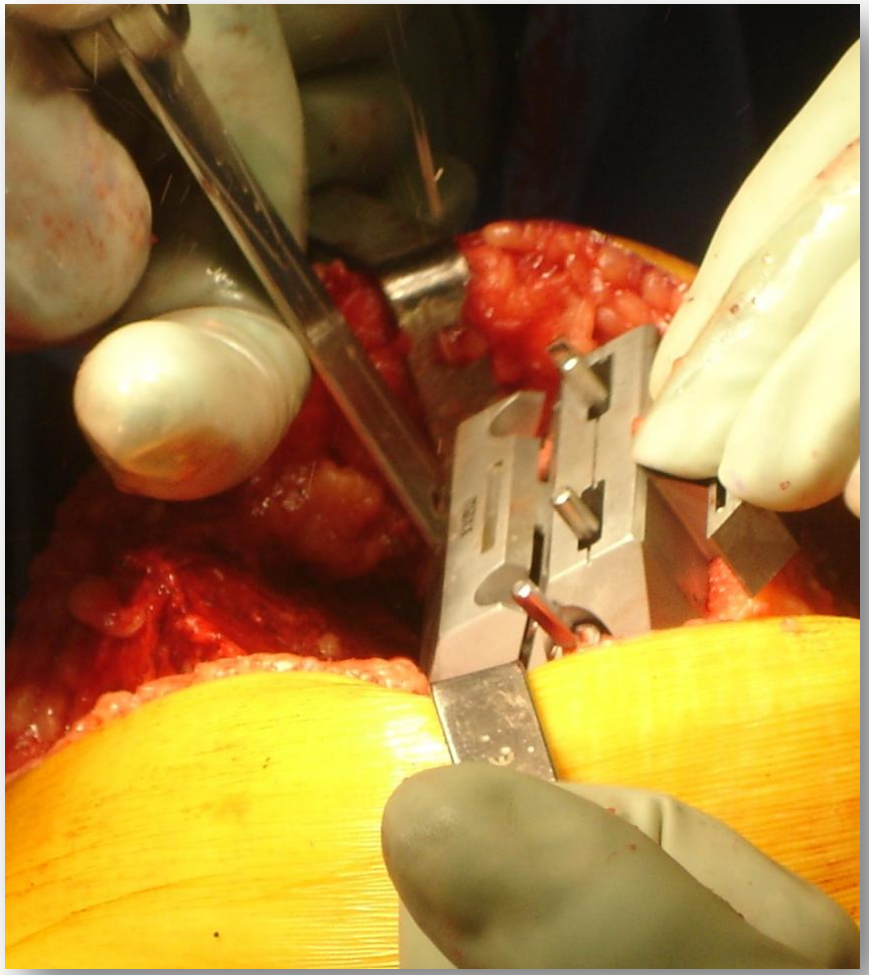
Posterior Cut

Care must be taken while performing the posterior cut not to flex the blade in the capture. This could put torque on the block moving it out of position



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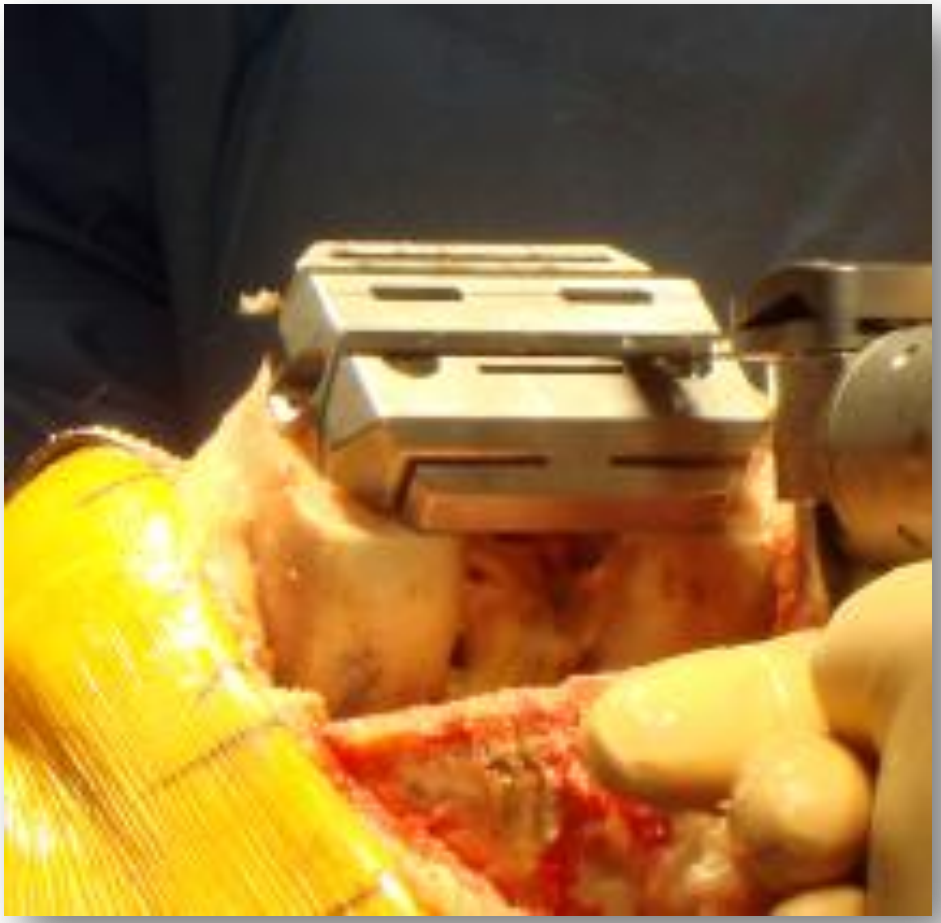
Champher Cuts

The headless pins must be removed before champher cuts can be made. A reciprocating saw can be used to make the Posterior Champher cut as this causes most vibration



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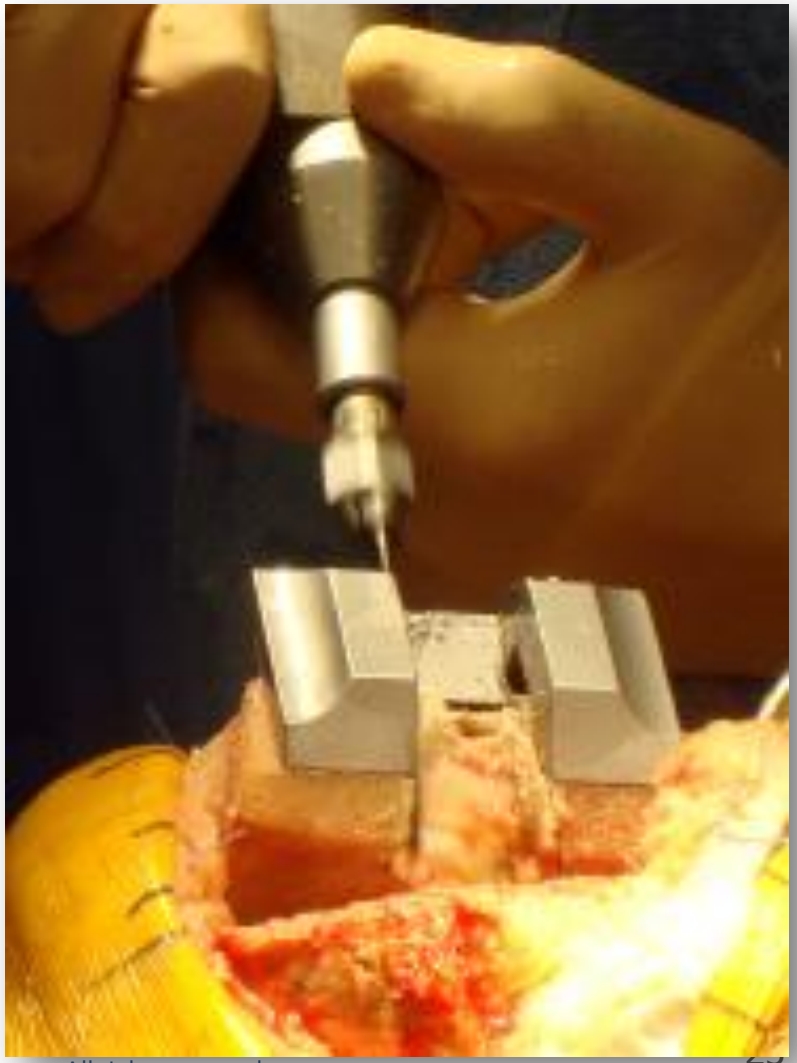
PS Cut Block

The PS Cut Block is put in place and the cut finished with a double edged reciprocating blade



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Extramedulary Tibial Alignment guide

The guide is positioned distally with the spring around the ankle

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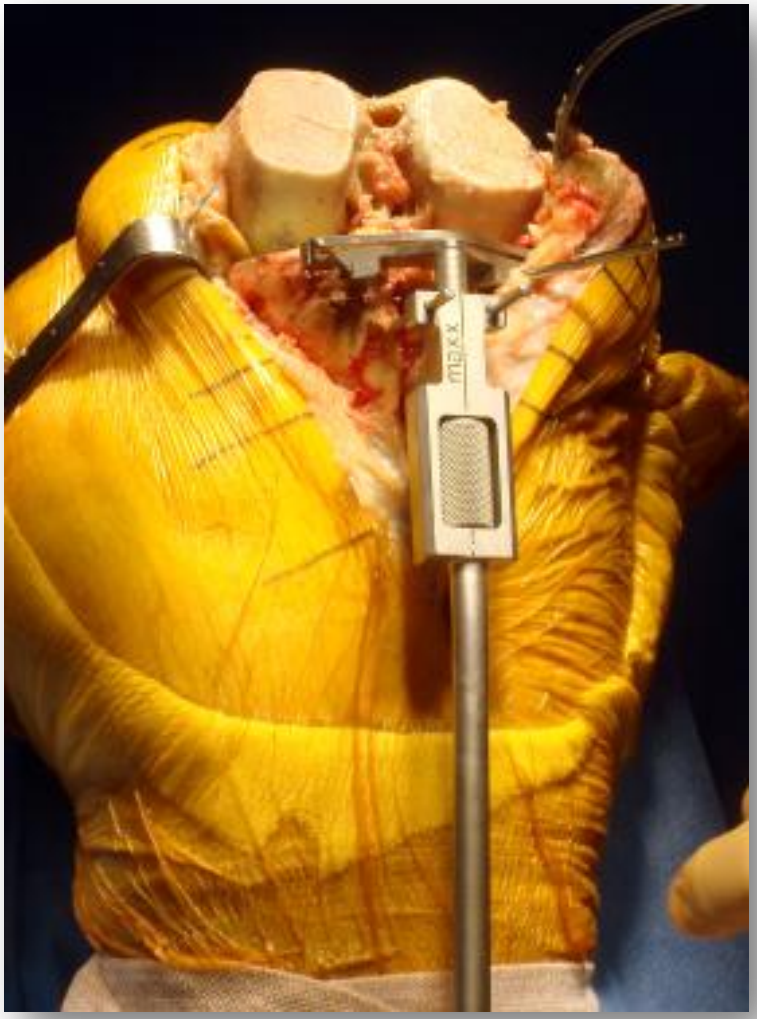
Gross Adjustment

The guide is then positioned in line with the mechanical axis of the tibia and gross adjustment carried out then fixed with one smooth pin through the guide



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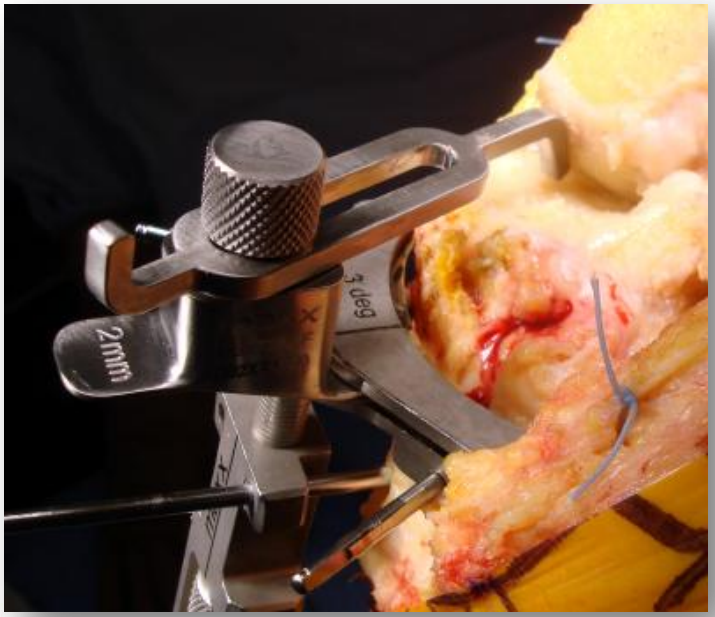
Tibial Stylus (Optional)

The stylus is used to determine the depth of cut. 9mm off of intact cartilage, or 2mm off the defect



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Tibial Cut

The proximal portion of the guide is pinned after fine adjustment and the cut is made The guide is fixed at 3 degrees of posterior slope

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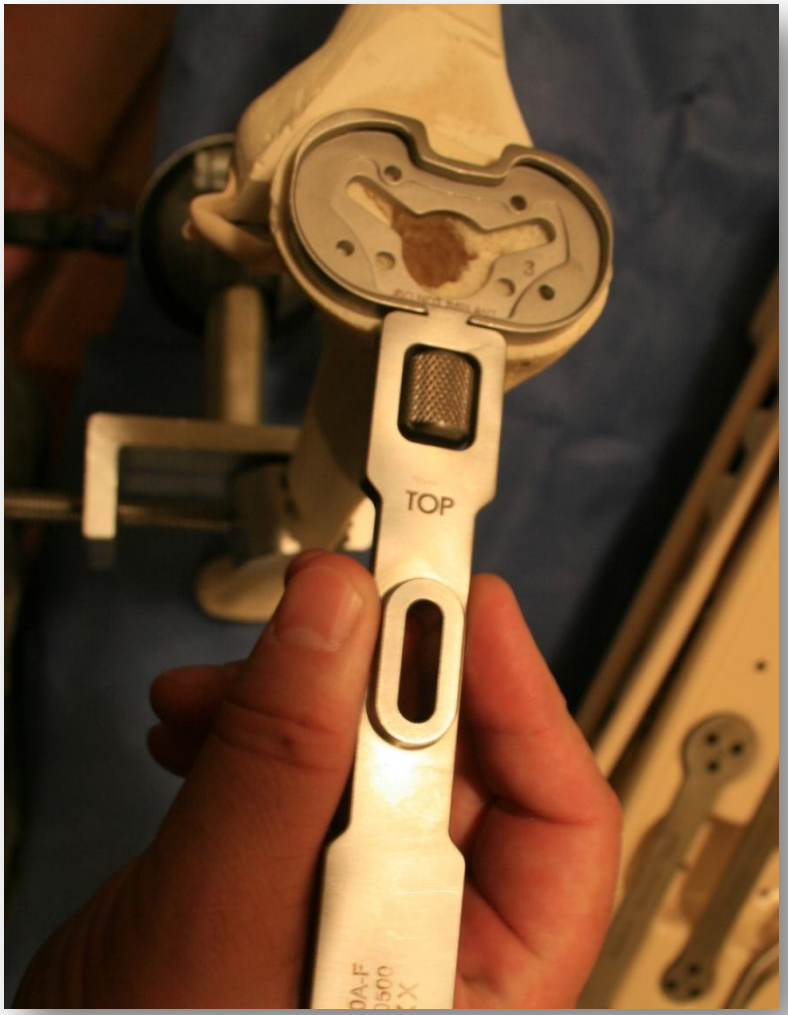
Tibial Preparation - Baseplate Trial

The appropriately sized tibial baseplate trial is chosen



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Tibial Alignment

A drop alignment rod is used to verify alignment

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Tibial Preparation -

The tibial baseplate trial is pinned in place

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Tibial Broach Housing

The Tibial Broach Housing (i.e. Keel Punch Guide) is placed in position for the keel punch

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Tibial Entry Reamer

Reaming is accomplished with the 14mm Tibial Entry Reamer

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Tibial Broach

The Tibial Broach (i.e. keel punch) is impacted

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Trial Implants

Femoral and tibial trials are now placed and a full range of motion is carried out prior to implanting definitive implants

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Patella

The patellar surface is resected and the Patellar Drill Guide used to assess size. The Peg drill used through the guide to prepare for patellar lugs

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Patella Tracking

The Patella Trial is put in place and the leg taken through a range of motion to evaluate patellar tracking

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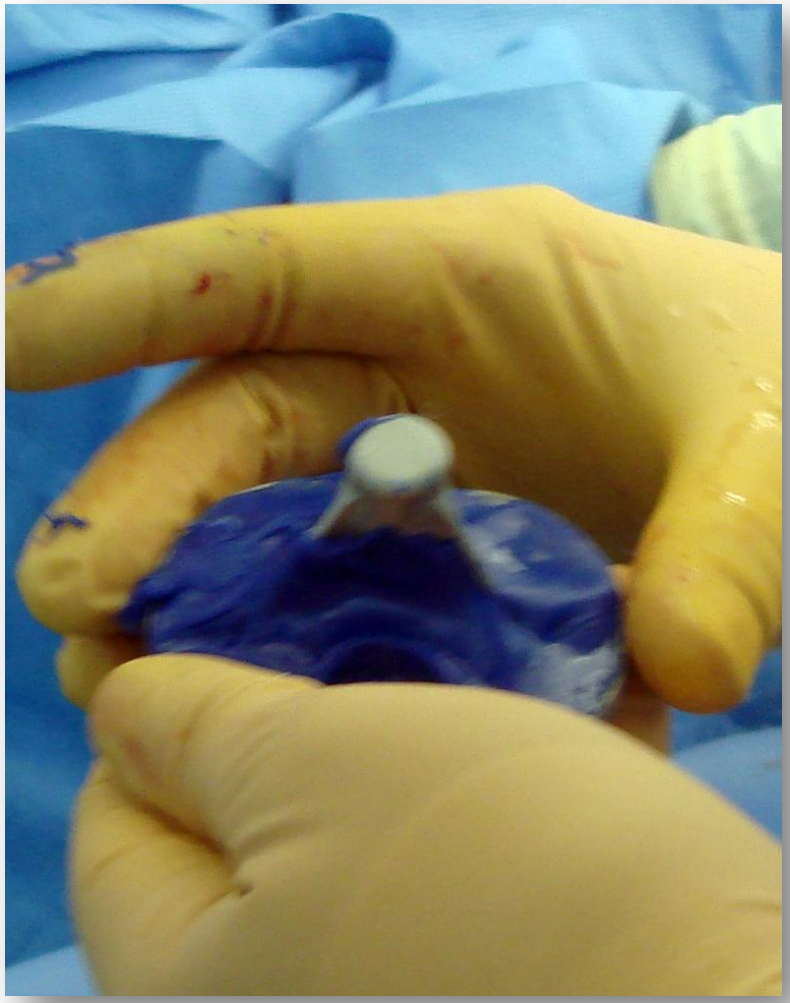
Implantation

Bone cement is mixed and the bone prepared for cementing implants.

Recommended order of implantation:

1. Tibial component
2. Femoral component
3. Patellar component



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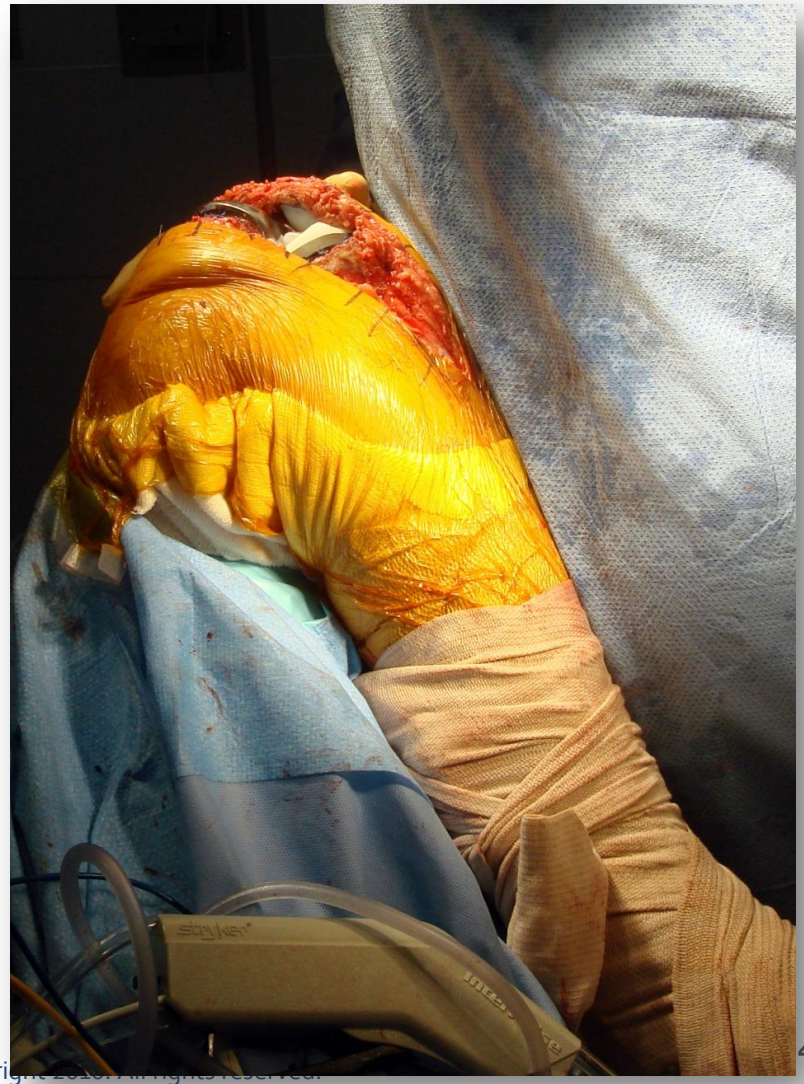
Final Range of Motion

The leg is then taken through a final range of motion to verify placement and alignment



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Why use the Freedom Knee?

- Better patella tracking
- No patella impingement
- Conservative bone resection
- Low profile box cut
- No anterior subluxation of femur
- No post–cam disengagement
- Eccentric cam action allowing for tibial rotation
- MCL attachment preserved with significant bone sparing posterior condylar cut
- Low profile anterior flange
- No medial lateral overhang
- No edge loading at deep flexion

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Thank You.

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