MULTIGEN+

THE TOTAL KNEE SYSTEM

SURGICAL TECHNIQUE

Lima Corporate

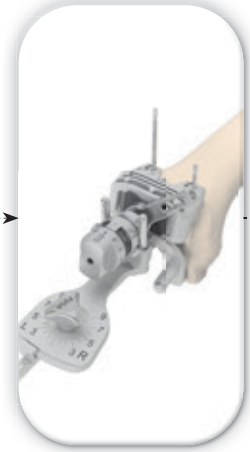
Orthopaedic motion

MULTIGEN PLUS SURGICAL TECHNIQUE

Surgical Steps

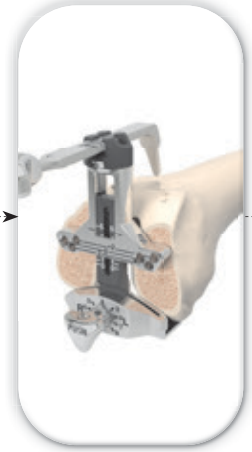
1A. TIBIAL EM ALIGNMENT AND RESECTION

1B. TIBIAL IM ALIGNMENT AND RESECTION



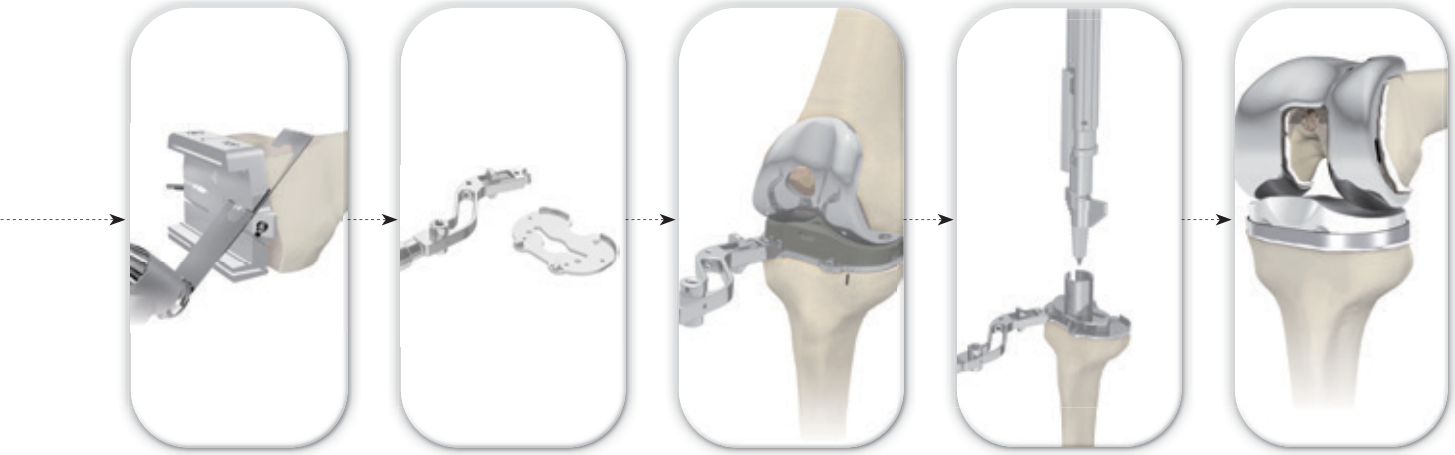
2. FEMORAL IM ALIGNMENT AND DISTAL RESECTION

3. CHECKING LIGAMENTS TENSION



4. FEMORAL SIZING

Surgical Steps



5. FEMORAL 4-IN-1 RESECTION

6. TIBIAL SIZING

7. TRIAL REDUCTION

8. TIBIAL SEAT PREPARATION

9. FINAL COMPONENT IMPLANTATION

MULTIGEN PLUS SURGICAL TECHNIQUE

Index

Limacorporate S.p.A., as manufacturer of prosthetic devices, dœs not practice medicine. This surgical technique brochure has been developed in consultation with an experienced surgeon team and provides the surgeon with general guidance when implanting Multigen Plus. Proper surgical procedures and techniques are necessarily the responsibility of the medical professional. Each surgeon must evaluate the appropriateness of the surgical technique used based on personal medical training, experience and clinical evaluation of each individual patient.

MULTIGEN+
THE TOTAL KNEE SYSTEM

The Multigen Plus* Total Knee System provides surgeons with one complete system to meet the needs of today's patients. Moving from primary to revision, fixed to mobile, cemented to cementless, gives surgeons the possibility to meet different options.

** on the market since 1997*

Indications and Contraindications

INDICATIONS

Please follow the instructions for use enclosed in the product packaging.

- Advanced articular destruction generated by primary degenerative or post-traumatic arthrosis or rheumatoid arthritis;
- Traumatic events with articular pain;
- avascular necrosis;
- Congenital or acquired deformity;
- Failures of previous operations, articular reconstruction, arthrodesis, total arthroplasty.

CONTRAINDICATIONS

- Acute or chronic infections, local or systemic infections;
- Serious muscular, neurological or vascular diseases affecting the concerned limb;
- Bone destruction or poor bone quality, which could compromise implant's stability;
- Any concomitant disease and dependence that might affect the implanted prosthesis;
- Allergy to material.

WARNINGS

The permitted combinations of femur and tibia sizes for the Multigen Plus Primary are shown in these tables.

Multigen Plus CR-PS Fixed:

CR-PS Fixed Tibial Liner Fixed Tibial Plate	Femoral Component						
		#0	#1	#2	#3	#4	#5
	#0	OK	NO	NO	NO	NO	NO
	#1	NO	OK	OK	OK	OK	OK
	#2	NO	OK	OK	OK	OK	OK
	#3	NO	OK	OK	OK	OK	OK
	#4	NO	OK	OK	OK	OK	OK
	#5	NO	OK	OK	OK	OK	OK

Multigen Plus UC Fixed:

UC Fixed Tibial Liner Fixed Tibial Plate	Femoral Component						
		#0	#1	#2	#3	#4	#5
	#0	OK	NO	NO	NO	NO	NO
	#1	NO	OK	NO	NO	NO	NO
	#2	NO	OK	OK	NO	NO	NO
	#3	NO	OK	OK	OK	NO	NO
	#4	NO	OK	OK	OK	OK	NO
	#5	NO	OK	OK	OK	OK	OK

Multigen Plus CR-PS-UC Mobile:

Mobile Tibial Plate	Femoral Component Mobile Tibial Liner					
	#0	#1	#2	#3	#4	#5
#0	OK	OK	NO	NO	NO	NO
#1	OK	OK	OK	NO	NO	NO
#2	OK	OK	OK	OK	NO	NO
#3	OK	OK	OK	OK	OK	NO
#4	OK	OK	OK	OK	OK	OK
#5	OK	OK	OK	OK	OK	OK

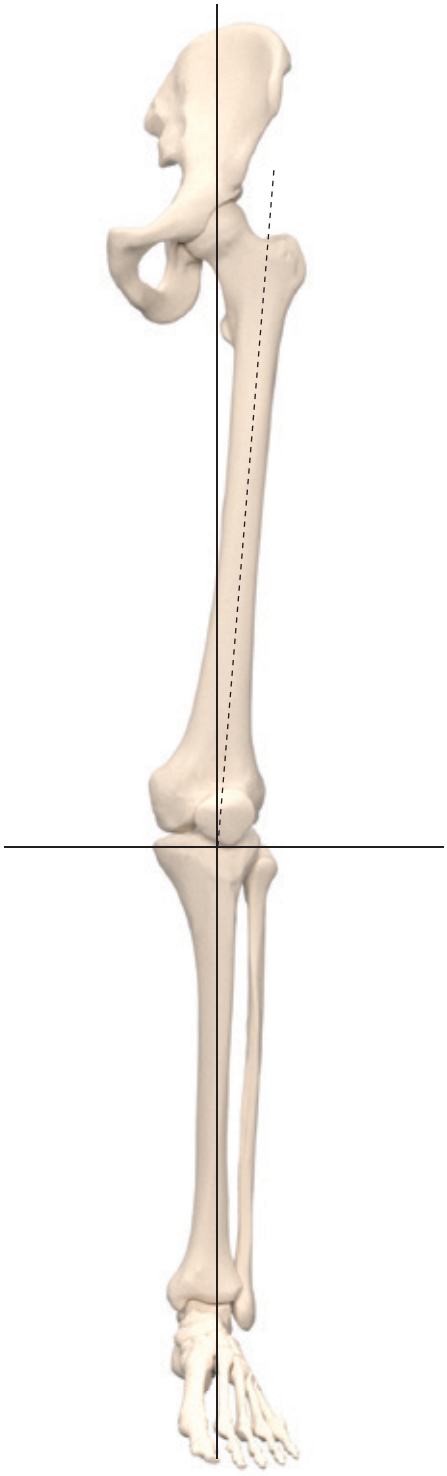


Figure 1

PREOPERATIVE PLANNING

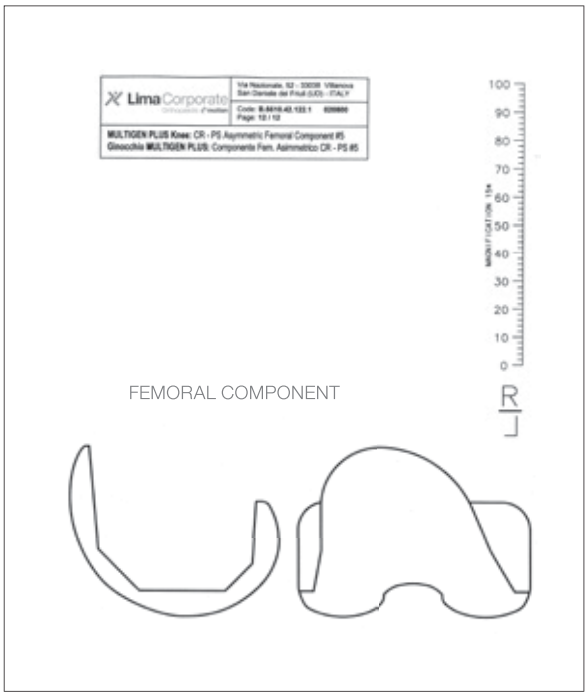
Pre-operative planning is recommended to determine the geometric parameters of the joint and therefore determine with sufficient care what instruments and prosthetic components will be used.
It is possible to perform two distinct radiographic measurements.

DETERMINATION OF VALGUS ANGLE OF THE FEMUR

Use a frontal, full leg-length X-ray of the femur which ensures that the centre of the hip joint and the centre of the ankle joint are visible. To establish the femoral valgus angle, mark a line connecting the centre of the femoral head and the centre of the ankle (biomechanical angle), and a line along the diaphyseal axis to the centre of the ankle (anatomical angle). Then measure the angle between these two lines.
The obtained value represents the femur valgus angle.
Use the varus/valgus femoral guide and select the patient's specific valgus angle on the dial (values range from 0° to 9°). If the value of the measured angle lies between the fixed values of the guides, we suggest to set the lower angle on the varus/valgus guide.

NOTE. *In this measurement, the X-ray scale is not important.*

Preoperative Planning



DETERMINATION OF THE SIZE OF THE FEMORAL COMPONENTS

Position the templates of the femoral and tibial components on X-Rays in AP and ML views.
Rest the internal surface of the patellar shield on the planned line of anterior resection (so that the anterior prominences of the femoral trochlea are removed) and choose the size so that the external surface of the posterior condyles of the prosthesis coincides with the posterior surface of the bone condyles.
A frontal measure of the femoral component may show a different size from the size determined laterally, but the lateral view is more important in the determination of the femoral size.
If tibial intramedullary nail and/or additional tibial stems are necessary, we recommend observing any possible curving or angles resulting from previous osteotomies to define the correct entry point and to establish the length of any stems used.

NOTE. *The pre-operative templates provided refer to a 13% average enlargement of the X-Rays.*

Figure 2

PREPARATION STEPS

INCISION

To expose, different surgical approaches can be used: parapatellar, mini sub vastus, mini mid vastus.

NOTE. *The surgical technique is independent from the surgical approach used (Fig. 2).*

Figure 3

Figure 4

Figure 5

TIBIAL RESECTION USING EXTRAMEDULLARY TECHNIQUE

EM GUIDE ASSEMBLING AND ALIGNMENT

Assemble the ankle clamp to the slope guide by pressing the button and inserting the shaft of the clamp through the hole of the slope guide. Note that the numbers on the ankle clamp should face up *(Fig. 3)*.

Assemble the proximal rod of the EM tibial guide with the EM ankle clamp assembly *(Fig. 4)*:

1. depress and hold the button on the height adjuster,
2. insert the proximal rod of the EM tibial guide and release the button.

Figure 5 shows the fully assembled EM tibial guide.

Tibial Resection using the Extramedullary Technique

Figure 6

Place the knee at 90° of flexion with the tibia translated anteriorly and the whole leg held firmly in place on the surgical table.

Connect the tibial cutting block *(Fig. 6)* to the proximal attachment on the EM tibial alignment guide and afterwards position the clamp around the ankle (*Fig. 7*).
Right and left cutting guides with 6° posterior slope are available.

Place the tibial cutting block against the proximal tibia.

The button of the height adjuster is used for macro-adjustments of the height of the tibial cutting guide *(Fig. 6)*.

Figure 7

Tibial Resection using the Extramedullary Technique

Figure 8

Rotate the dial for micro-adjustments to put the base of the dial at the 0 of the graduated scale. This allows the resection level to be fine tuned per mm up to 10 mm to exactly meet the needs of the patient *(Figure 8)*.

In order to provide more stability to the EM tibial guide, a pin can be inserted through the cylinder/mobile hole built into the central vertical slot.

Before inserting the pin, slide the cylinder to the starting level reference engraved on the tibial cutting block *(Figure 9)*.

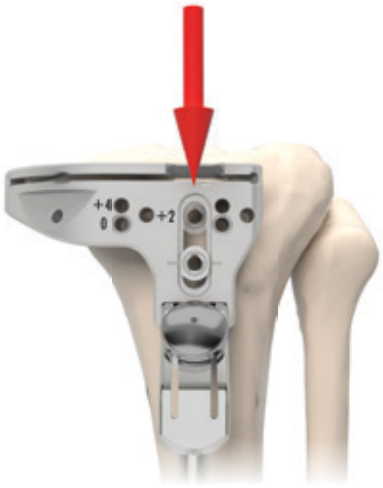


Figure 9

Tibial Resection using the Extramedullary Technique

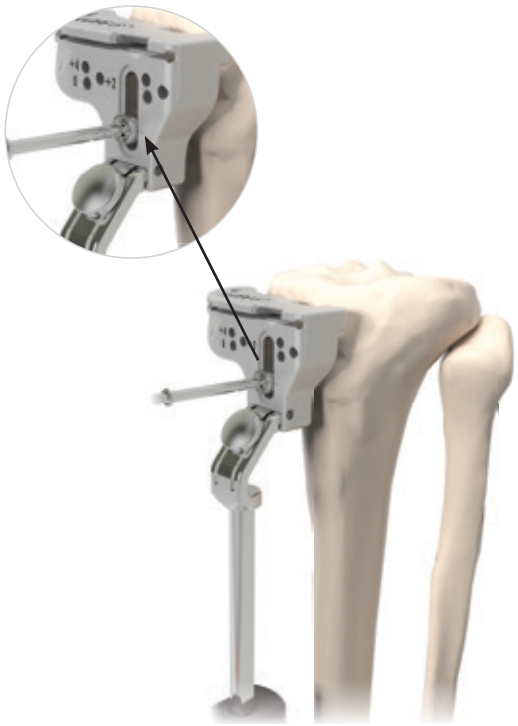


Figure 10

The central pin stabilizes the cutting guide, still allowing varus/valgus, posterior slope and resection level to be adjusted. Insert a pin using the pin driver. The pin may also be impacted using a mallet, if desired *(Fig. 10)*.

Align the proximal rod of the EM tibial guide with the medial aspect of the tibial tubercle to set rotation, as per Akagi's principle.

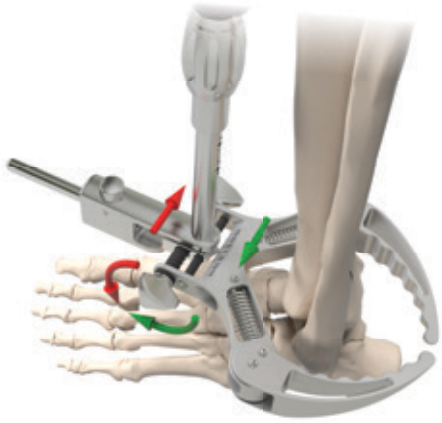


Figure 11

VARUS/VALGUS ADJUSTMENT

Adjust the varus/valgus alignment of the EM tibial guide by turning the knobs on either side of the ankle assembly. This enables the mediolateral position of the ankle component of the EM guide to be accurately lined up with the long axis of the tibia *(Fig. 11)*.

SLOPE ADJUSTMENT

To adjust the slope of the EM guide in the saggital plane, depress and hold the button of the slope adjuster. Moving the slope adjuster away from the ankle will increase the posterior slope *(Fig. 12)*.

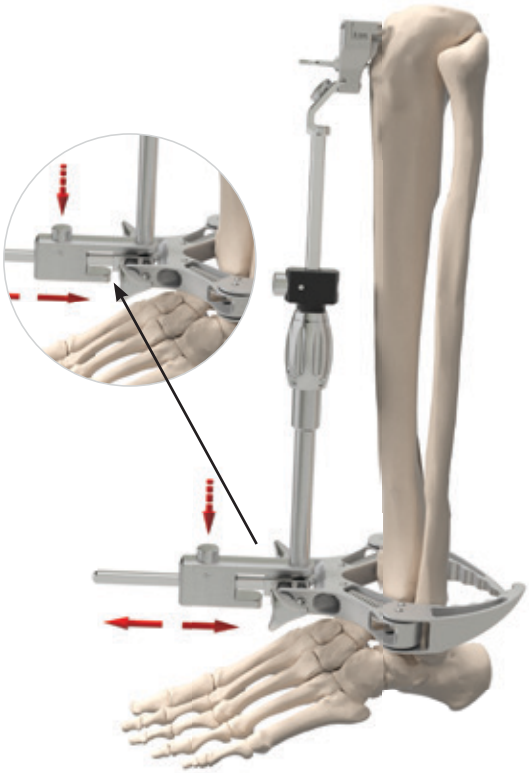


Figure 12

Tibial Resection using the Extramedullary Technique

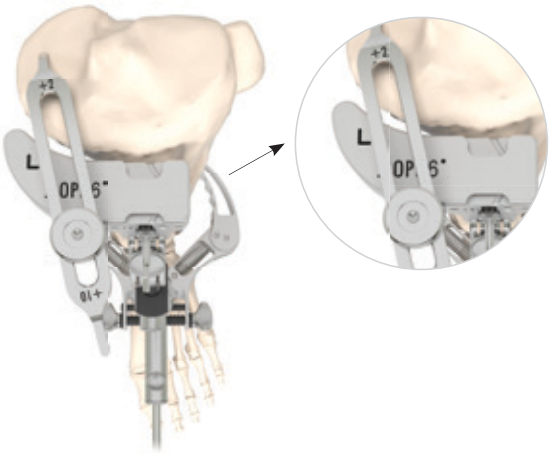


Figure 13

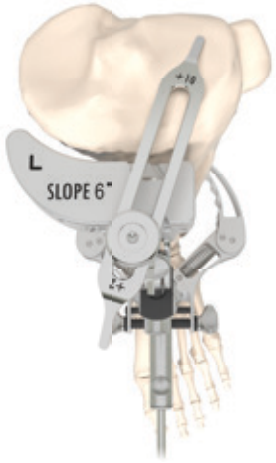


Figure 14

SET RESECTION LEVEL

Insert the tibial 10/2 mm stylus into the slot of the tibial cutting guide.
Each tip of the stylus indicates a different depth.
The “+2” tip is used to set the resection depth from the most damaged part of the tibial plateau for a minimal cut. The “+2” tip should rest on the most damaged section of the tibial plateau *(Fig. 13)*. This positions the slot of the tibial cutting block to remove 2 mm of bone below the tip of the stylus.

Alternatively, the “+10” tip is used to set the resection depth from the least damaged part of the tibial plateau. Rest the “+10” tip of the stylus on the cartilage of the least damaged part of the tibial articulation *(Fig. 14)*. This will allow the removal of the same amount of bone as the thinnest tibial component will replace (10 mm).

Tibial Resection using the Extramedullary Technique

Figure 15

Let the selected tip of the 10/2 mm stylus rest on the chosen point of the chosen tibial plateau. Macro adjust the depth of resection by pressing the button on the shaft of the EM tibial guide and positioning the guide to the depth required *(Figure 15)*.

The cutting block can also be carefully positioned to subtly change the resection level. Micro adjust the depth of resection by rotating the dial. Fine tune this to get to the correct depth *(Figure 16)*.

Every half turn of the dial changes the resection level about 1 mm.

Figure 16

Tibial Resection using the Extramedullary Technique

Figure 17

A further verification can be performed inserting the sickle or a free blade into the slot of the tibial cutting block.
A visual check is useful to determine the accuracy of the depth of resection and slope *(Fig. 17)*.

Once the resection level has been determined, fix the tibial cutting block by inserting two headless pins through the "0" holes *(Fig. 18)*.

Figure 18

Push the button on the anterior proximal tip of the EM tibial guide and remove the EM tibial guide by pulling it. This will leave the tibial cutting block in place on the bone *(Fig. 19)*.

Alternatively, the entire assembly can be left in place on the bone to provide more stability.

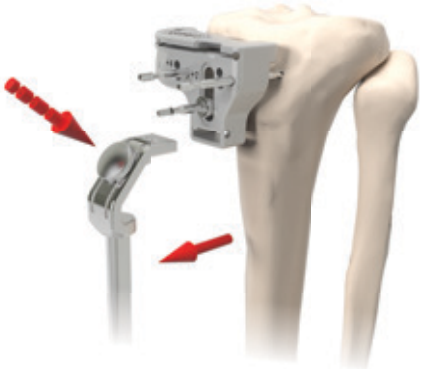


Figure 19

Tibial Resection using the Extramedullary Technique

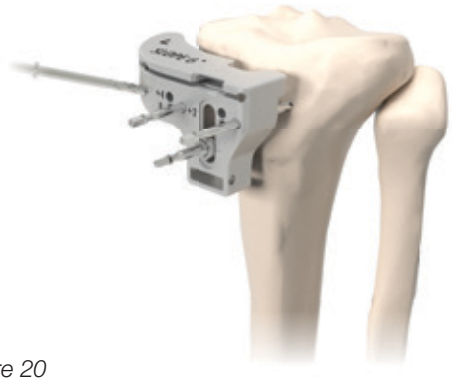


Figure 20

The tibial resection level may be altered by repositioning the tibial cutting block in the “+2” holes or “+4” holes to shift the guide distally and increase the depth of the cut by 2 mm or 4 mm.

Push the cutting block as far as possible down the pins and onto the anterior tibial surface. Once in place, stabilize the cutting block by placing a headed pin through the oblique hole on the lateral aspect of the block *(Fig. 20)*.

Now proceed with the tibial resection using a 1.27 mm oscillating saw blade through the slot on the tibial cutting block *(Fig. 21)*.

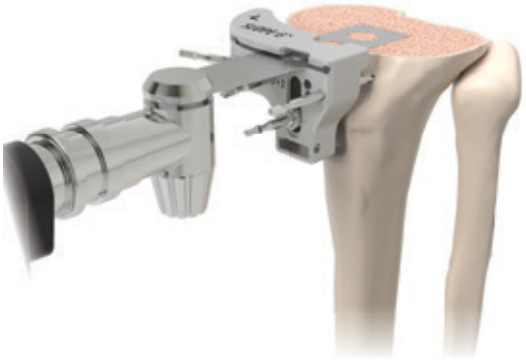


Figure 21

At the end of tibial resection remove the oblique, headed pin, if used.

Slide the cutting block off the tibia leaving the two parallel pins in situ *(Fig. 22)*.

Figure 22

Tibial Recut

Figure 23

TIBIAL RECUT

When the tibial resection level is insufficient, it is possible to perform a tibial re-cut. In case of tibial re-cut, it is possible to re-insert the tibial cutting block onto the same pins that have previously been left in place, using “+2” holes, shifting the guide down and cutting the tibia by a further 2 mm *(Fig. 23)*.

When satisfied with the resection, remove all pins and the tibial cutting block.

Figure 24

Figure 25

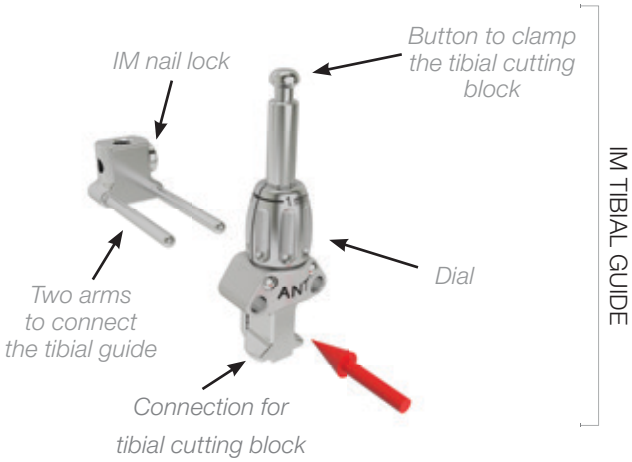


Figure 26

TIBIAL RESECTION USING INTRAMEDULLARY TECHNIQUE

NOTE. Be aware that the IM tibial guide is not a standard instrument, it is optional. If you want to work intramedullary, please be sure you have ordered this instrument.

PERFORATION OF THE INTRAMEDULLARY CANAL

Place the knee at 90° of flexion with the tibia translated anteriorly and stabilized. Use the Starting reamer to create a hole to have access to the canal. Note that the exact position of the entry point to the canal is crucial for correct alignment of the prosthesis. Therefore a preoperative X-ray is recommanded *(Fig. 24)*.

Attach the T-handle to the IM nail.
Insert the IM nail into the intramedullary canal until it is firmly seated *(Fig. 25)*.

Remove the T-handle.

Slide the IM tibial connection onto the two arms of the IM nail lock *(Fig. 26)*.

Tibial Resection using the Intramedullary Technique

Figure 27

Depress and hold the proximal button of the IM tibial guide, insert the appropriate tibial cutting block and release the button *(Fig. 27)*.

Two asymmetrical (right and left) cutting guides with 6° posterior slope are available.

The IM Nail Lock button is used for macro-adjusting the height of the tibial cutting guide while the dial of the IM tibial guide is used for micro-adjustments. Every half turn changes the resection level about 1 mm.

Rotate the dial for micro-adjustment, in order to position the IM tibial guide at level “0” on the millimeter-graduated scale.

Depress and hold the button on the IM nail lock in place , and slide the IM nail lock down the IM nail towards the proximal tibia *(Fig. 28)*.

Figure 28

Figure 29

SET RESECTION LEVEL

Insert the tibial stylus into the slot of the tibial cutting block. Each tip of the tibial stylus indicates a different depth.

The “+2” tip is used to set the resection depth from the most damaged part of the tibial plateau for a minimal cut. The “+2” tip should rest on the most damaged section of the tibial plateau *(Fig. 29)*.

This positions the tibial cutting block to remove 2 mm of bone below the tip of the stylus.

Alternatively, the “+10” tip is used to set the resection depth from the least damaged part of the tibial plateau.
Rest the “+10” tip of the stylus on the cartilage of the least damaged part of the tibial articulation.

This will allow the removal of the same amount of bone as the thinnest tibial component will replace (10 mm).

Tibial Resection using the Intramedullary Technique

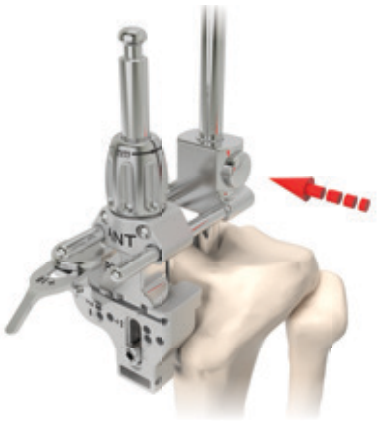


Figure 30

Let the selected tip of the 10/2 mm stylus rest on the chosen point of the tibial plateau. Macro adjust the depth of resection by pressing the button on the IM nail lock of the IM guide and positioning the guide to the depth required *(Fig. 30)*.

The guide can be micro-adjusted using the red dail at the top of the guide *(Fig. 31)*.

Set the desired resection level which can be read on a millimeter-graduated scale.

Figure 31

Once the resection level has been determined, remove the 10/2 mm stylus and fix the cutting guide with pins.
Insert two headless pins through the “0” holes on the cutting block *(Fig. 32)*.

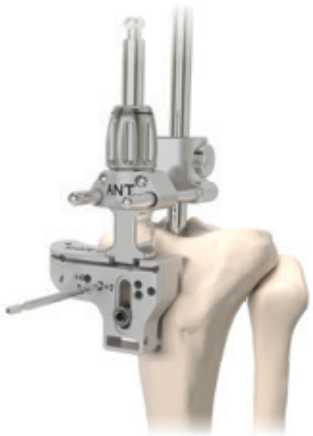


Figure 32

Tibial Resection using the Intramedullary Technique

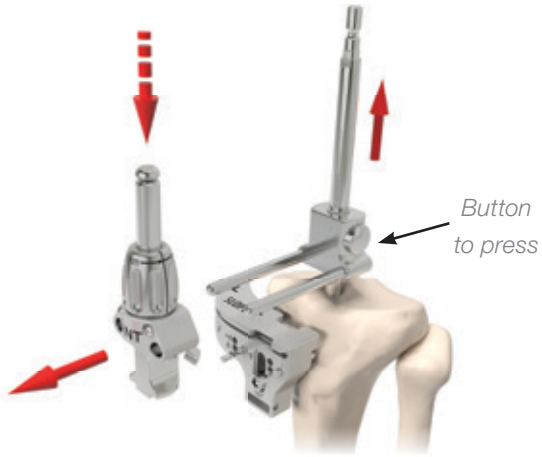


Figure 33

Figure 34

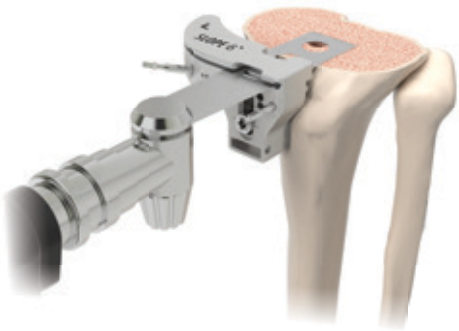


Figure 35

Push and hold the proximal button of the IM connection. Then slide the IM connection off the rails while leaving the tibial cutting block in place on the bone *(Fig. 33)*.

Remove the IM nail lock and the IM nail.

The tibial resection level may be altered by repositioning the tibial cutting block in the “+2” holes or “+4” holes to shift the guide distally and increase the depth of the cut by 2 mm or 4 mm.

Push the cutting block down the pins and onto the anterior cortex of the proximal tibia.

Fix the cutting block by introducing one additional headed pin into the oblique hole *(Fig. 34)*.

Now proceed with the tibial resection using a 1.27 mm oscillating saw blade through the slot on the tibial cutting guide *(Fig. 35)*.

NOTE. *It is possible to cut the tibia while the IM tibial guide is still in place taking into account that not a complete cut can be performed due to the IM nail.*

At the end of tibial resection remove the oblique, headed pin, if used.

Slide the cutting block off the tibia leaving the parallels pins in situ *(Fig. 36)*.

Figure 36

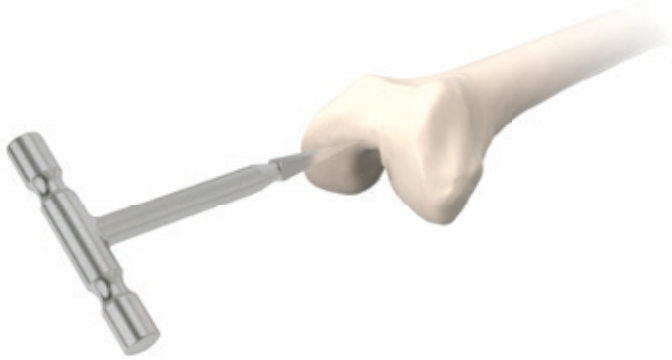


Figure 37a

Figure 37b

Figure 38

FEMORAL INTRAMEDULLARY ALIGNMENT

PERFORATION OF THE INTERCONDYLAR NOTCH

Position the awl or the starting reamer in the center of the inter-condylar notch and make a hole in direction of the femoral canal *(Figs. 37a, 37b)*.

Insert and check that the intramedullary rod travels along the femoral diaphysis.

Once the femoral canal has been opened, introduce the intramedular rod for using the femoral alignment guide.
Use the preoperative X-rays to define the patient's unique valgus angle. Set the valgus angle (left or right – 0 degrees to 9 degrees) on the varus/valgus alignment guide by pushing and rotating the knob *(Fig. 38)*.

Femoral Intramedullary Alignment

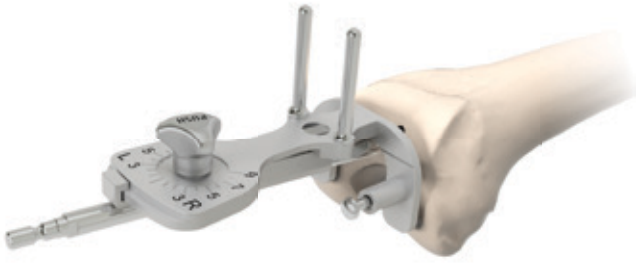


Figure 39

Slide the femoral alignment guide onto the IM rod until it rests flush with the distal femur *(Fig. 39)*.
Note that due to the loss of bone that may have occurred, the guide may not sit on both condyles, just on one. Adjust the internal/external rotation of the femoral alignment guide by checking the epicondilar line with the marks on the femoral alignment guide. When rotation is correct, secure the femoral alignment guide by impacting one or both pins built into the distal flange.

Figure 40

Place the femoral distal resection level selector into the slot of the femoral cutting block and lock it by rotating the lever clockwise *(Fig. 40).*

NOTE. *The femoral cutting block is available in two sizes, small or large. Use the one that will offer the best stability and cutting potential for each patient.*
Please note that Medio-lateral movement of the cutting block is still possible to allow a central positioning on the bone. In this surgical technique the small femoral block is shown. A narrow saw blade can be used.

Femoral Intramedullary Alignment

Figure 41

Rotate the knob on the femoral distal resection level selector to set the desired resection level. Every click moves the femoral cutting block 1 mm proximal or distal *(Fig. 41)*.

NOTE. *The distal thickness of the MULTIGEN PLUS femoral component is 9 mm.*

Slide the femoral distal resection level selector onto the femoral aligment guide while depressing and holding the button on the side of the femoral distal resection level selector.

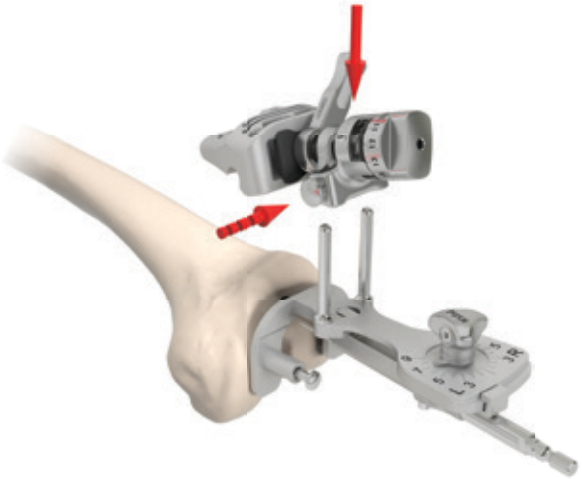


Figure 42

Slide the cutting block down the rails until it rests on the anterior femoral cortex *(Figs. 42, 43)*.
Adjust the medial lateral placement of the femoral cutting block.

Figure 43

Distal Femoral Resection

Figure 44

Figure 45

Secure the cutting block at the desired resection level using two headless pins head through the “0” holes *(Figs. 44, 45)*.

NOTE. *The pin holes are parallel to the saw blade slot, but the femoral distal depth indicator is 15° inclined.*

Distal Femoral Resection

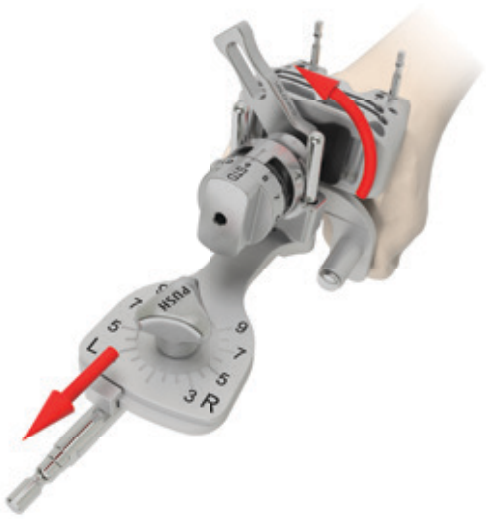


Figure 46

Disengage the cutting block by rotating the lever counterclockwise, then pull the guide away from femur, leaving the femoral cutting block in place *(Fig. 46)*.

Attach the T-Handle to remove the IM nail.
If the cutting block is not in contact with the bone, slide it down the pins to get it as close as possible to the anterior femur.

To make the distal cut, there are two resection slots available on the cutting block, standard and "+3". The standard slot is more distally than the "+3" slot.
The standard slot will resect the amount of bone preselected on the femoral distal resection level selector.

If additional distal resection is required, the "+3" slot will resect 3 mm more bone.

Distal Femoral Resection

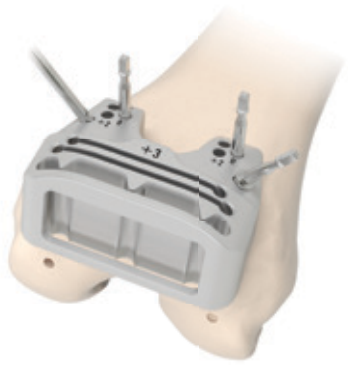


Figure 47

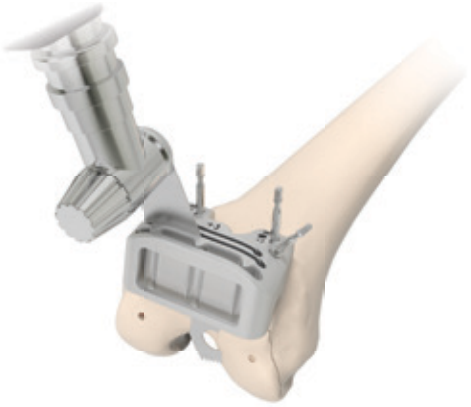


Figure 48

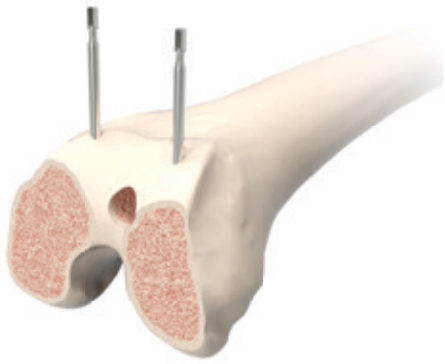


Figure 49

To stabilize the block for cutting, add one or two headed pins through the oblique holes on the cutting block to increase stability as needed *(Fig. 47)*.

Use a 1.27 mm thickness oscillating saw blade to complete the distal resection through the selected slot on the cutting block *(Fig. 48)*.
Check the resected distal femur. Recut or rasp if necessary to ensure proper resection.

NOTE. *Use a saw blade that is narrow enough to get into the cutting slot but that will give a large sweep for adequate cutting of the bone. Consider using a narrow blade for smaller sized femurs. LimaCorporate DOES NOT supply saw blades.*

After performing the distal resection, remove the headed pins.

Slide the cutting block off the pins leaving the pins in situ on the anterior femur *(Fig. 49)*.

Checking Ligaments Tension

Figure 50

Figure 51

CHECKING LIGAMENTS TENSION

After performing the distal resection, test the ligament balancing. Verify and if necessary smooth off the distal surface with the provided flat rasp. Assemble the handle for trial plates with the correct plate size. Superimpose the trial ligament tension thickness of the size corresponding to the previously performed tibial resection *(Fig. 50)*.

Put the joint in extension, insert the plate with the trial ligament tension thickness and check ligament tension *(Fig. 51)*. If necessary perform a ligament release.

Figure 52

DISTAL FEMORAL RECUT

If additional distal resection is required, the femoral cutting block must be repositioned on the anterior femoral cortex, utilising the pins originally used to position the cutting block. Once the appropriate depth is confirmed, fix the block in place using a headed pin in the oblique holes.

Depending on the appropriate thickness of additional resection needed, recut the femur through the "+3" slot, or shift the resection guide proximally onto the +2 pin holes *(Fig. 52)*.

DISTAL RECUT LEVEL SELECTION SUMMARY

Reference: preselected level on varus/valgus femoral guide	
+ 1 mm	shifting the femoral cutting block onto "-2" holes and resection through "+3" slot
+ 2 mm	shifting the femoral cutting block onto "+2" holes and resection through standard slot
+ 3 mm	femoral cutting block onto "0" holes and resection through "+3" slot
+ 5 mm	shifting the femoral cutting block onto "+2" holes and resection through "+3" slot

After the resection remove all the pins and then remove the femoral cutting block.

Femoral Sizing and Rotation

Figure 53

Figure 54

FEMORAL SIZING AND ROTATION

The sizer stylus allows the surgeon to measure the A/P size of the femur while approximating the proximal position of the anterior flange of the femoral component *(Figs. 53, 54).*

Femoral Sizing and Rotation

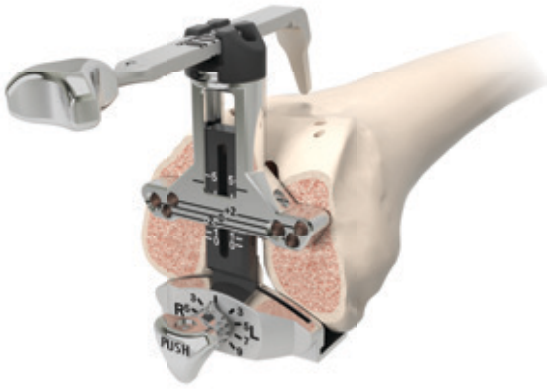


Figure 55

Position the A/P sizer so that the flat surface of the sizer is flush with the resected surface of the distal femur and the posterior paddles of the femoral sizer are in contact with the posterior condyles *(Fig. 55)*. The central slot refers to the Whiteside line *(Figure 58)*.

Set external rotation from 0 to 9 degrees by pressing and rotating the knob towards the “L” or “R” segment of the femoral sizer, for a left knee or a right knee respectively *(Fig. 56)*.

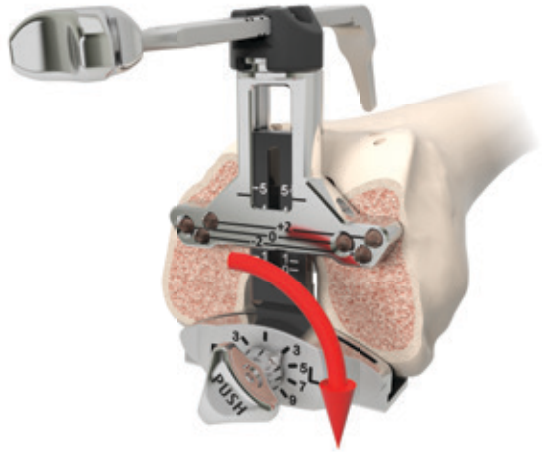


Figure 56

Femoral Sizing and Rotation

Figure 57

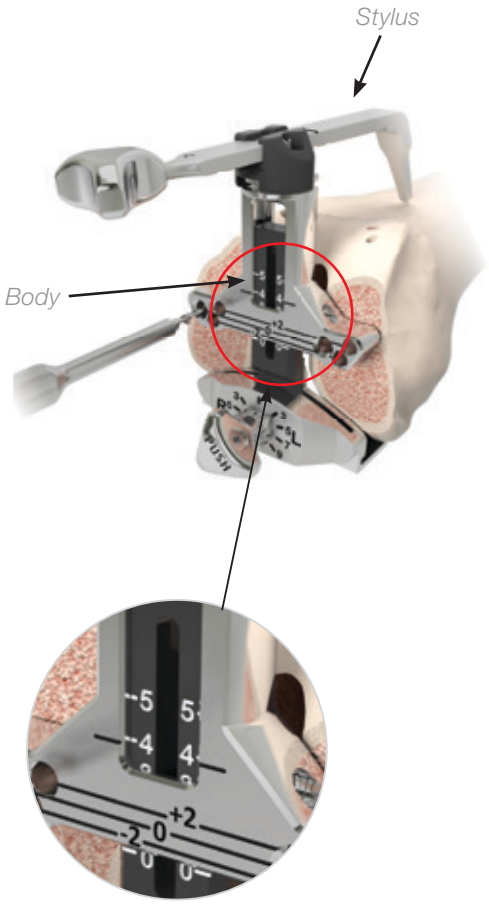


Figure 58

The rotation should be set at a suitable external rotation to line up with the patient's specific trans-epicondylar axis. This is usually about 3 degrees but will vary according to the disease progression in each knee.

Place the sizer stylus on the anterior femur with the tip referencing the point where the femoral component ends and where the saw blade exits *(Figure 57)*.

This is usually half way up the lateral, anterior prominence of the femoral trochlea.

NOTE. *The size indicated on the body should match the one on the stylus: iterate the positioning until the matching is reached*

Read the A/P femoral size directly from the scale marked on the body of the femoral sizer *(Figure 58)*.
There are 6 sizes labeled "0" through "5".

NOTE. *Multigen sizing is "anterior reference" only.*

Once the correct femoral external rotation is set and size is determined, use the 4 mm distal hole drill to create the distal peg-holes for the 4-in-1 femoral resection block through the holes on the face of the femoral sizer *(Figure 58)*.

After drilling through the holes, the sizer can be removed. Remove the sizer.

NOTE. *The final M/L position of the femoral component is not determined during this step, but is addressed later in the surgical technique.*

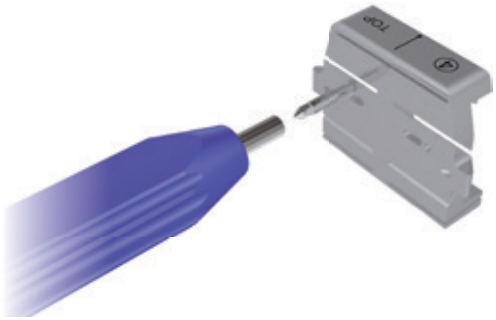


Figure 59

ANTERIOR, POSTERIOR AND CHAMFER RESECTIONS

INSERTION OF THE 45° RESECTION GUIDE

Take the 45° resection guide of the determined size and tighten the 45° resection guide pegs with the multifunction screwdriver into the posterior screwed distal holes previously prepared *(Figs. 59)*.

Impact the 45° resection guide using the tibial plate impactor until it reaches the distal contact, guided by the holes present on the distal surface *(Fig. 60)*.

Fix the guide using threaded pins with head in the lateral angled holes *(Fig. 61)*.

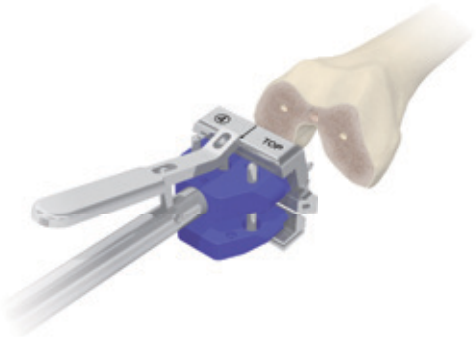


Figure 60

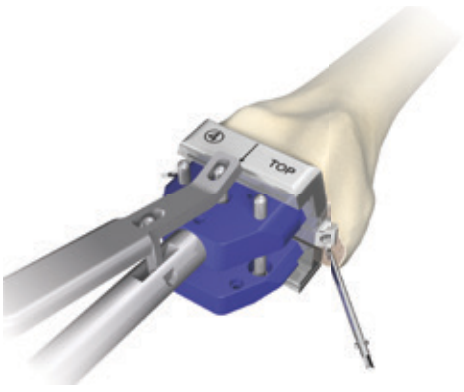


Figure 61

Anterior, Posterior and Chamfer Resections

Figure 62

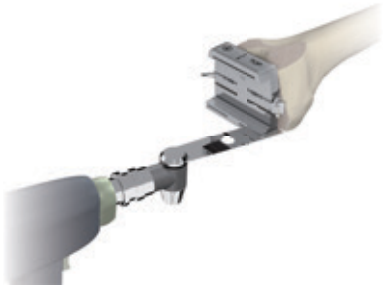


Figure 63

Figure 64

Figure 65

Figure 66

FEMORAL RESECTIONS

Proceed with the resections in the following order: anterior *(Fig. 62)*, posterior *(Fig. 63)*, anterior chamfer *(Fig. 64)* and posterior chamfer *(Fig. 65)*.

At the end of the resections remove the pins with head and the 45° resection guide *(Fig. 66)*.

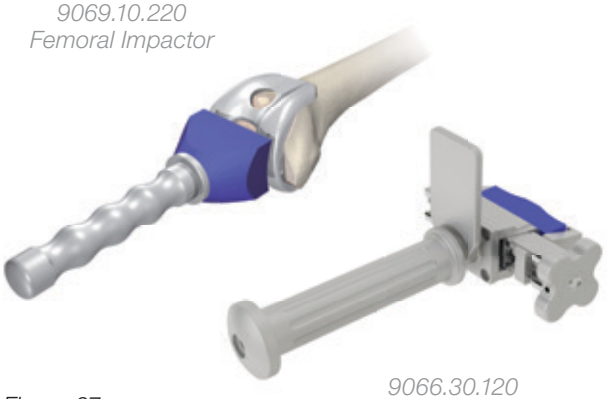


Figure 67

TRIAL FEMORAL PROSTHESIS

TRIAL PROSTHESIS POSITIONING

Position the trial femoral component of the chosen size, with the femoral extractor/positioner, right or left depending on the limb operated. Further impact the trial implant with the impactor *(Figs. 67-68)*.

TIBIAL SIZING

TRIAL TIBIAL PLATE

There are 5 tibial trial plates (9066.42.100/110/120/130/140/150) that fits to the handle for the trial tibial plate (9066.42.600) *(Fig. 69)*.
Insert the handle on the trial tibial plate of the correct size and trial the tibia.

Figure 68

TRIAL TIBIAL LINER

Place the CR articular liner on the trial tibial plate *(Fig. 70)*, with the thickness corresponding to the tibial cut performed.

Figure 69

Figure 70

Trial Reduction

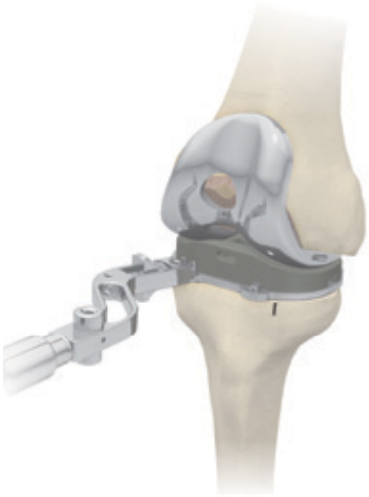


Figure 71

TRIAL REDUCTION

After having performed the trial reduction, mark the tibial plate position, tracing one or two lines on the tibia with an electric bistoury in line with the reference points on the trial tibial plate *(Fig. 71)*.

Figure 72

Figure 73

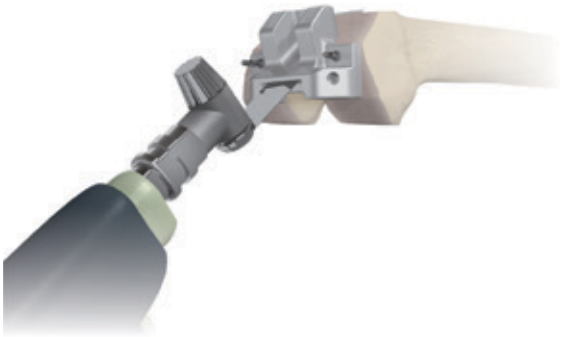


Figure 74

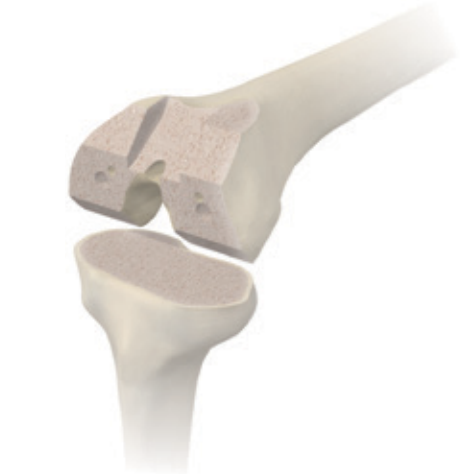


Figure 75

CR AND PS FEMORAL PREPARATIONS

During the trial reduction, verify the medio-lateral position of the trial femoral component in order to achieve the maximum congruence with the articular surface of the tibia.

Using the drill, prepare the seat of the definitive femoral component pegs through the two large diameter holes positioned anteriorly on the trial femoral component *(Fig. 72)*. Eventually remove the trial component.

Position the femoral guide for the box PS + notch 36° for CR and PS preparations. Use the same femoral size, on the distal surface, following the holes prepared for the definitive component. Impact the guide until the distal contact is reached. If necessary insert two threaded pins with head to fix it *(Fig. 73)*.

NOTE. *PS and CR are using the same femoral guide for box PS+ notch 36°.*

CR PREPARATION

Insert a narrow sawblade (or a chisel) through the distal horizontal slot of the resection guide in direction from anterior to posterior *(Fig. 74)*.
Remove the pins and femoral guide for box PS + notch 36° and clean the surface for the internal prominence of the definitive femoral component *(Fig. 75)*.

CR and PS Femoral Preparations

Figure 76

Figure 77

Figure 78

Figure 79

PS PREPARATION

After performing the trochlear chamfer as described in the previous paragraph *(Fig. 75)*, insert a thin saw blade (or a knife) through the anterior slots (the most internal ones) and proceed with the preparation of the box *(Fig. 76)* necessary to house the PS tibial liner peg.

NOTE. *It is better to use a thin saw blade or a stern blade, specifically when the bone condition dœs not allow the use of the osteotome.*

At the end, remove the pins and the femoral guide for box PS + notch 36° *(Fig. 77)*. Now, it is possible to perform the trial reduction, using the PS trial components. Take the CR trial femoral component of previously determined size, right or left, depending on the limb operated on, and fasten the PS wall (#1-5 or #0) in the 2 holes on the posterior condyles *(Figs. 78-79)*.

NOTE. *The PS wall is the same for the sizes 1, 2, 3, 4, 5, only size 0 requires another wall.*

Insert now into the CR liner, of the desired size, the tibial module (#1-5 or #0) to transform it into a PS liner *(Fig. 80)*. Insert the PS liner into the corresponding trial tibial plate *(Fig. 81)*.

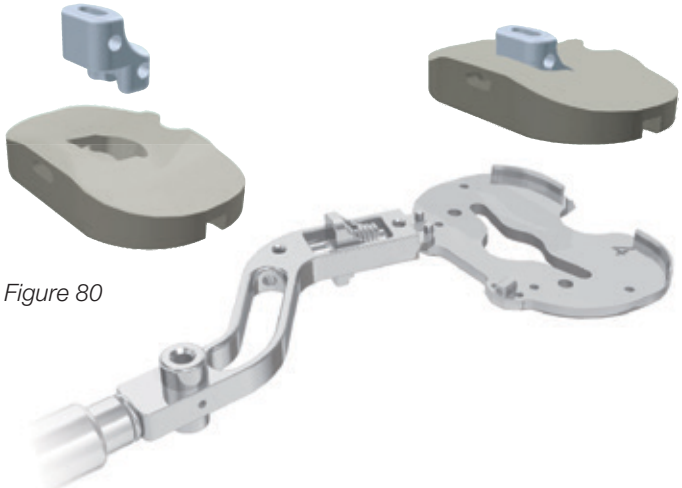


Figure 80

Figure 81

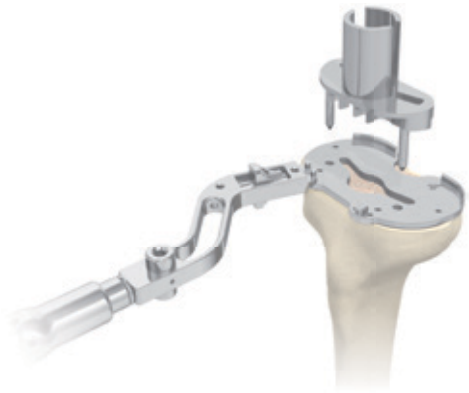


Figure 82

Figure 83

Figure 84

TIBIAL PLATE PREPARATION

Reposition the trial tibial plate in the position previously marked with the electric bistoury and fix it to the tibia using the provided low-head pins.

On the trial tibial plate the shape of the tibial winged broach is cut-out to prepare the seat of the definitive tibial plate.

In case of necrotic bone presence, the side fins of the winged broach should be prepared with an osteotome, to avoid excessive percussion during the position of the broach.

Connect the guide for the winged broach to the trial tibial plate *(Fig. 82)*, beating it axially so that the fixed pins protruding from it penetrate the bone tissue *(Fig. 83)*.

Insert the winged broach into the guide and hammer it axially with a mallet to the guide *(Fig. 84)*.

To remove the broach and the guide the use of the 9066.25.190 Multifunction Extractor or the short beater (9066.35.621) could be helpful *(Fig. 85)*.

Screw the extractor into the hole of the tibial winged and extract it by using the inertial mass.

9066.25.190
Multifunction Extractor

9066.35.621
Beater

Figure 85

Tibial Plate Preparation

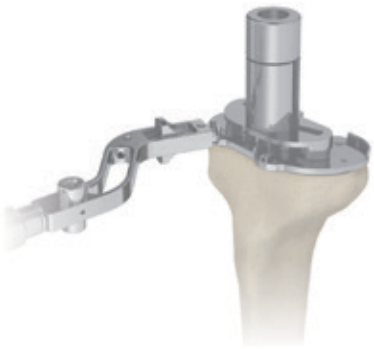


Figure 86

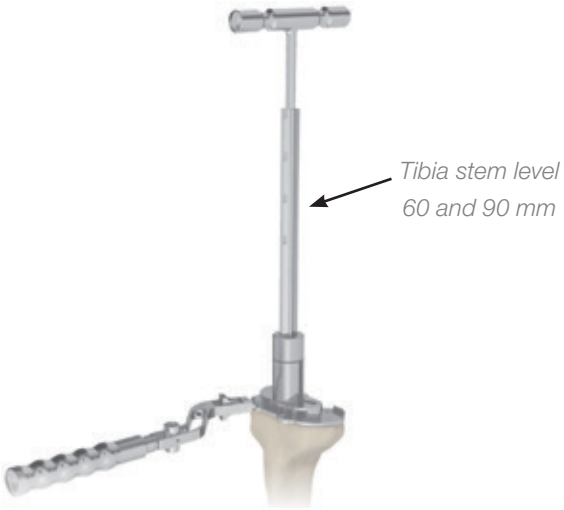


Figure 87

Figure 88

If the use of an additional tibial stem is planned, insert the reduction adapter on the reamer guide and insert the reamer into the broach guide until the desired tibial stem level is reached: two notches on the reamer indicate the depht of the stem canal *(Figs. 86-87)*.

Remove the reamer and the reduction adapter. At the end remove the trial tibial plate, paying attention to the low-head pins, and clean the resection surfaces and canals *(Fig. 88)*.

Now proceed with the implant of the definitive components.

Figure 89

Figure 90

DEFINITIVE COMPONENTS

DEFINITIVE TIBIAL PLATE INSERTION

Take the selected tibial plate (fixed or mobile) of the previously determined size, and any additional tibial stem from their sterile packaging.
The additional tibial stem is inserted by percussion onto the conical end of the tibial plate.

CEMENTED FIX TIBIAL IMPLANT

If the tibial implant must be cemented, spread the cement to the lower surface of the fixed tibial plate, then clamp the definitive tibial plate with the Multi-Purpose impactor and impact it into the bone cavity carefully by axial percussions *(Fig. 89)*.

Remove the Multi-Purpose impactor and replace it with the Tibial impactor *(Fig. 90)*. Its small dimension allows to clean the cement in excess, with a good visual angle. Press on the tibial plate until the cement is completely polymerised.

CEMENTLESS FIX TIBIAL IMPLANT

If the tibial implant is a cementless implant, insert the multi-purpose impactor into the definitive fixed tibial plate and fit it into the bone cavity carefully by axial percussions.
If spongy tissue screws are considered necessary for additional fixation, remove the plastic plugs protecting the holes before implanting the tibial plate.

After impacting the plate in the bone site, proceed with the preparation of the seat for the spongy tissue screws in the four holes of the final tibial plate.

Tighten the four screws only after all of them are inserted.

NOTE. For the screw fixation you need a large fragment set, as these intruments are not standard in the set. You need a drill 4.5 and a measuring device. The screwdriver is included in the set.

Definitive Components

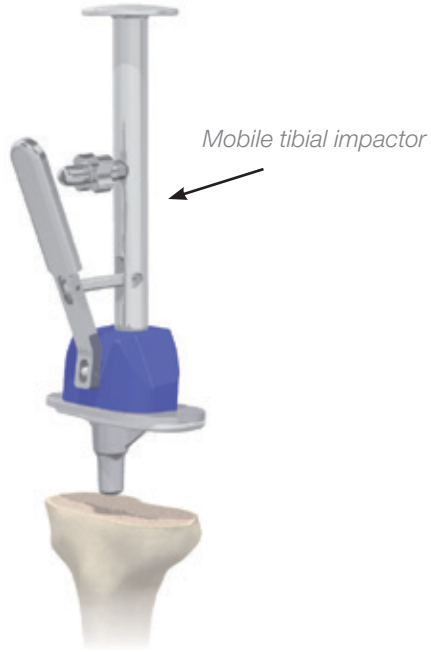


Figure 91

Figure 92

CEMENTED MOBILE TIBIAL IMPLANT

The mobile implant follows the same procedure indicated for the cemented fix tibial implant, but using the mobile tibial impactor *(Figs. 91-92).*

CEMENTLESS MOBILE TIBIAL IMPLANT

If the tibial implant is a cementless implant, insert the mobile tibial impactor into the definitive mobile tibial plate and fit it into the bone cavity carefully by axial percussions.

Femoral Extractor / Positioner

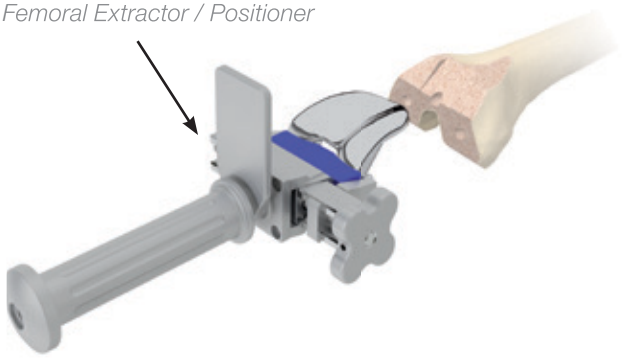


Figure 93

DEFINITIVE FEMORAL COMPONENT INSERTION

CR and PS femoral components can be cemented or uncemented.

DEFINITIVE CEMENTED FEMORAL COMPONENT INSERTION

Prepare the cement following the instructions.
Spread the cement on the anterior and distal surface of the femur and on the posterior condyles of the definitive femoral component.

Using the Femoral Extractor/Positioner, position the femoral component in the bone seat centering the peg holes *(Fig. 93)*.

Remove the Femoral Extractor/Positioner and use the Femoral Impactor to fix the femoral component.
Clean the cement in excess paying attention not to damage the component surface.

CR AND PS DEFINITIVE CEMENTLESS FEMORAL COMPONENTS INSERTION **(only for PoroTi version)**

Using the femoral impactor-extractor, position the femoral component on its seat in order to centre the peg holes. Impact the femoral component, until all the prosthetic surfaces make contact with the femur *(Fig. 93)*.

Figure 94

The liner clicks into the plate

Figure 95

Figure 96

POLYETHYLENE LINER INSERTION

CR-PS FIXED LINER

Before proceeding with the insertion of the definitive polyethylene liner, it is still possible to perform a reduction using the trial to verify correct joint tension even after possible cementation of both parts.

Once the appropriate tests are completed, making sure not to damage the articular surface of the femur, introduce the definitive polyethylene liner of the selected thickness and of the size corresponding to the one of the tibial plate.

Clean the metallic plate with extreme care to avoid the presence of soft tissue or cement on the plate bottom and make the liner slide posteriorly, so that the back tooth of the metallic plate enters the polyethylene seat *(Fig. 94)*.

Adequate pressure on the tibial liner impactor will guarantee that the liner clicks into place *(Fig. 95)*.

The fixed liner size is the same as the fixed tibial plate size. To remove the liner use the given tibial liner extractor, which has to be inserted in the two frontal holes of the PE liner *(Fig. 96)*.

Figure 97

Figure 98

CR-PS MOBILE LINERS

Important: The size of the mobile liner must match the femoral component size.

The tibial plate size can be, at most, one size smaller than the liner size (and the femoral component used).

The mobile liner is connected to the plate, snap-fitting onto its metal peg *(Figs. 97-98)*.

Ultra Congruent Liners

Figure 99

Figure 100

ULTRA CONGRUENT LINERS

The UC liners are mobile *(Fig. 99)* and fixed liners *(Fig. 100)* for Multigen Plus mobile tibial plate and fixed tibial plate.

The UC liners are designed with highest anterior lip in order to be used with a CR femoral component also in case of posterior cruciate ligament sacrifice, guaranteeing implant stability.

Figure 108

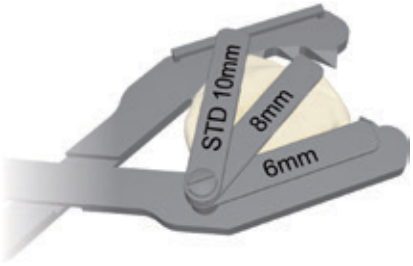


Figure 109

Figure 110

Figure 111

PATELLAR PROSTHESIS

MEASUREMENT OF THE PATELLA

Using the patellar gauge, determine the thickness of the patella before the resection *(Fig. 108)*.

RESECTION

If the measured thickness is at least 20 mm, lean the stylus marked 10 mm STD on the patella. In this case the resection will be 10 mm and the definitive PE patella implant will be 10 mm thick *(Fig. 109)*.
If the measured thickness is lower than 10 mm, leaving at least 10 mm of bone, the resection will be lower.
Lean on the patella the 8 mm or 6 mm stylus in order to determine the cutting position for implanting an 8 mm definitive PE patella.
For the resection, use a saw inserted through the slot in the lateral side of the plier *(Fig. 110)*.

MEASURING THE PATELLA SIZE

Position the patellar masks onto the resected patella choosing the one that fits the bone the best and determine this way the right size of the definitive implant *(Fig. 111)*.

Align the patellar drill guide with the patellar mask of the correct size and fix it to the bone *(Fig. 112)*.

Figure 112

Patellar Prosthesis

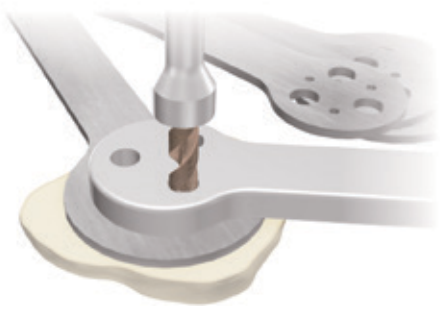


Figure 113

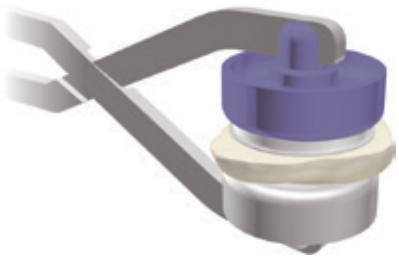


Figure 114

Drill the peg holes using the patellar drill *(Fig. 113)*.

With the trial patella (dome shape) it is possible to check the correct femoral tracking.

PATELLAR IMPLANT

Spread the cement on the resected surface and introduce the pegs of the patellar component in the previously drilled holes. Use the patella clamp to maintain the contact until the polymerization is complete *(Fig. 114)*.

Figure 115

DEFINITIVE IMPLANTS

- CR Implant with fix tibial plate *(Fig. 115);*
- CR Implant with mobile tibial plate *(Fig. 116);*
- PS Implant with fix tibial plate *(Fig. 117);*
- PS Implant with mobile tibial plate *(Fig. 118).*

Figure 116

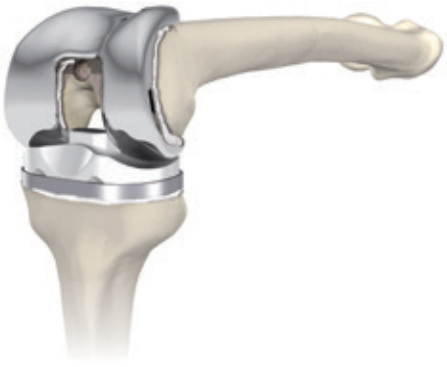
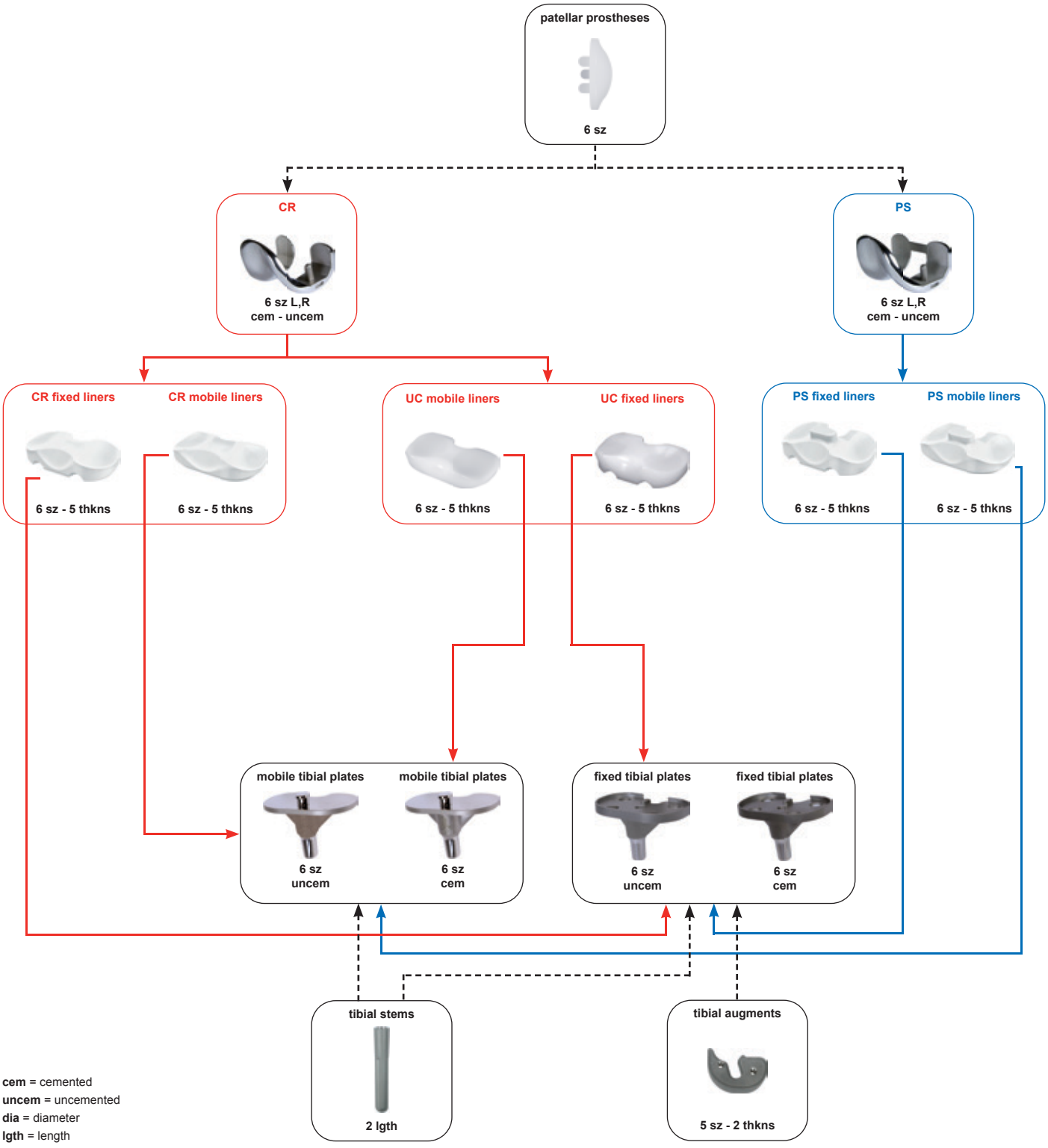


Figure 117

Figure 118

MULTIGEN PLUS SURGICAL TECHNIQUE

Product Combination



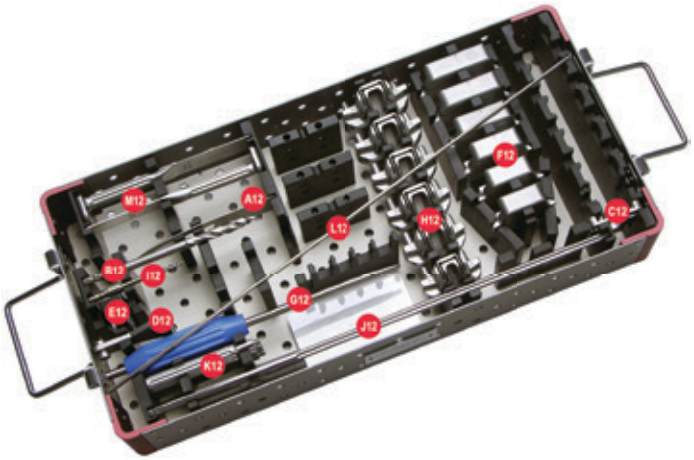
cem = cemented
uncem = uncemented
dia = diameter
lgth = length
sz = size
thkns = thickness
sym = symmetrical
L = left
R = right

CR

PS

optional

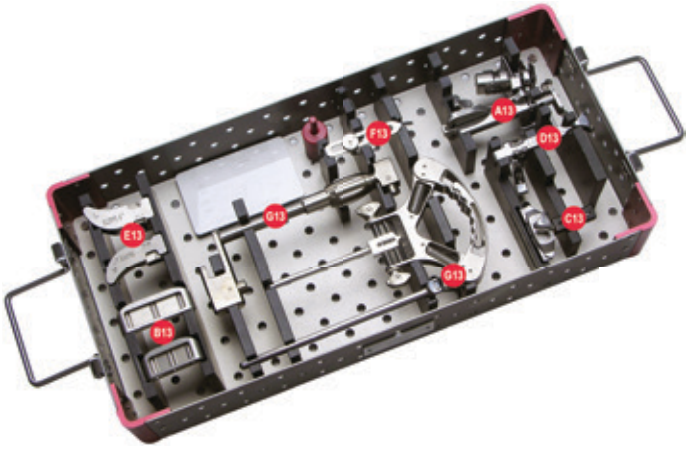
9066.12.000 Multigen Plus - Evolute Femoral Set n. 1



Ref.	CODE	DESCRIPTION	Qty.
A12	9066.12.010	Sickle	1
B12	9066.12.030	Starting Reamer	1
C12	9066.12.040	Distal Re-Cut Thickness	1
D12	9066.12.080	Valgus Tower	1
E12	9066.12.195	Nail for 45° Resection Guide	6
F12	9066.12.200	45° Resection Guide - #0	1
F12	9066.12.210	45° Resection Guide - #1	1
F12	9066.12.220	45° Resection Guide - #2	1
F12	9066.12.230	45° Resection Guide - #3	1
F12	9066.12.240	45° Resection Guide - #4	1
F12	9066.12.250	45° Resection Guide - #5	1
G12	9066.12.290	Multifunction Screwdriver	1
H12	9066.12.300	Box PS+Notch 36° Femoral Guide - #0	1
H12	9066.12.310	Box PS+Notch 36° Femoral Guide - #1	1
H12	9066.12.320	Box PS+Notch 36° Femoral Guide - #2	1
H12	9066.12.330	Box PS+Notch 36° Femoral Guide - #3	1
H12	9066.12.340	Box PS+Notch 36° Femoral Guide - #4	1
H12	9066.12.350	Box PS+Notch 36° Femoral Guide - #5	1
I12	9066.12.380	Distal Hole Drill	1
J12	9066.15.010	IM Nail	1
K12	9066.15.055	Handle for Guide	4
L12	9066.15.090	Alignment Rod	1
M12	9066.30.040	Osteotome	1
M12	9066.50.130	Osteotome #0	1
	9066.12.920	Instrument Tray	1

MULTIGEN PLUS SURGICAL TECHNIQUE
Instrument Set

9066.13.000 Multigen Plus - Upgrade Set



Ref.	CODE	DESCRIPTION	Qty.
A13	9066.13.020	Femoral Alignment Guide	1
B13	9066.13.030	Femoral Distal Cutting Block - Small	1
B13	9066.13.035	Femoral Distal Cutting Block - Large	1
C13	9066.13.050	Femoral A/P Sizer	1
D13	9066.13.052	Femoral A/P Sizing Stylus	1
E13	9066.13.126	Tibial Cutting Block - Right 6°	1
E13	9066.13.136	Tibial Cutting Block - Left 6°	1
F13	9065.20.050	Tibial Stylus 10/2mm	1
G13	9066.13.161	EM Tibial Alignment Guide with Clamp	1
	9066.13.950	Instrument Tray	1

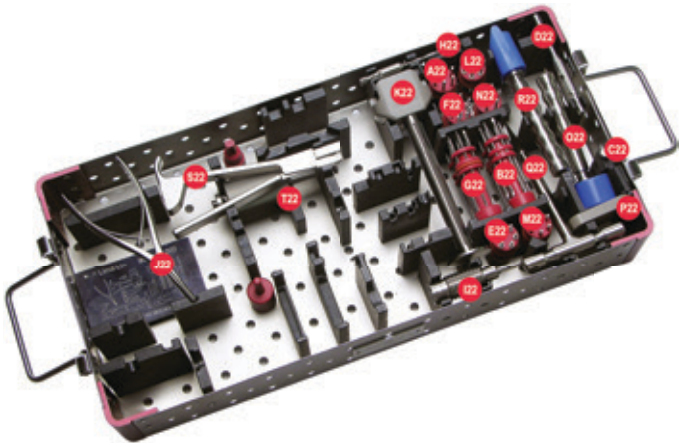
9066.13.170 IM Tibial Guide *

Ref.	CODE	DESCRIPTION	Qty.
	9066.13.170	IM Tibial guide	1

* optional

NOTE. space is foreseen in the upgrade set 9066.13.000 for this instrument

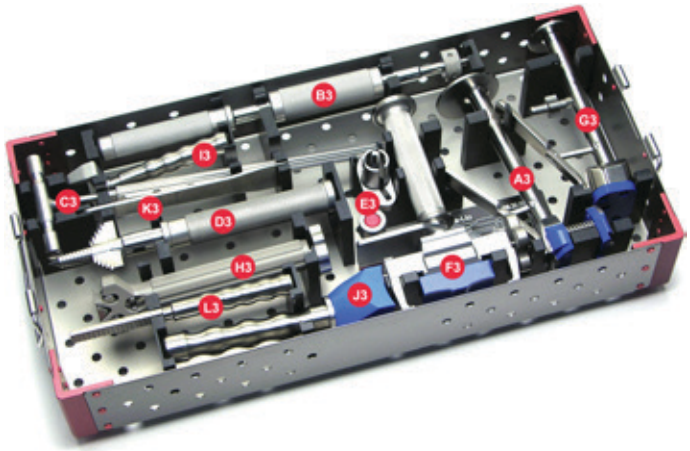
9066.22.000 Multigen Plus - Evolute Tibial Set n. 2



Ref.	CODE	DESCRIPTION	Qty.
A22	9066.15.092	Dia. 3x60mm Fiches	6
B22	9066.15.095	Dia. 3x80mm Fiches	6
C22	9066.15.235	Fiches Beater	1
D22	9066.22.010	Pin Driver	1
E22	9066.22.045	Screwed Pin with Head Dia. 3x45mm	6
F22	9066.22.060	Screwed Pin with Head Dia. 3x60mm	6
G22	9066.22.080	Screwed Pin with Head Dia. 3x80mm	6
H22	9066.22.160	Pre-Drill Dia. 3mm	1
I22	9066.22.170	Zimmer Rapid Connector	1
J22	9066.22.180	Tibial Nail Exctractor Plier	1
K22	9066.22.190	All-Poly Tibial Plate Impactor	1
L22	9066.22.260	Pin with Head Dia. 3x60mm	6
B22	9066.22.280	Pin with Head Dia. 3x80mm	6
M22	9066.24.045	Screwed Pin Without Head Dia. 3x45	6
N22	9066.24.060	Screwed Pin Without Head Dia. 3x60	6
G22	9066.24.080	Screwed Pin Without Head Dia. 3x80	6
O22	9066.25.110	Tibial Impactor	1
P22	9066.25.180	Tibial Check Block	1
Q22	9066.30.020	Awl	1
R22	9066.30.160	Liners Impactor	1
S22	9066.35.620	Fiches Exctractor Plier	1
T22	9066.35.621	Inertial Beater	1
	9066.22.920	Sterilizable Box	1

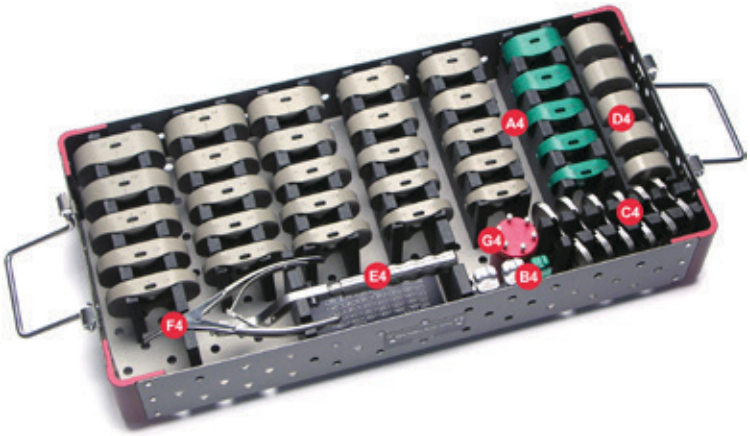
MULTIGEN PLUS SURGICAL TECHNIQUE
Instrument Set

▼ 9066.32.000 Multigen Plus - Evolute Impactors Set n. 3



Ref.	CODE	DESCRIPTION	Qty.
A3	9066.25.100	Multifunction Impactor-Extractor	1
B3	9066.25.190	Multifunction Extractor	1
C3	9066.30.070	Femoral/Tibial Reamer	1
D3	9066.30.100	Tibial Winged Broach	1
E3	9066.30.110	Guide for Winged Broach/Reamer	1
F3	9066.30.120	Femoral Extractor/Positioner	1
G3	9066.30.135	Mobile Tibial Plate Impactor	1
H3	9066.32.010	Femoral Introducer	1
I3	9066.32.020	Femoral Extractor	1
J3	9069.10.220	Femoral Impactor	1
K3	9069.50.040	Tibial Liner Extractor	1
L3	9095.10.337	Flat Rasp	1
	9066.32.920	Sterilizable Box	1

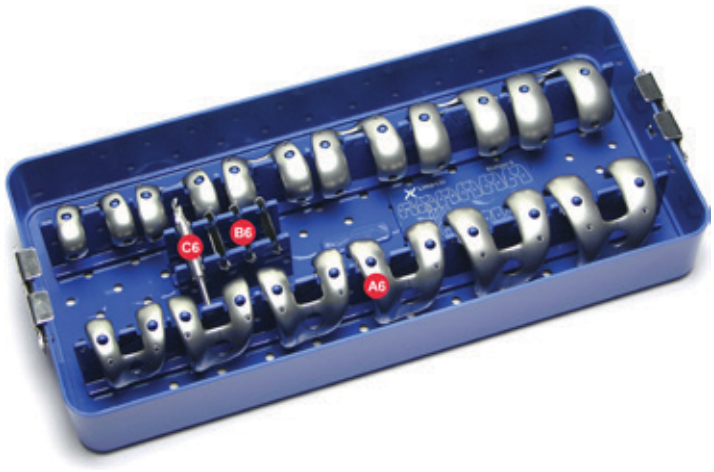
9066.42.000 Evolute - Tibial Trial Components Set n. 4



Ref.	CODE	DESCRIPTION	Qty.
A4	9066.35.010	CR- PS Trial Liner - #0 / 10mm	1
A4	9066.35.012	CR- PS Trial Liner - #0 / 12mm	1
A4	9066.35.014	CR- PS Trial Liner - #0 / 14mm	1
A4	9066.35.017	CR- PS Trial Liner - #0 / 17mm	1
A4	9066.35.020	CR- PS Trial Liner - #0 / 20mm	1
A4	9066.35.110	CR- PS Trial Liner - #1 / 10mm	1
A4	9066.35.112	CR- PS Trial Liner - #1 / 12mm	1
A4	9066.35.114	CR- PS Trial Liner - #1 / 14mm	1
A4	9066.35.117	CR- PS Trial Liner - #1 / 17mm	1
A4	9066.35.120	CR- PS Trial Liner - #1 / 20mm	1
A4	9066.35.210	CR- PS Trial Liner - #2 / 10mm	1
A4	9066.35.212	CR- PS Trial Liner - #2 / 12mm	1
A4	9066.35.214	CR- PS Trial Liner - #2 / 14mm	1
A4	9066.35.217	CR- PS Trial Liner - #2 / 17mm	1
A4	9066.35.220	CR- PS Trial Liner - #2 / 20mm	1
A4	9066.35.310	CR- PS Trial Liner - #3 / 10mm	1
A4	9066.35.312	CR- PS Trial Liner - #3 / 12mm	1
A4	9066.35.314	CR- PS Trial Liner - #3 / 14mm	1
A4	9066.35.317	CR- PS Trial Liner - #3 / 17mm	1
A4	9066.35.320	CR- PS Trial Liner - #3 / 20mm	1
A4	9066.35.410	CR- PS Trial Liner - #4 / 10mm	1
A4	9066.35.412	CR- PS Trial Liner - #4 / 12mm	1
A4	9066.35.414	CR- PS Trial Liner - #4 / 14mm	1
A4	9066.35.417	CR- PS Trial Liner - #4 / 17mm	1
A4	9066.35.420	CR- PS Trial Liner - #4 / 20mm	1
A4	9066.35.510	CR- PS Trial Liner - #5 / 10mm	1
A4	9066.35.512	CR- PS Trial Liner - #5 / 12mm	1
A4	9066.35.514	CR- PS Trial Liner - #5 / 14mm	1
A4	9066.35.517	CR- PS Trial Liner - #5 / 17mm	1
A4	9066.35.520	CR- PS Trial Liner - #5 / 20mm	1
B4	9066.35.035	PS Tibial Module for Liner #0	1
B4	9066.35.135	PS Tibial Module for Liner #1-5	2
C4	9066.42.100	Trial Tibial Plate #0	1
C4	9066.42.110	Trial Tibial Plate #1	1
C4	9066.42.120	Trial Tibial Plate #2	1
C4	9066.42.130	Trial Tibial Plate #3	1
C4	9066.42.140	Trial Tibial Plate #4	1
C4	9066.42.150	Trial Tibial Plate #5	1
D4	9066.42.710	h 10mm Trial Ligament Tension Thickness	1
D4	9066.42.720	h 12mm Trial Ligament Tension Thickness	1
D4	9066.42.730	h 14mm Trial Ligament Tension Thickness	1
D4	9066.42.740	h 17mm Trial Ligament Tension Thickness	1
D4	9066.42.750	h 20mm Trial Ligament Tension Thickness	1
E4	9066.42.600	Handle for Trial Tibial Plate	1
F4	9066.35.610	Plier for Trial Tibial Liner extractor	1
G4	9069.10.275	Pin for Trial Tibial Plates	6
	9066.42.950	Sterilizable Box	1

MULTIGEN PLUS SURGICAL TECHNIQUE
Instrument Set

▼ 9066.45.000 Multigen Plus - Asymmetric Femoral Trial Components Set n. 6



Ref.	CODE	DESCRIPTION	Qty.
A6	9066.45.105	CR-PS Trial Femoral Component #0 Rt	1
A6	9066.45.110	CR-PS Trial Femoral Component #1 Rt	1
A6	9066.45.120	CR-PS Trial Femoral Component #2 Rt	1
A6	9066.45.130	CR-PS Trial Femoral Component #3 Rt	1
A6	9066.45.140	CR-PS Trial Femoral Component #4 Rt	1
A6	9066.45.150	CR-PS Trial Femoral Component #5 Rt	1
A6	9066.45.205	CR-PS Trial Femoral Component #0 Lt	1
A6	9066.45.210	CR-PS Trial Femoral Component #1 Lt	1
A6	9066.45.220	CR-PS Trial Femoral Component #2 Lt	1
A6	9066.45.230	CR-PS Trial Femoral Component #3 Lt	1
A6	9066.45.240	CR-PS Trial Femoral Component #4 Lt	1
A6	9066.45.250	CR-PS Trial Femoral Component #5 Lt	1
B6	9066.35.006	PS Wall #0	1
B6	9066.35.106	PS Wall #1-5	2
C6	9066.30.050	Femoral Pegs Drill	1
	9066.45.920	Sterilizable Box	1

9066.41.000 Multigen Plus - Patellar Set n. 7

Ref.	CODE	DESCRIPTION	Qty.
A7	9066.40.050	Patellar Gauge	1
B7	9066.40.010	Patellar Pliers	1
C7	9066.40.020	Patellar Vice	1
D7	9066.40.025	Patellar Drilling Guide	1
E7	9066.40.070	Patellar Mask	1
F7	9066.40.060	Patellar Drill	1
G7	9066.40.128	Trial Patellar Dome - Dia. 28mm h 8mm	1
G7	9066.40.132	Trial Patellar Dome - Dia. 32mm h 8mm	1
G7	9066.40.032	Trial Patellar Dome - Dia. 32mm h 10mm	1
G7	9066.40.035	Trial Patellar Dome - Dia. 35mm h 10mm	1
G7	9066.40.038	Trial Patellar Dome - Dia. 38mm h 10mm	1
G7	9066.40.041	Trial Patellar Dome - Dia. 41mm h 10mm	1
	9066.41.920	Sterilizable Box	1

MULTIGEN PLUS SURGICAL TECHNIQUE

Product Codes

CR Femoral Component - Right CEM

CR Femoral Component - LEFT CEM

CR CEMENTED FEMORAL COMPONENTS

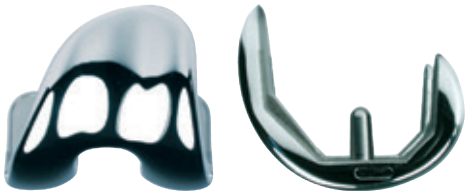
CoCrMo	**Right**		
	6610.09.105	#0	■
	6610.09.110	#1	
	6610.09.120	#2	
	6610.09.130	#3	
	6610.09.140	#4	
	6610.09.150	#5	
	Left		
	6610.09.205	#0	■
	6610.09.210	#1	
	6610.09.220	#2	
	6610.09.230	#3	
	6610.09.240	#4	
	6610.09.250	#5	

■ upon request

Product Codes

CR CEMENTLESS FEMORAL COMPONENTS

CR Femoral Components - Right UNC



CR Femoral Components - Left UNC

CoCrMo + PoroTi	**Right**		
	6610.10.105	#0	■
	6610.10.110	#1	■
	6610.10.120	#2	■
	6610.10.130	#3	■
	6610.10.140	#4	■
	6610.10.150	#5	■
	Left		
	6610.10.205	#0	■
	6610.10.210	#1	■
	6610.10.220	#2	■
	6610.10.230	#3	■
	6610.10.240	#4	■
	6610.10.250	#5	■

■ upon request

PS CEMENTED FEMORAL COMPONENTS

PS Femoral Components - Right CEM

PS Femoral Components - Left CEM

CoCrMo	**Right**		
	6612.09.105	#0	■
	6612.09.110	#1	
	6612.09.120	#2	
	6612.09.130	#3	
	6612.09.140	#4	
	6612.09.150	#5	
	Left		
	6612.09.205	#0	■
	6612.09.210	#1	
	6612.09.220	#2	
	6612.09.230	#3	
	6612.09.240	#4	
	6612.09.250	#5	

■ upon request

Product Codes

PS CEMENTLESS FEMORAL COMPONENTS

PS Femoral Components - Right UNC

PS Femoral Components - Left UNC

CoCrMo + PoroTi	**Right**		
	6612.10.105	#0	■
	6612.10.110	#1	■
	6612.10.120	#2	■
	6612.10.130	#3	■
	6612.10.140	#4	■
	6612.10.150	#5	■
	Left		
	6612.10.205	#0	■
	6612.10.210	#1	■
	6612.10.220	#2	■
	6612.10.230	#3	■
	6612.10.240	#4	■
	6612.10.250	#5	■

■ upon request

CEMENTED FIXED TIBIAL PLATES

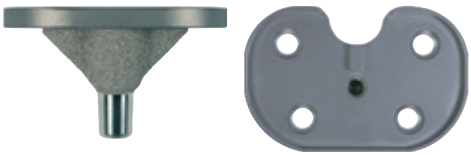
Cemented Fixed Tibial Plates

Ti6Al4V			
	6624.15.105	#0	■
	6624.15.110	#1	
	6624.15.120	#2	
	6624.15.130	#3	
	6624.15.140	#4	
	6624.15.150	#5	

■ upon request

Product Codes

CEMENTLESS FIXED TIBIAL PLATES



Uncemented Fixed Tibial Plates

Ti6Al4V + PoroTi	6624.21.105	#0	■
	6624.21.110	#1	■
	6624.21.120	#2	■
	6624.21.130	#3	■
	6624.21.140	#4	■
	6624.21.150	#5	■

■ upon request

CEMENTED MOBILE TIBIAL PLATES

Mobile Tibial Plates - CEM

CoCrMo	6623.09.005	#0	■
	6623.09.010	#1	
	6623.09.020	#2	
	6623.09.030	#3	
	6623.09.040	#4	
	6623.09.050	#5	

■ upon request

CEMENTLESS MOBILE TIBIAL PLATES

Uncemented Mobile Tibial Plates

CoCrMo + PoroTi	6623.10.005	#0	■
	6623.10.010	#1	■
	6623.10.020	#2	■
	6623.10.030	#3	■
	6623.10.040	#4	■
	6623.10.050	#5	■

■ upon request

MULTIGEN PLUS SURGICAL TECHNIQUE

Product Codes

CR Tibial Liners for Fixed Plate

CR - FIXED TIBIAL LINERS

UHMWPE	**for Tibial Plate # 0**		
	6634.50.010	h 10 mm	■
	6634.50.020	h 12 mm	■
	6634.50.030	h 14 mm	■
	6634.50.040	h 17 mm	■
	6634.50.050	h 20 mm	■
	for Tibial Plate # 1		
	6635.50.010	h 10 mm	
	6635.50.020	h 12 mm	
	6635.50.030	h 14 mm	
	6635.50.040	h 17 mm	
	6635.50.050	h 20 mm	■
	for Tibial Plate # 2		
	6637.50.010	h 10 mm	
	6637.50.020	h 12 mm	
	6637.50.030	h 14 mm	
	6637.50.040	h 17 mm	
	6637.50.050	h 20 mm	■
	for Tibial Plate # 3		
	6639.50.010	h 10 mm	
	6639.50.020	h 12 mm	
	6639.50.030	h 14 mm	
	6639.50.040	h 17 mm	
	6639.50.050	h 20 mm	■
	for Tibial Plate # 4		
	6641.50.010	h 10 mm	
	6641.50.020	h 12 mm	
	6641.50.030	h 14 mm	
	6641.50.040	h 17 mm	
	6641.50.050	h 20 mm	■
	for Tibial Plate # 5		
	6643.50.010	h 10 mm	
	6643.50.020	h 12 mm	
	6643.50.030	h 14 mm	
	6643.50.040	h 17 mm	
	6643.50.050	h 20 mm	■

■ upon request

Product Codes

PS Tibial Liners for Fixed Plate

PS - FIXED TIBIAL LINERS

UHMWPE	**for Tibial Plate # 0**		
	6661.50.010	h 10 mm	■
	6661.50.012	h 12 mm	■
	6661.50.014	h 14 mm	■
	6661.50.017	h 17 mm	■
	6661.50.020	h 20 mm	■
	for Tibial Plate # 1		
	6661.50.110	h 10 mm	
	6661.50.112	h 12 mm	
	6661.50.114	h 14 mm	
	6661.50.117	h 17 mm	
	6661.50.120	h 20 mm	■
	for Tibial Plate # 2		
	6661.50.210	h 10 mm	
	6661.50.212	h 12 mm	
	6661.50.214	h 14 mm	
	6661.50.217	h 17 mm	
	6661.50.220	h 20 mm	■
	for Tibial Plate # 3		
	6661.50.310	h 10 mm	
	6661.50.312	h 12 mm	
	6661.50.314	h 14 mm	
	6661.50.317	h 17 mm	
	6661.50.320	h 20 mm	■
	for Tibial Plate # 4		
	6661.50.410	h 10 mm	
	6661.50.412	h 12 mm	
	6661.50.414	h 14 mm	
	6661.50.417	h 17 mm	
	6661.50.420	h 20 mm	■
	for Tibial Plate # 5		
	6661.50.510	h 10 mm	
	6661.50.512	h 12 mm	
	6661.50.514	h 14 mm	
	6661.50.517	h 17 mm	
	6661.50.520	h 20 mm	■

■ upon request

Product Codes

CR Tibial Liners for Mobile Plate

CR - MOBILE TIBIAL LINERS

UHMWPE	**for Femoral Component # 0**		
	6663.50.010	h 10 mm	■
	6663.50.012	h 12 mm	■
	6663.50.014	h 14 mm	■
	6663.50.017	h 17 mm	■
	6663.50.020	h 20 mm	■
	for Femoral Component # 1		
	6663.50.110	h 10 mm	
	6663.50.112	h 12 mm	
	6663.50.114	h 14 mm	
	6663.50.117	h 17 mm	
	6663.50.120	h 20 mm	■
	for Femoral Component # 2		
	6663.50.210	h 10 mm	
	6663.50.212	h 12 mm	
	6663.50.214	h 14 mm	
	6663.50.217	h 17 mm	
	6663.50.220	h 20 mm	■
	for Femoral Component # 3		
	6663.50.310	h 10 mm	
	6663.50.312	h 12 mm	
	6663.50.314	h 14 mm	
	6663.50.317	h 17 mm	
	6663.50.320	h 20 mm	■
	for Femoral Component # 4		
	6663.50.410	h 10 mm	
	6663.50.412	h 12 mm	
	6663.50.414	h 14 mm	
	6663.50.417	h 17 mm	
	6663.50.420	h 20 mm	■
	for Femoral Component # 5		
	6663.50.510	h 10 mm	
	6663.50.512	h 12 mm	
	6663.50.514	h 14 mm	
	6663.50.517	h 17 mm	
	6663.50.520	h 20 mm	■

■ upon request

PS Tibial Liners for Mobile Plate

PS MOBILE TIBIAL LINERS

UHMWPE	**for Femoral Component # 0**		
	6664.50.010	h 10 mm	■
	6664.50.012	h 12 mm	■
	6664.50.014	h 14 mm	■
	6664.50.017	h 17 mm	■
	6664.50.020	h 20 mm	■
	for Femoral Component # 1		
	6664.50.110	h 10 mm	
	6664.50.112	h 12 mm	
	6664.50.114	h 14 mm	
	6664.50.117	h 17 mm	
	6664.50.120	h 20 mm	■
	for Femoral Component # 2		
	6664.50.210	h 10 mm	
	6664.50.212	h 12 mm	
	6664.50.214	h 14 mm	
	6664.50.217	h 17 mm	
	6664.50.220	h 20 mm	■
	for Femoral Component # 3		
	6664.50.310	h 10 mm	
	6664.50.312	h 12 mm	
	6664.50.314	h 14 mm	
	6664.50.317	h 17 mm	
	6664.50.320	h 20 mm	■
	for Femoral Component # 4		
	6664.50.410	h 10 mm	
	6664.50.412	h 12 mm	
	6664.50.414	h 14 mm	
	6664.50.417	h 17 mm	
	6664.50.420	h 20 mm	■
	for Femoral Component # 5		
	6664.50.510	h 10 mm	
	6664.50.512	h 12 mm	
	6664.50.514	h 14 mm	
	6664.50.517	h 17 mm	
	6664.50.520	h 20 mm	■

■ upon request

Product Codes

UC Tibial Liners for Mobile Plate

UC - MOBILE TIBIAL LINERS

UHMWPE	**for Femoral Component # 0**		
	6662.50.010	h 10 mm	■
	6662.50.012	h 12 mm	■
	6662.50.014	h 14 mm	■
	6662.50.017	h 17 mm	■
	6662.50.020	h 20 mm	■
	for Femoral Component # 1		
	6662.50.110	h 10 mm	
	6662.50.112	h 12 mm	
	6662.50.114	h 14 mm	
	6662.50.117	h 17 mm	
	6662.50.120	h 20 mm	■
	for Femoral Component # 2		
	6662.50.210	h 10 mm	
	6662.50.212	h 12 mm	
	6662.50.214	h 14 mm	
	6662.50.217	h 17 mm	
	6662.50.220	h 20 mm	■
	for Femoral Component # 3		
	6662.50.310	h 10 mm	
	6662.50.312	h 12 mm	
	6662.50.314	h 14 mm	
	6662.50.317	h 17 mm	
	6662.50.320	h 20 mm	■
	for Femoral Component # 4		
	6662.50.410	h 10 mm	
	6662.50.412	h 12 mm	
	6662.50.414	h 14 mm	
	6662.50.417	h 17 mm	
	6662.50.420	h 20 mm	■
	for Femoral Component # 5		
	6662.50.510	h 10 mm	
	6662.50.512	h 12 mm	
	6662.50.514	h 14 mm	
	6662.50.517	h 17 mm	
	6662.50.520	h 20 mm	■

■ upon request

Product Codes

UC FIXED TIBIAL LINERS

UC Tibial Liners for Fixed Plate

UHMWPE	**for Tibial Plate # 0**		
	6668.50.010	h 10 mm	■
	6668.50.012	h 12 mm	■
	6668.50.014	h 14 mm	■
	6668.50.017	h 17 mm	■
	6668.50.020	h 20 mm	■
	for Tibial Plate # 1		
	6668.50.110	h 10 mm	
	6668.50.112	h 12 mm	
	6668.50.114	h 14 mm	
	6668.50.117	h 17 mm	
	6668.50.120	h 20 mm	■
	for Tibial Plate # 2		
	6668.50.210	h 10 mm	
	6668.50.212	h 12 mm	
	6668.50.214	h 14 mm	
	6668.50.217	h 17 mm	
	6668.50.220	h 20 mm	■
	for Tibial Plate # 3		
	6668.50.310	h 10 mm	
	6668.50.312	h 12 mm	
	6668.50.314	h 14 mm	
	6668.50.317	h 17 mm	
	6668.50.320	h 20 mm	■
	for Tibial Plate # 4		
	6668.50.410	h 10 mm	
	6668.50.412	h 12 mm	
	6668.50.414	h 14 mm	
	6668.50.417	h 17 mm	
	6668.50.420	h 20 mm	■
	for Tibial Plate # 5		
	6668.50.510	h 10 mm	
	6668.50.512	h 12 mm	
	6668.50.514	h 14 mm	
	6668.50.517	h 17 mm	
	6668.50.520	h 20 mm	■

■ upon request

MULTIGEN PLUS SURGICAL TECHNIQUE

Product Codes

Tibial Augments

TIBIAL AUGMENTS *

Ti6Al4V	**for Tibial Plate # 1**		
	6625.15.010	7 mm	■
	6625.15.020	12 mm	■
	for Tibial Plate # 2		
	6626.15.010	7 mm	■
	6626.15.020	12 mm	■
	for Tibial Plate # 3		
	6628.15.010	7 mm	■
	6628.15.020	12 mm	■
	for Tibial Plate # 4		
	6630.15.010	7 mm	■
	6630.15.020	12 mm	■
	for Tibial Plate # 5		
	6632.15.010	7 mm	■
	6632.15.020	12 mm	■

■ upon request

*only for fixed tibial plates

Tibial Stems

TIBIAL STEMS

Ti6Al4V	6665.15.020	h 60 mm	■
	6665.15.040	h 90 mm	■

■ upon request

Product Codes

PATELLAR PROSTHESES

Patellar Prostheses

6695.50.103	Dia. 28 mm, h 8 mm
6695.50.105	Dia. 32 mm, h 8 mm
6695.50.005	Dia. 32 mm
6695.50.010	Dia. 35 mm
6695.50.020	Dia. 38 mm
6695.50.030	Dia. 41 mm

BONE SCREWS

Bone Screws

Dia. 6.5 mm	
8420.15.010	h 20 mm
8420.15.020	h 25 mm
8420.15.030	h 30 mm
8420.15.040	h 35 mm
8420.15.050	h 40 mm
8420.15.060	h 45 mm
8420.15.070	h 50 mm
8420.15.080	h 55 mm

■ upon request

Lima Corporate
Orthopaedic motion

Limacorporate S.p.A.
Via Nazionale, 52
33038 Villanova di San Daniele del Friuli
Udine - Italy
T +39 0432 945511
F +39 0432 945512
info@limacorporate.com
limacorporate.com

Lima Implantes Slu
Francisco Sancha, 4 3ª planta
28034 Madrid - Spain
T +34 91 088 53 83
F +34 91 088 51 78
limacorporate.com

Lima France sas
1, Allée des Alisiers
Immeuble "Le Galilée"
69500 Bron
France
T +33 4 87 25 84 30
F +33 4 42 04 17 25
info@limafrance.com

Lima O.I. doo - Ortopedia I Implantati
Ante Kovačića, 3
10000 Zagreb - Croatia
T +385 (0) 1 2361 740
F +385 (0) 1 2361 745
lima-oi@lima-oi.hr

Lima Switzerland sa
Birkenstrasse, 49
6343 Rotkreuz - Zug
Switzerland
T +41 (0) 41 747 06 60
F +41 (0) 41 747 06 69
info@lima-switzerland.ch

Lima Japan K.K.
Tokyo Front Terrace 13F
2-3-14 Higashi-shinagawa, Shinagawa,
Tokyo 140-0002
Japan

Lima CZ sro
Do Zahrádek I., 157/5
155 21 Praha 5 - Třebonice
Czech Republic
T +420 222 720 011
F +420 222 723 568
info@limacz.cz

Lima Deutschland GmbH
Gasstraße 18 | Haus 4
22761 Hamburg - Germany
T +49 40 2383 462 - 0
F +49 40 2383 462 - 99
info@lima-deutschland.com

Lima Austria GmbH
Seestadtstrasse 27 / Top 6-7
1220 Wien - Austria
T +43 (1) 2712469
F +43 (1) 2712469101
office@lima-austria.at

Lima SK s.r.o.
Cesta na Stadiòn 7
97404 Banská Bystrica - Slovakia
T +421 484 161 126
F +421 484 161 138
info@lima-sk.sk

Lima Netherlands B.V.
Havenstraat 30
3115 HD Schiedam
The Netherlands
T +31 (0) 10 246 26 60
F +31 (0) 10 246 26 61
info@limanederland.nl
limanederland.nl

Lima Implantes Portugal S.U. Lda
Rua Pêro Vaz de Caminha 8 E
2660-441 Stº António Cavaleiros
Portugal
T +35 121 727 233 7
F +35 121 296 119 2
lima@limaportugal.com

Lima Orthopaedics Australia Pty Ltd
Unit 1, 40 Ricketts Road
Mt Waverley 3149
Victoria - Australia
T +61 (03) 9550 0200
F +61 (03) 9543 4003
limaortho.com.au

Lima Orthopaedics New Zealand Pty Ltd
20 Crummer Rd Grey Lynn 1021
Auckland 1021
New Zealand
T +64 93606010
F +64 93606080

Lima Orthopaedics UK Ltd
Unit 1, Campus 5
Third Avenue
Letchworth Garden City
Hertfordshire - SG6 2JF
United Kingdom
T +44 (0) 844 332 0661
F +44 (0) 844 332 0662

Lima USA Inc.
2001 NE Green Oaks Blvd., Suite 100
Arlington, TX 76006
T +1 817-385-0777
F +1 817-385-0377

Lima Sweden AB
Box 180
SE-184 22 Akersberga
Sweden
T +46 8 544 103 80
F +46 8 540 862 68
www.linksweden.se

Lima Italy
Centro Direzionale Milanofiori
Strada 1 - Palazzo F9
20057 Assago - Milano - Italy
T +39 02 57791301

Lima Korea Co. Ltd
81, Banpo-daero
Seocho-gu
Seoul, 06657
Republic of Korea
T +82 2 538 4212
F +82 2 528 0706

Lima do Brasil LTDA
Alameda Campinas 728
2° andar salas 201, 202, 203 e 204
Jardim Paulista - São Paulo, SP
CEP:01404-001
Brasil
T +55 11 3285 4497
contacto@limadobrasil.com.br

Lima Belgium srl
Chaussée de Wavre 504, boîte 5A
1390 Grez-Doiceau - Belgium
T +32 (0) 10 888 804
info@limabelgium.be

Lima Denmark ApS
Lyngebækgårds Allé 2
2990 Nivå - Denmark
T +45 45860028
F +45 4586 0068
mail@Lima-Denmark.dk

Lima Polska Sp. z o.o.
ul. Ul. Łopuszańska 95
02-457 Warsaw
Poland
T 0048 22 6312786
F 0048 22 6312604
biuro@limapolska.pl

励玛（北京）医疗器械有限公司
Lima (Beijing) Medical Devices Co., Ltd.
中国北京市朝阳区利泽中二路1号中辰大厦6层 616室
Room 616, 6/F Zhongchen Building, No.1 Lize Zhong 2 Road
Chaoyang District,
Beijing - PR China
limachinaoffice@limacorporate.com

Lima Orthopaedics Canada Inc.
3715 Laird Road Suite Unit 9
Mississauga, ON, Canada
T +1 289 230 0645
orderscanada@limacorporate.com

This publication is not intended for distribution in the U.S.

Prescription use only: sold only on or by the order of a physician.

B.6612.23.033.1 061900

limacorporate.com