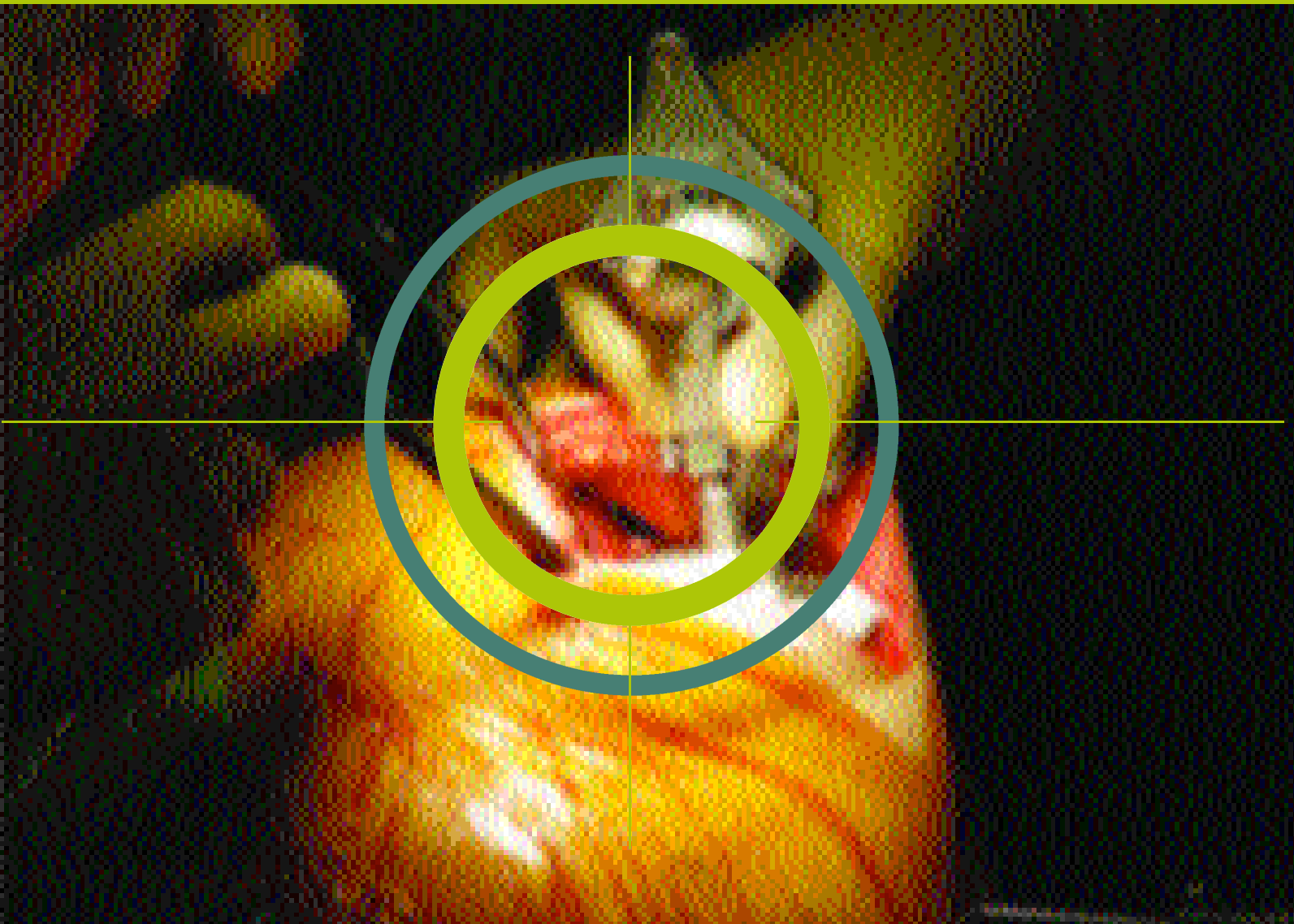
stryker

Joint Replacements

Minimally Invasive Knee Surgery (MIS) with Navigation

Operative Technique

Mini Mid Vastus Approach



Contents

Introduction

This document outlines the operative technique of a computer navigated, minimally invasive (MIS) Total Knee Arthroplasty (TKA) technique using a mid vastus approach. The technique is for the Scorpio® primary CR or PS implants using the Stryker Knee Navigation system and dedicated MIS universal cutting instrumentation developed for this unique procedure.

A computer assisted MIS TKA involves a number of new surgical steps and techniques. It is therefore strongly recommended the surgeon attends a Stryker training seminar prior to undertaking a case. Thereafter the surgeon is encouraged to conduct a number of conventional, open navigated surgeries before embarking upon the MIS technique.

Scientific advice and text :
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UK

Patient Set Up

The patient is placed supine on a standard operating table.
A tourniquet is applied and standard skin preparation and draping is undertaken. The surgeons usual preference of supports is used, however closely placed lateral supports may interfere with the initial Navigation hip registration.

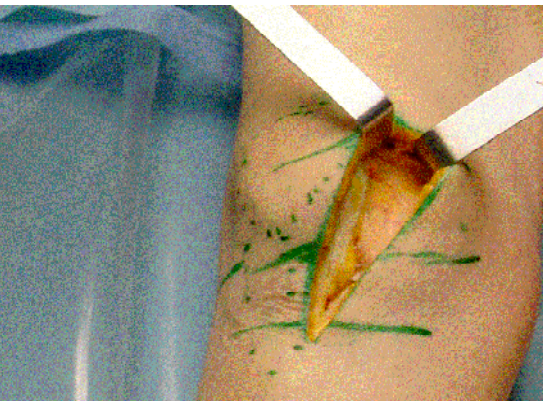
Or

A suspended leg technique is used. Here the patient's limb is placed in a leg holder and the limb then suspended free from the operating table. Because of the need to rotate the hip joint during the Navigation set up, the limb should not be fastened in the leg holder but simply left to rest in the curvature of the support

Surgeon Tip

Whilst unconventional for many surgeons, the suspended leg technique allows free movement of the knee joint, with the joint in a distracted position. This greatly aids visualisation with varying soft tissue 'windows' throughout flexion, mid flexion and extension.

Surgical Exposure



The patient's patella, patella tendon, medial tibial plateau and distal femur are marked out using a surgical marker pen. An incision (approx 8cm in extension and 10cm in flexion) is marked out medial to the patella and patella tendon.

The skin and underlying subcutaneous tissue is then incised to show the underlying knee retinaculum. At the superior end of the wound the fibres of the vastus medialis muscle (VMO) are seen to insert into the medial side of the patella. A 2cm stab wound is made in the VMO fibres at the edge of the patella in a 10 or 2 o'clock position depending on which knee is being operated on. The incision is then continued down along the side of the patella to the inferior aspect of the wound.

Distal soft tissue release

Through the medial arthrotomy wound, the fat pad is partially excised together with the anterior horn of the medial meniscus. An interval is created on the medial side by releasing the antero-medial knee capsule/retinaculum from the anterior surface of the tibia. This further aids visualisation of the medial side of the knee and creates a pocket into which the dedicated cutting blocks are placed.

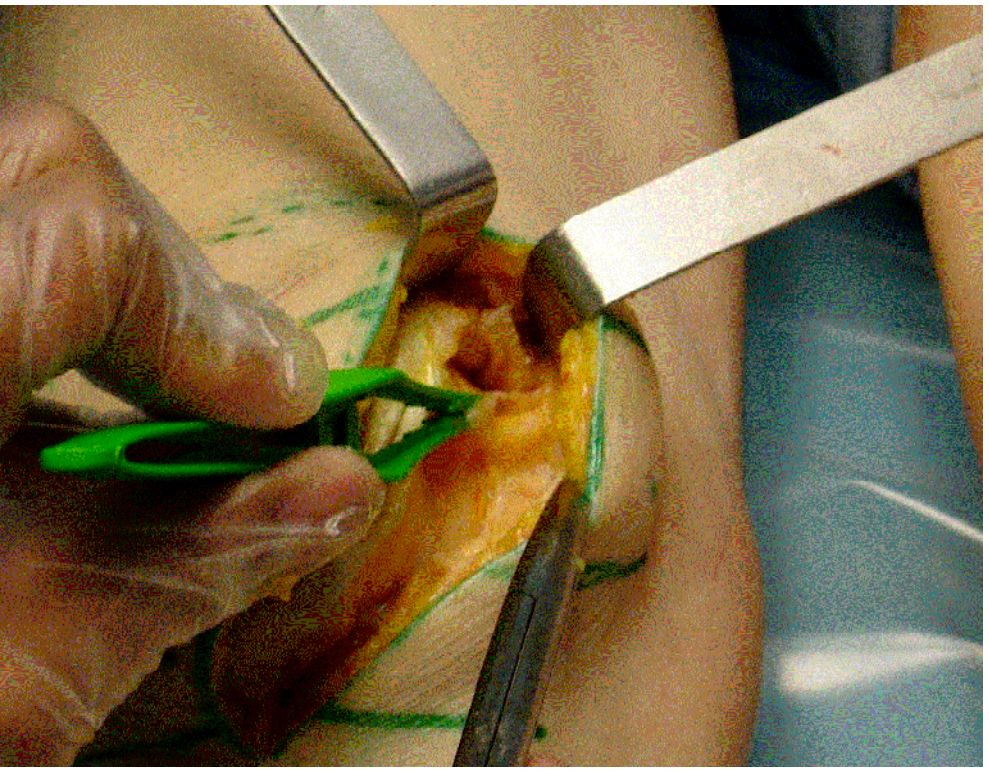
With the knee in mid flexion/extension, a soft tissue retractor (e.g. Langenbeck) is placed under the patella tendon close to its insertion into the tibia. A small segment (no more then 1cm) of the patella tendon can be released from the tibial surface to aid exposure. With the retractor in position the surgeon can visualise the antero-lateral surface of the tibia and anterior horn of the lateral meniscus. This can be removed under direct vision.

Surgical Exposure

Proximal soft tissue release.

The surgeon's attention is now focused on the superior aspect of the wound. The leg is held in extension and two soft tissue retractors are placed under the fibres of the VMO and Quadriceps expansion. Both retractors are lifted up to visualise the supra patellar pouch. In the interval below the VMO/quadriceps mechanism, the anterior capsule is visible to the surgeon as a fine white fibrous layer. This is often attached to the undersurface of the VMO/ Quadriceps mechanism and needs to be dissected free with Meztabaum scissors. Once free it is divided longitudinally. The fat and synovial tissue over the anterior surface of the distal femur is next removed and finally any plical bands attaching the medial capsular layer to the medial side of the femur are divided to create a 'free medial gutter'.

Once the proximal and distal soft tissue releases have been performed it should be possible to easily displace the patella laterally.



Surgical Navigation Set Up and Registration

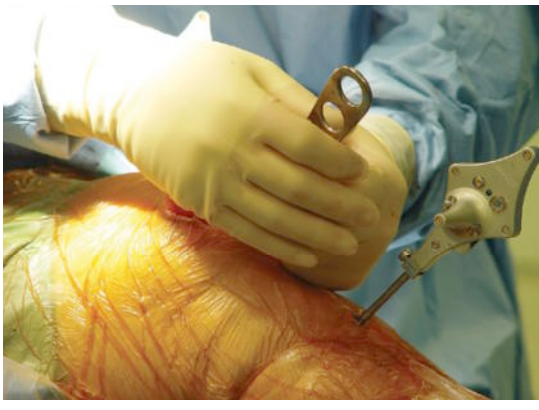
Navigation Tracker Pin Position

Femoral Pin

A percutaneous stab wound is made over the antero-lateral aspect of the femur between the IT band and vastus lateralis, 10cm(for size 3-9 femurs)-12cm (for size 11-13) from the distal femur. A drill guide is placed into the incision and a 3.2 drill is used to make a bicortical hole, in an antero-lateral to postero-medial direction. The depth is then measured and an appropriate sized tracker pin used to gain bicortical fixation. The drill guide is left in-situ as a soft tissue protector.

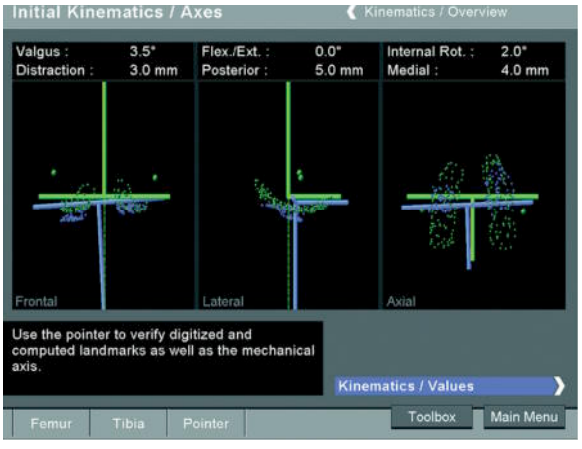
Tibial Pin

A percutaneous stab wound is made over the anterior tibial surface at least 2cm below the tibial tuberosity. A drill guide is placed into the incision and a 3.2 drill is used to make a bicortical hole in the tibia. Care must be taken when drilling through the posterior cortex of the tibia. The depth is then measured and an appropriate sized insertion pin used to gain bicortical fixation. As this pin is inserted, two fine forceps are used to lift the skin over the cortical teeth of the tracker pin.



Navigation Software Setup

The version 2.0 software is setup as for a standard procedure except that the tibial AP axis alignment is set to point digitisation. To do this go to the options menu at the top left hand side of the screen and click on the point digitisation option for tibial rotation.



Surgical Navigation Set Up and Registration

Initial Navigation Anatomical Mapping

Centre of Femoral Head

This is performed in the same way as a standard open procedure. The on screen instructions guide the surgeon.

Distal Femoral Surface Mapping

- Medial epicondyle
  This is identified through the medial incision and can be directly digitised. The surgeon will return to this mapping after the distal femoral resection.

- Lateral epicondyle
  It is not possible to directly map this landmark through the incision used. An approximation of the landmark is made percutaneously. The surgeon will return to this mapping after the distal femoral resection.

- AP axis
  This is mapped using the same technique as is used in the open procedure. The surgeon will return to this mapping after the distal femoral resection.

- Centre of femur
  This is mapped using the same technique as is used in the open procedure.

- Medial femoral condyle
  This is mapped through the incision. By moving from extension to flexion, the entire surface of the condyle can be mapped.

- Lateral femoral condyle
  This is mapped through the incision. A retractor is placed under the patella/ patella tendon. By moving from extension to flexion, the entire surface of the condyle can be mapped.

Surgical Navigation Set Up and Registration

Tibial Surface Mapping

- Medial tibial plateau
  This is mapped through the incision with the knee in flexion.

- Lateral tibial plateau
  This is mapped through the incision with the knee being manipulated from extension to mid-flexion with the knee in varus.

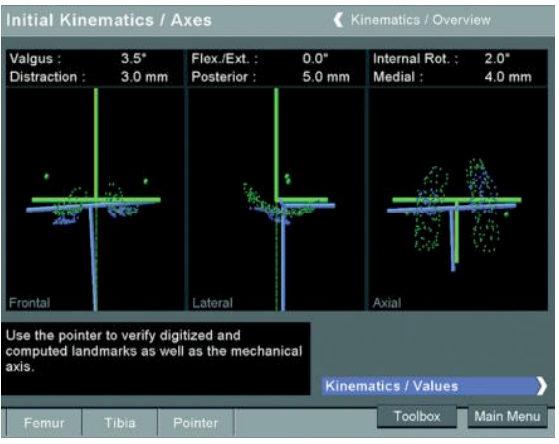
- Centre of knee
  This is mapped through the incision with the centre of the ACL footprint used as a landmark

- AP axis
  A point on the medial third of the tibial tubercle is used and digitised.

Ankle Mapping

This is performed in the standard way.

Navigation Data



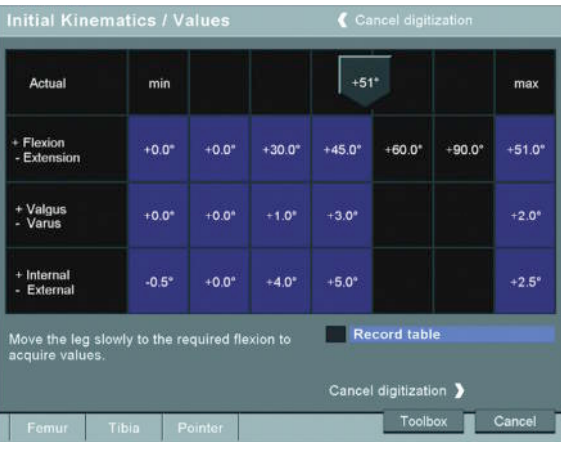
Initial Kinematics

Once the anatomical mapping of the femur has been performed, the leg can be taken through a range of motion. The kinematics real time screen has three separate components.

The left third of the screen allows the to surgeon to determine the degree of varus/valgus present in the knee. The surgeon can determine how this deformity changes through a range of movement from extension to deep flexion. It is also easy to determine how much of the deformity is fixed and how much is correctable by placing a gentle corrective force across the deformity. This again can be performed through a range of movement. By performing this simple manoeuvre, a picture of the deformity can be built up, including the fixed and correctable components, to aid the surgeon establish which soft tissue releases may be required.

The middle third of the screen allows the surgeon to determine the degree of flexion/ extension present in the knee. It is easy to determine if there is a flexion contracture present and how much of the deformity is fixed by placing a gentle corrective force across the deformity.

The right third of the screen illustrates to the surgeon the rotational relationship of the femur and tibia.



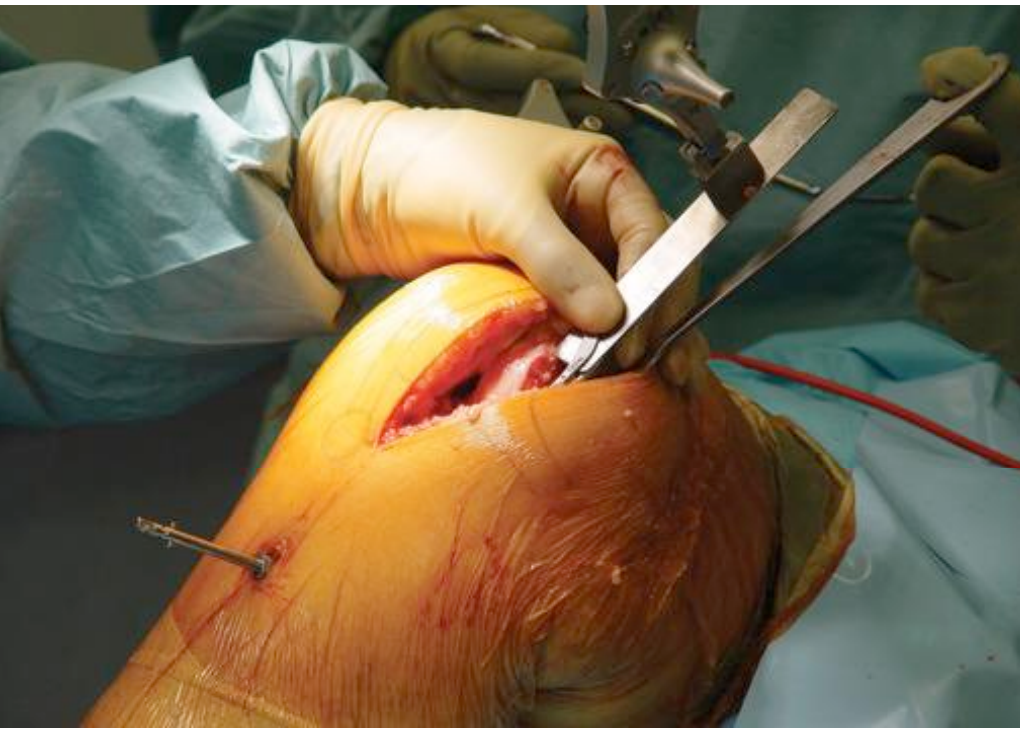
Kinematics Data Table

By taking the limb from maximal extension to maximum flexion, with a neutral force through the heel, the deformity can be captured in a tabular format. It is useful to compare this initial table to the tables produced after the trial implants and final components have been inserted to assess how the deformity has been corrected.

Bone Resection

Distal Femoral Resection

The Navigation programme is then advanced to the distal femoral resection screen using the hand held Navigation working tool.



The distal femoral resection requires the surgeon to position the MIS Navigation Cutting Guide in relation to the three axes of freedom- varus/valgus, flexion/extension and distal resection depth.

The tibial tracker is attached to the resection plane probe which in turn is placed into the captured slot of the cutting guide. The cutting guide/tracker construct is then held by the surgeon with a 'tripod grip'. The cutting guide/ tracker construct is now an 'active tool' whose virtual position can be monitored on the computer Navigation screen.

The surgeon first places the cutting guide against the medial surface of the femur. Then in a similar method to arthroscopy, watches the Navigation screen as he moves the guide into the desired position with one hand, leaving the second hand free to hold the pin driver.

Depth of resection is achieved by moving the guide in a proximal/ distal direction.

Flexion/ extension of the guide is achieved by rotating the guide in the appropriate flexion/extension direction.

Lastly varus/ valgus positioning of the cutting guide is achieved by tilting the block in a medial or lateral direction relative to the long axis of the femur.

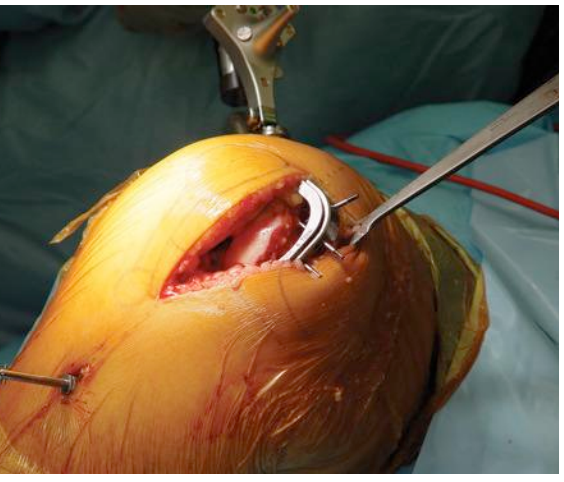
MIS Navigation
Ext Cutting Guide
6676-9-250/255

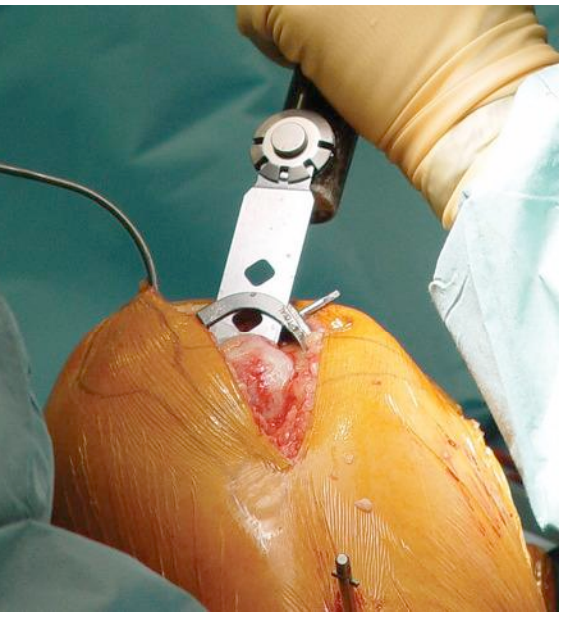
MIS Navigation
Std Cutting Guide
6676-9-350/355

MIS Navigation
Ext Resection Plane Probe
6676-9-160

MIS Navigation
Resection Plane Probe
6676-9-150

Bone Resection

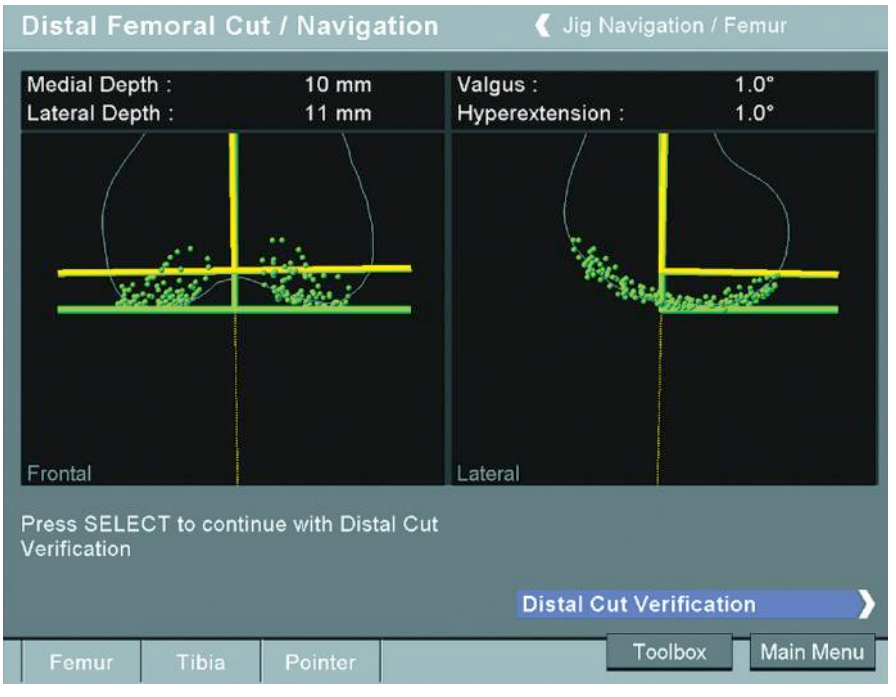




Once the cutting guide position is set to within a degree of the final position the first pin is inserted. This gives the guide some stability against the side of the femur. The guide's position can still be altered by rotating around single pin to gain correct flexion/ extension, or tensioning the second fixation pin to alter varus/ valgus. A second fixation pin is then inserted. Final fixation of the instrument is achieved by inserting a pin into the cross pin hole.

A blunt curved retractor is placed under the patella/ patella tendon, with its tip in the lateral gutter of the knee. This retractor acts as a tissue protector rather then a true retractor, as it separates the quads/ patella mechanism from the saw blade.

With the knee in flexion, a saw is then used to cut from a medial to lateral direction through the flat surface of the guide. The curved portion of the guide can be used to cut the medial femoral condyle in an antero-posterior direction. The resected part of the condyle is removed and the resection plane probe placed on the distal cut surface to verify the depth and accuracy of the cut. This is then recorded on the femoral cut verification screen.



Femoral Retractor
8050-5002

Surgeon Tip

When positioning the MIS Navigation Cutting Guide, the long flat surface of the instrument should be placed against the side of the distal femur, whilst the curved portion of the guide wraps over the anterior part of the femoral condyle.

Bone Resection

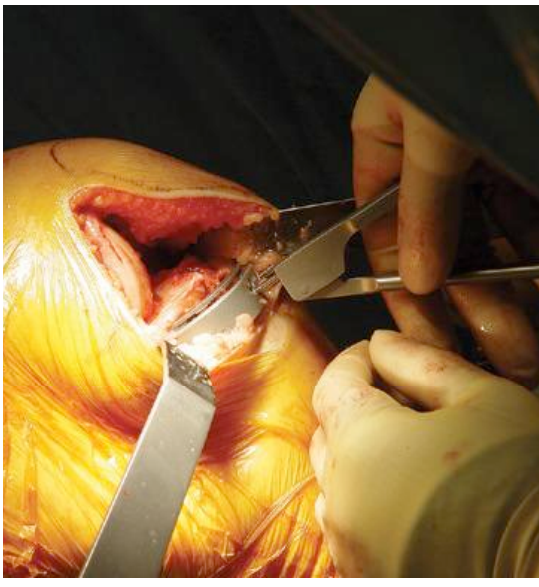
Proximal Tibial Resection

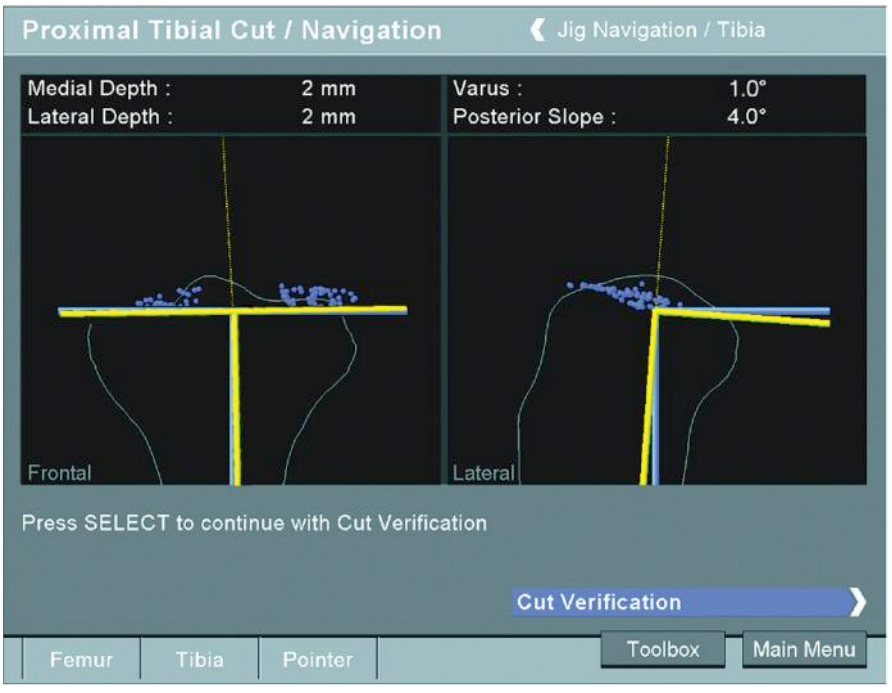
The Navigation programme is next advanced to the proximal tibial resection using the handheld Navigation working tool.

The same cutting guide is used, as for the distal femoral resection, with the resection plane probe placed into the captured slot. A similar freehand technique of cutting guide placement is also used, as for the distal femur.

The cutting guide is first placed into the wound and the medial soft tissue envelope, created during the initial dissection.

The surgeon then orientates the guide so the correct depth, varus/ valgus and slope are achieved. The depth is achieved by proximal/ distal movement of the block, whilst varus/ valgus is achieved by tilting the instrument in medial/ lateral direction about the long axis of the tibia. The desired slope for resection is achieved by tilting the guide forwards or backwards.





Once again the guide is held with a 'tripod grip', and the virtual movements of the guide can be monitored in real time on the Navigation screen.

MIS Navigation
Ext Cutting Guide
6676-9-250/255

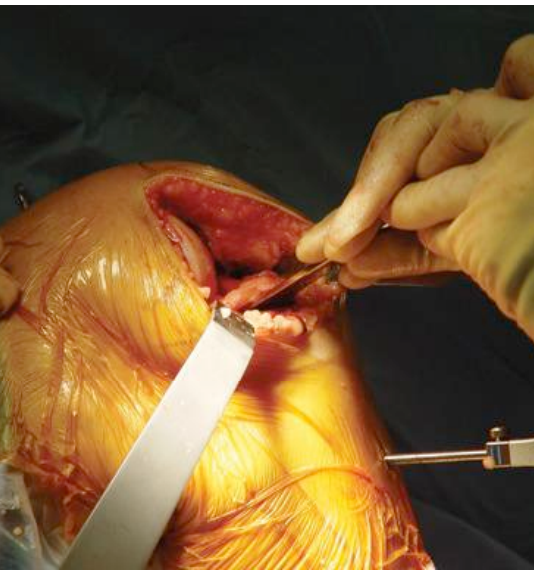
MIS Navigation
Std Cutting Guide
6676-9-350/355

MIS Navigation
Ext Resection Plane Probe
6676-9-160

MIS Navigation
Resection Plane Probe
6676-9-150

Bone Resection

In a similar fashion to the distal femoral resection, the varus/valgus, depth and slope of the guide are set to within 2 degrees with coarse hand movements, before adjusting the final position with finer hand movements. Once the cutting guide position is set to within a degree of the final position the first pin is inserted. This gives the guide some stability against the front of the tibia. The guide's position can still be altered by rotating around the single pin to gain correct varus/ valgus, or tensioning the second fixation pin to alter anterior/ posterior slope. A second fixation pin is then inserted and the position of the guide checked on the Navigation screen. If satisfactory a third cross pin is inserted.



A retractor is placed under the patella ligament and another placed to protect the MCL. With the knee at 90 degrees of flexion, a saw blade is then introduced into the captured slot and the medial part of the tibial plateau cut through the anterior portion of the cutting guide. The saw blade is then turned obliquely through the curved portion of the cutting guide and the anterior portion of the lateral tibial plateau is cut. Next a curved retractor is placed behind the central tibial plateau, to protect the PCL, and the central and posterior parts of the proximal tibia are cut. Finally a retractor is inserted between the LCL and lateral tibial plateau, and the posterior-lateral tibial plateau is cut. This latter step needs to be performed carefully to avoid damage to the LCL.

The knee is then placed into extension, where the previously resected distal femur provides space. An osteotome is used to free the cut proximal plateau and graspers are utilised to remove the resected piece of bone. Soft tissue attachment to the resected bone is removed from medial side then the posterior aspect and finally the lateral side. The resected piece of bone is then removed.

Once the resected bone has been removed the resection level can be measured with the resection plane probe to check its accuracy. The final cut can then be recorded on the navigation tibial cut verification screen.

Surgeon Tip

If the surgeon finds difficulty during this manouvere, then the plateau can be divided with an osteotome and removed in two or more separate pieces.

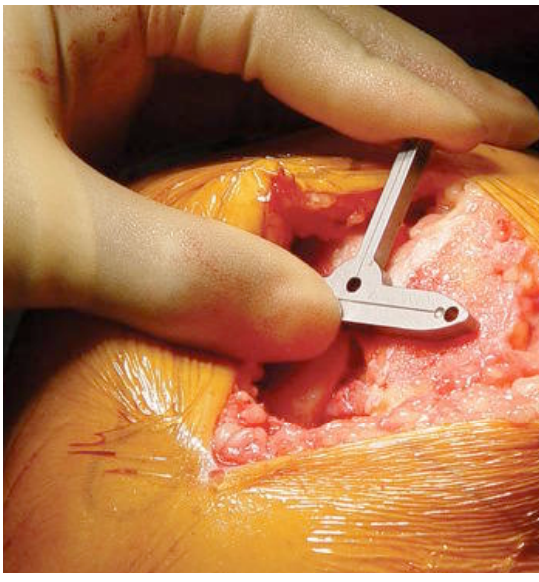
Caution

When dissecting in the posterior lateral corner of the knee the surgeon needs to take care not to damage the lateral geniculate vessels which may, if damaged cause post operative bleeding.

Bone Resection

Re-mapping of Femoral Rotation Landmarks

During the initial anatomical landmark registration, the lateral epicondyle is approximated. With the distal femur resected, the rotational landmarks of the femur are remapped using the MIS Navigation Epicondylar Guide. This guide is based on the 90 degree relationship between Whitsides AP axis and the transepicondylar axis.



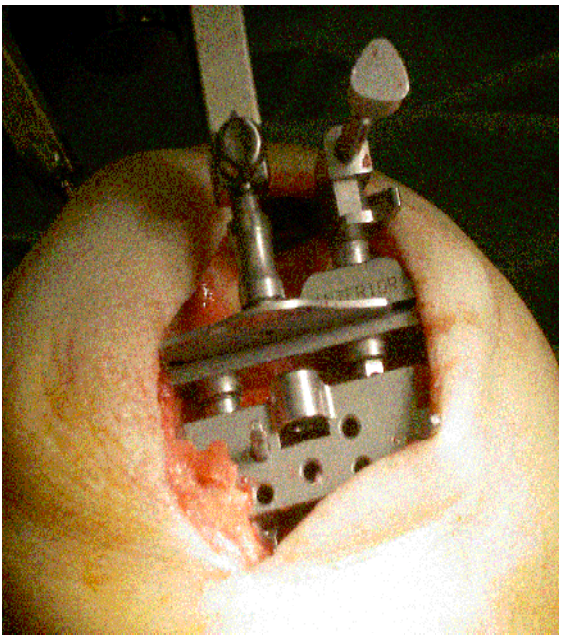
The long arm of the alignment guide is placed in line with Whitesides AP axis, whilst the tip of the medial arm is aligned with the medial epicondyle. This latter landmark is easily palpable through the medial wound. Place one pin through the centre hole of the MIS Epicondylar Guide. Rotate to the desired position and insert the second pin into the medial hole.

With the AP axis and medial epicondylar axis identified, the precise relationship means that the lateral tip of the device automatically points to the position of the lateral epicondyle. All three landmarks are directly referenced off the alignment guide and are digitally referenced using the Navigation working tool.

MIS Navigation
Std Epicondylar Guide Body
6676-9-300

MIS Navigation
Ext Epicondylar Guide Body
6676-9-310

Bone Resection



Anterior Skim Resection

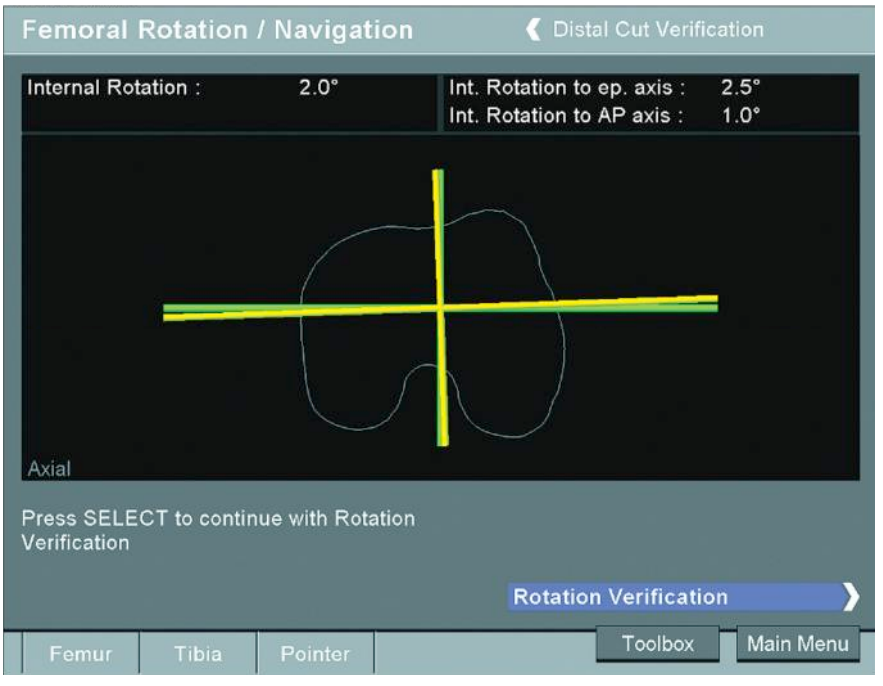
The Femoral Alignment Guide consists of a base block and an Anterior Skim Cutting Guide. The two are assembled outside of the wound and then placed against the distal resected femoral surface. The base block is then rotated to the correct position by the placing the Resection Plane Probe in the captured slot and rotating the block as guided by the Stryker Navigation System.

Once the base block is correctly positioned, it is pinned in place using the angled fixation pin holes.

With the base block pinned against the distal femur, the Anterior Skim Cutting Guide is elevated upwards and the offset stylus attached. The length of the Femoral Stylus on the Anterior Skim Resection Guide may be easily adjusted by sliding it to the appropriate position on the anterior cortex. The Anterior Skim Cutting Guide is then lowered until it contacts the anterior femoral cortex. The tip of the stylus indicates the exit point of the saw blade when the anterior cut is made thereby preventing anterior notching of the femur.

Femoral Sizing

This is performed by pre-operative templating of radiographs and the intra operative use of the Femoral Sizing Guide.



MIS Nav Fem Alignment Guide
6676-9-125

MIS Nav Anterior Skim Cutting Guide
6676-9-175/6676-9-275

MIS Nav Anterior Femoral Stylus
6676-9-325

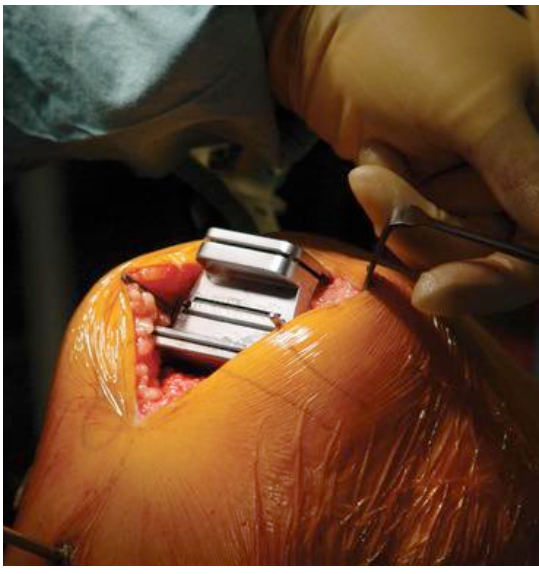
Femoral A/P Sizer
8050-0313

Bone Resection

Femoral Four In One Cuts

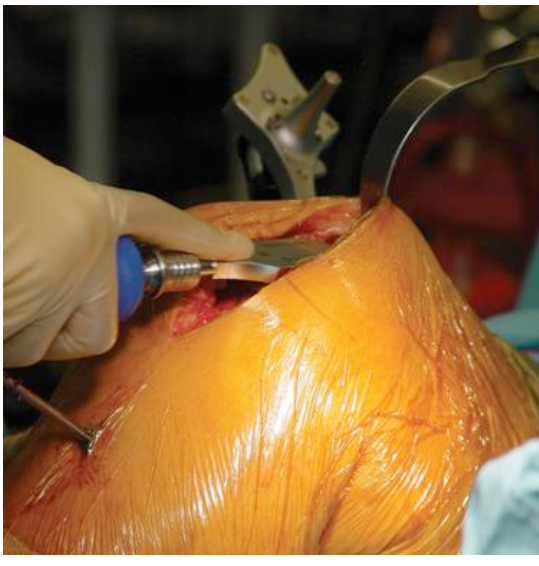
Once the femoral component size is selected, the appropriate size 4 in 1 Resection guide is chosen.

A curved retractor is placed in the lateral gutter of the knee whilst a second retractor is placed underneath the quadriceps mechanism.
The 4 in 1 Resection guide is placed onto the distal femoral cut surface with the anterior flange of the resection guide resting on the previously prepared anterior skim cut. The instrument is pinned in position.



Femoral Patella Recess Preparation

The Scorpio® Patella Recess Rasp is used to prepare the patella recess on the anterior chamfer of the resected femur. The centre of the anterior chamfer is first marked using a diathermy or bone nibblers.
The appropriate rasp is connected to the modular handle and the previously marked centre rasped until the rails are seated flush against the bone.



Femoral Resection Guide
8080-5103/5/7/9/11/13

Patella Recess Rasp
8050-3151/3/7

MIS Modular Handle
8050-1300

LRS Anterior Femoral Retractor
8050-5002

Bone Resection

Femoral Preparation

Posterior Stabilised Preparation (PS only)

A narrow sagittal saw blade (11mm) or double edged reciprocating saw is used to resect distally through the entire depth of the intercondylar notch.

- Align the Scorpio® PS Femoral Preparation Guide to the femur noting that the distal 'wings' are the same M-L width as the corresponding Femoral Implant. Use two 1/8" diameter pins through the provided holes to secure the Scorpio® PS Femoral Preparation Guide to the femur.

- Using the inner walls of the Scorpio® PS Femoral Preparation Guide as a reference, lay the saw blade flat and resect through the intercondylar notch medially, laterally and posteriorly until complete.

- Final check of bone removed should be done using the rasp. Once the rails on the rasp are flush with the bone, this step is complete.

Trial Femur

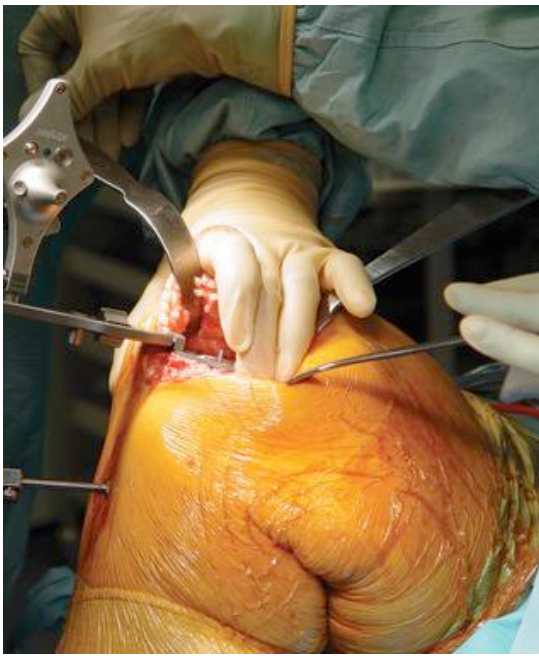
Place a retractor into the lateral gutter of the knee to displace the patella laterally. Insert a second retractor under the quadriceps mechanism on the anterior surface of the femur. The femoral component is then inserted and once correctly seated the fixation lugholes are drilled.

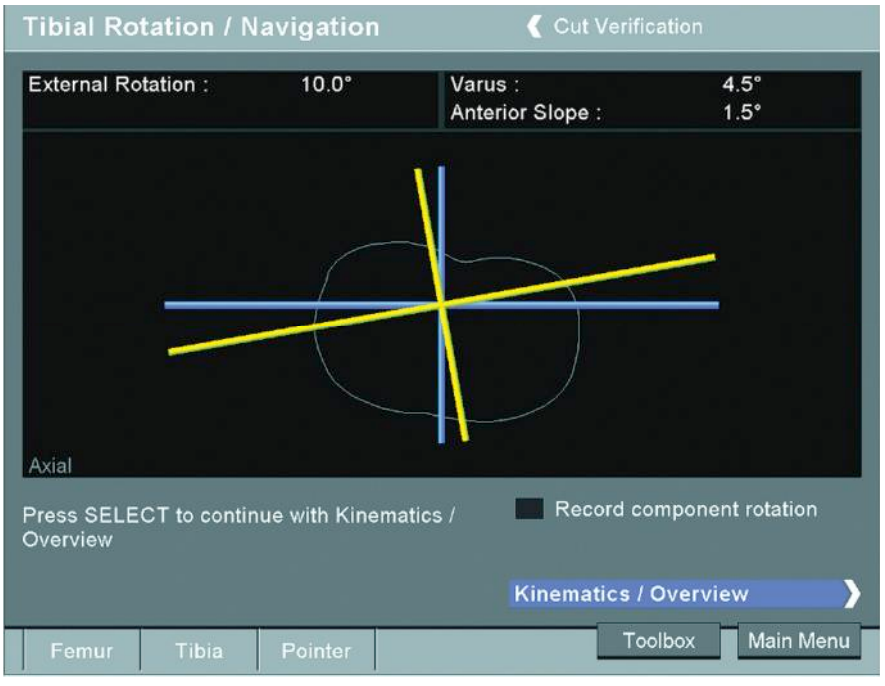
Bone Resection

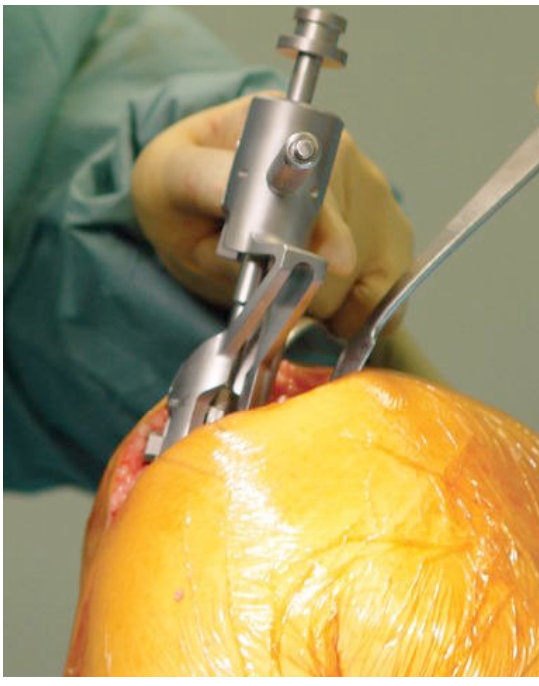
Tibial Rotation

The knee is placed in deep flexion and the tibia delivered forward by a retractor in the posterior tibial notch. The appropriately sized tibial baseplate is attached to the tibial alignment handle, which has the femoral tracker attached to it. It is inserted onto the resected tibial surface, and rotation adjusted according to the tibial rotation Navigation Screen. Once the desired position is achieved with reference to correct rotation and fit, two fixation pins are used to secure the baseplate onto the tibial surface.

Preparation for the tibial keel is then undertaken using the Scorpio® Tibial Punch Tower and Tibial Punches.





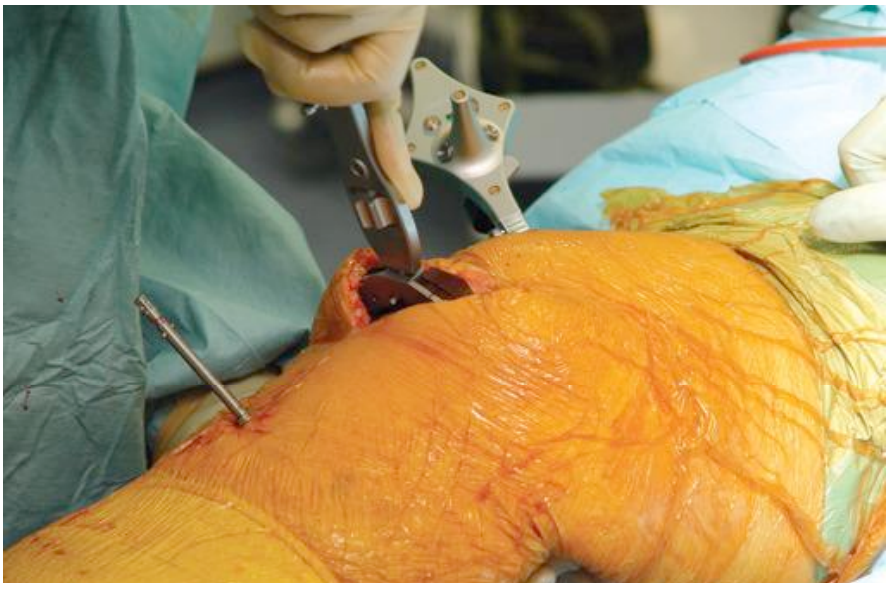


MIS Scorpio® Tibial Punch Tower 8050-1089

Trial Component Insertion

With the tibial baseplate still in position from the previous step, the trial femur is re-inserted.

A trial poly insert is then introduced with the knee in extension.



Patella Preparation

After the tibial, femoral and soft tissue preparation is complete, patella preparation is approached. The leg is extended, and the patella is exposed. The appropriate portion of patella is removed, using an oscillating saw. It is recommended to leave at least 14 to 15mm of residual patellar bone for vascular supply and osseous integrity. The patella preparation is finished by removing the synovium and residual debris, superiorly and inferiorly around the patella. The implant preparation is easily aligned with the leg in extension.

Patella tracking is checked with the implant trials in place. There might be slight tilting of the patella due to the lateral retraction of the patellofemoral mechanism during knee exposure. It is therefore recommended to place one suture inferiorly, and then to flex and extend the knee throughout the full range of motion, paying close attention to the patella tracking. A final range of motion includes a check for hyperflexion by flexing the hip to allow flexion of the knee from 130 to 140°.

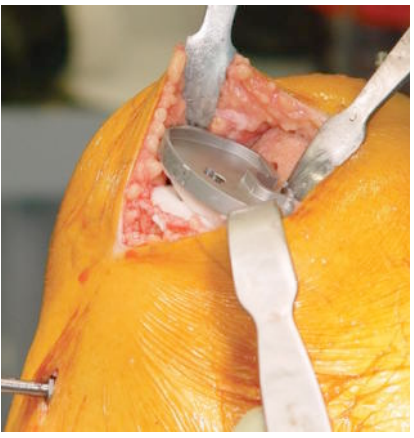
Trial component/soft tissue assessment

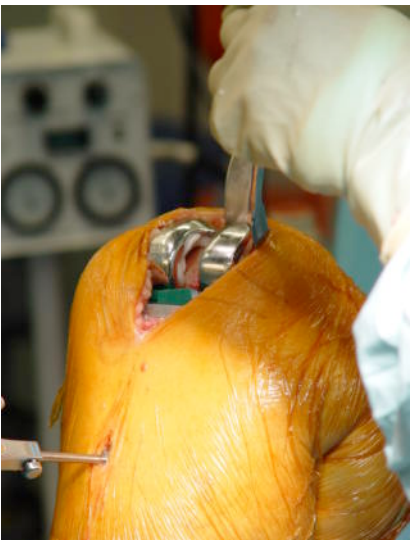
To assess the limb alignment after the trial components have been inserted, the trial kinematic screen is selected using the Navigation working tool to advance the screens.

The limb is brought into extension and held by the heel of the foot. An assessment is then made of the degree of flexion/hyperextension and varus/valgus present in the knee. The correctability of the deformity and its changing nature through flexion can also be assessed in a similar fashion to the initial kinematic data.

Using this information the surgeon can then plan any changes in poly insert size and soft tissue releases before repeating the assessment. In this way the surgeon obtains constant feedback in the process of balancing the knee.

Component Insertion





The resected surfaces of the femur and tibia are prepared for component implantation according to the surgeon's standard practice.
It is recommended that Simplex® Antibiotic Cement be used for component implantation as this allows the surgeon time to manoeuvre the components into position.

Tibial Baseplate Insertion

With the knee in deep flexion, a curved retractor is placed into the lateral gutter of the femur to retract the patella laterally. A second retractor is then placed posteriorly to deliver the tibia forward. The Scorpio® Tibial Baseplate is then inserted into the keel cut and impacted down into position. Any excess bone cement is removed under direct vision.

Femoral Component Insertion

With the lateral retractor still in position, the posterior tibial retractor is removed and replaced by a retractor on the anterior surface of the femur, underneath the quadriceps mechanism. The femoral implant is placed onto the distal femur with the starter Femoral Impactor to gain the correct femoral component position. The standard femoral impactor is then used to fully seat the component. Any excess cement is removed under direct vision.

Tibial Insert Insertion

It is still possible to assess joint and soft tissue balance by using different size poly trials and the final kinematic analysis screen, prior to the surgeon making the final choice of insert size.

Once the final bearing insert is selected, the baseplate is checked for any debris that may impair locking of the insert. The final bearing insert is inserted in deep flexion and the knee then brought into extension where a light tap with the impactor locks it into position.

Femoral Impactor
8050-2000

Standard Femoral Impactor
3179-0000

Final analysis of implanted MIS TKR

Once the components have been inserted and the cement is fully polymerised, the Navigation system is forwarded to the final outcome screen. Here, as in the initial analysis, the kinematics of the knee can be assessed in a dynamic way from extension to deep flexion. The range of motion and alignment of the limb can be recorded and compared to the initial kinemetic data to assess the success of any correction performed. This data can then be printed out and kept in the patient file as an augment to the OR record or kept electronically.

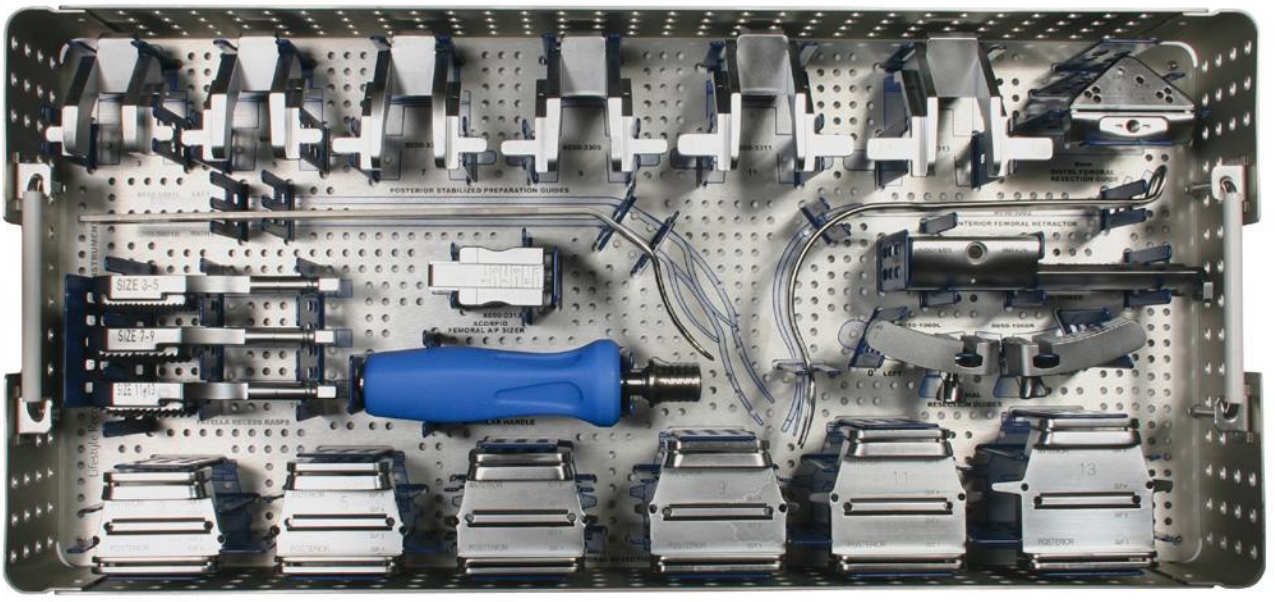
Closure

The joint is thoroughly irrigated and a single drain inserted.

The medial arthrotomy site is closed with an interrupted layer of 1-0 vicryl, followed by a continuous layer of 1-0 vicryl. The subcutaneous layer is closed with 2-0 vicryl whilst the skin is closed with 3-0 vicryl or clips.

Ordering Information

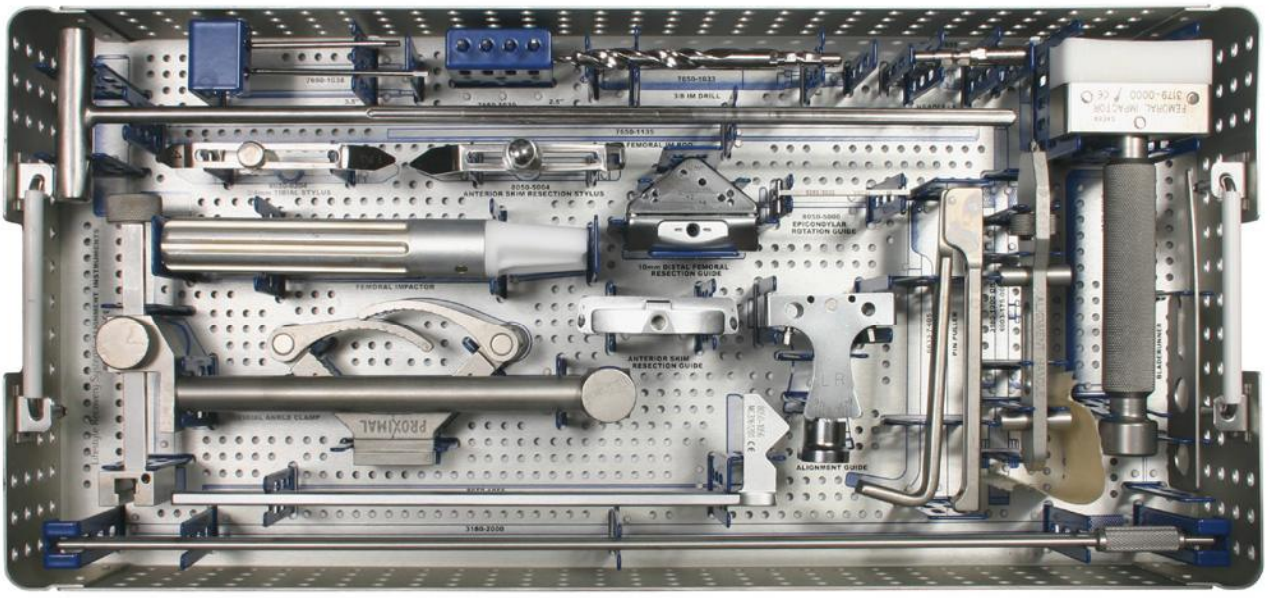
Catalogue#	Description
8050-0001	MIS Scorpio® Instruments Sterilisation Tray (instruments not included)



8050-0313	MIS Scorpio® Femoral A/P Sizer
8050-1060L	0° Left Tibial Resection Guide
8050-1060R	0° Right Tibial Resection Guide
8050-1089	MIS Scorpio® Tibial Punch Tower
8050-1300	MIS Modular Handle
8050-3151	MIS 11/13 Scorpio® Patella Recess Rasp
8050-3153	MIS 3/5 Scorpio® Patella Recess Rasp
8050-3157	MIS 7/9 Scorpio® Patella Recess Rasp
8050-3303	MIS Scorpio® PS Prep. Guide Size 3 - PS only
8050-3305	MIS Scorpio® PS Prep. Guide Size 5 - PS only
8050-3307	MIS Scorpio® PS Prep. Guide Size 7 - PS only
8050-3309	MIS Scorpio® PS Prep. Guide Size 9 - PS only
8050-3311	MIS Scorpio® PS Prep. Guide Size 11 - PS only
8050-3313	MIS Scorpio® PS Prep. Guide Size 13 - PS only
8050-5001L	MIS Left Lateral Tibial Retractor
8050-5001R	MIS Right Lateral Tibial Retractor
8050-5002	MIS Anterior Femoral Retractor
8050-5103	MIS #3 Scorpio® Femoral Resection Guide
8050-5105	MIS #5 Scorpio® Femoral Resection Guide
8050-5107	MIS #7 Scorpio® Femoral Resection Guide
8050-5109	MIS #9 Scorpio® Femoral Resection Guide
8050-5111	MIS #11 Scorpio® Femoral Resection Guide
8050-5113	MIS #13 Scorpio® Femoral Resection Guide
8050-2000	MIS Femoral Impactor

Ordering Information

Catalogue#	Description
8050-0002	MIS Alignment Instruments Sterilisation Tray (instruments not included)



8050-0204	2/4mm Tibial Stylus
8050-1056	Proximal Tibial Rod
8050-2000	Femoral Impactor

8050-5000	Epicondylar Rotation Guide
8050-5004	Anterior Skim Resection Stylus
8050-5010	10mm Distal Femoral Resection Guide
8050-5901	Femoral Alignment Guide
8050-5903	Anterior Skim Resection Guide

3179-0000	Femoral Impactor
3180-1000	Alignment Handle
3180-2000	Alignment Rods (2/Pack)

6633-7-605	Pin Puller

7551-0000	Bladerunner
7650-1033	3/8" IM Drill
7650-1035	Headless Pin Driver
7650-1038	3.5" Headless Pins (4/Pack)
7650-1039	2.5" Headless Pins (4/Pack)
7650-1135	5/16" Femoral IM Rod

8000-1040	Tibial Ankle Clamp
8000-0200	Double Sterilization Box and Lid

Note: Ordering information outlined on pages 22 and 23 are for the standard MIS Instrument Sets necessary for an MIS Mid Vastus procedure.

Ordering information on page 24 is specific to those additional instruments required for a Navigated MIS procedure.

Ordering Information

MIS Navigated Instrument Case
(instruments not included)

29-12021 Lid
29-12024 Tray
29-12020 Case

Catalogue#	Description	
6676-9-250	MIS Nav Ext Cut Guide - Blk 1	
6676-9-255	MIS Nav Ext Cut Guide - Blk 2	
6676-9-350	MIS Nav Std Cut Guide - Blk 1	
6676-9-355	MIS Nav Std Cut Guide - Blk 2	
6676-9-300	MIS Nav Std Epicondylar Guide Body	
6676-9-310	MIS Nav Ext Epicondylar Guide Body	
6676-9-125	MIS Nav Femoral Align Guide	
6676-9-150	MIS Nav Std Res Plane Probe	
6676-9-160	MIS Nav Ext Res Plane Probe	
6676-9-175	MIS Nav Ant Skim Cut Guide (Left)	
6676-9-275	MIS Nav Ant Skim Cut Guide (Right)	
6676-9-325	MIS Nav Anterior Femoral Stylus	

Additional Requirements

- Standard set of Scorpio® trials (femoral, tibial & tibial inserts)
- Patella Instrumentation
- Scorpio® Tibial punches and templates