



Surgical Technique

Rotating Hinge Total Knee Prosthesis

HLS Noetos RH®



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SYNOPTIC

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SYNOPTIC

1 . Canal preparation



2 . Tibial resection guide insertion



5 . Tibial keel preparation (2)



6 . Canal preparation



9 . Anterior and posterior femoral cuts and chamfer



10 . Preparation of the intercondylar cage





TIBIAL PREPARATION



FEMORAL PREPARATION

3 . Tibial cut



4 . Tibial keel preparation



7 . Distal femoral resection



8 . Distal femoral cut



11 . Trial implants



12 . Final implants



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1. TIBIAL PREPARATION

1.1 Severe deformation

Objective: provide a tibial platform perpendicular to the mechanical axis.

1.1.1 Canal preparation:

a. Powered Reamers

- Prepare the entry point of the intramedullary canal using a 10-mm-diameter reamer. (Fig. 1)
- Mount the reamers on the power source or on the T-shaped handle. (Fig. 2)
- Ream the intramedullary canal while sequentially increasing diameters until cortical contact is achieved. (Fig. 3)
Reamers are available in the following sizes: Ø 10, 12, 14, 16 and 18 mm

IMPORTANT :

- For good guidance, it is preferable to ream to the 150-mm depth mark and use the stem that has been lengthened by 150 mm.
- If the diameter of the last reamer used is less than 14 mm, then the tibial keel housing must be prepared. This requires passing a 14-mm reamer to the 30-mm depth mark.

b. Cannulated Reamers

- Prepare the entry point for the intramedullary rod (IM) using a 10-mm reamer. (Fig. 4)
- Insert the IM rod.
- Screw on the handle for the annulated reamers (Fig. 5) and insert the assembly over the IM rod.
- Ream the medullary canal with sequentially increasing diameters until cortical contact is achieved. (Fig. 6)
Reamers are available in the following sizes: Ø 10, 12 and 14 mm.

IMPORTANT :

- If the diameter of the tibial shaft exceeds 14 mm, reaming should be completed with powered reamers (Ø 16 and Ø 18 mm).
- For good guidance, it is preferable to ream to the 150-mm depth mark and use the stem that has been lengthened by 150 mm.



Fig. 1

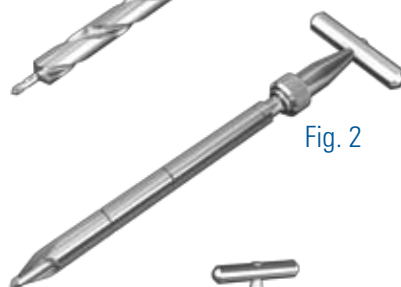


Fig. 2



Fig. 3



Fig. 4

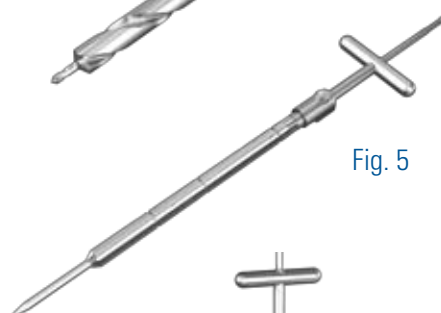


Fig. 5



Fig. 6

SURGICAL TECHNIQUE

- If the diameter of the last reamer used is less than 14 mm, then the tibial keel hole must be prepared. This requires passing a 14-mm reamer to the 30-mm depth mark.

1.1.2 Insertion of cutting guide support stem

- Screw the cutting guide support stem into a trial stem having the same diameter as the reamer. (Fig. 7)

IMPORTANT :

- It is important to secure the connection using the two wrenches
- To ensure correct alignment of the instruments, using a 150-mm trial stem is recommended.

- Insert the cutting guide stem support/trial stem assembly into the medullary canal. (Fig. 8)

1.1.3 Tibial resection guide insertion

a. Adjusting the resection level:

- Mount the tibial resection guide on the tibial probe. (Fig. 9)
- Adjust the resection level to 11 mm on the tibial probe's scale and block the screw of the resection guide. (Fig. 10)



Fig. 7



Fig. 8

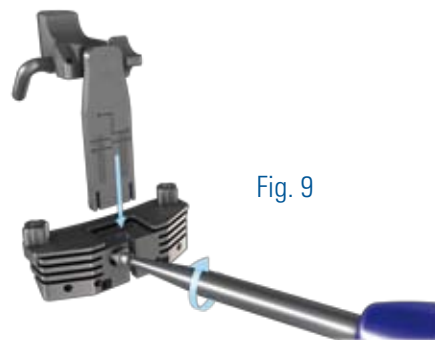


Fig. 9



Fig. 10

SURGICAL TECHNIQUE

b. Fixing the tibial resection guide:

- Insert the tibial cutting guide/probe assembly onto the IM rod. (Fig. 11)
- Place the tibial probe in contact with the resected surface.
- Adjust rotation using the extramedullary alignment rod (Fig. 12a) and fix the position with the upper 45° angled top pin. (Fig. 12b)
- Check the resection level with the blade runner. (Fig. 13)

In case of asymmetrical bone defects, use the slots at 4, 8, or 12 mm to determine the level of the step cut for placement of the half-block at the corresponding height.

- Insert 2 pins through the holes marked with black boxes to secure the tibial cutting block in position. (Fig. 14 and 15)

NB: It is possible to use the primary tibial resection guide to make the cut on the pins.



Fig. 11



Fig. 12b

Fig. 12a



Fig. 13

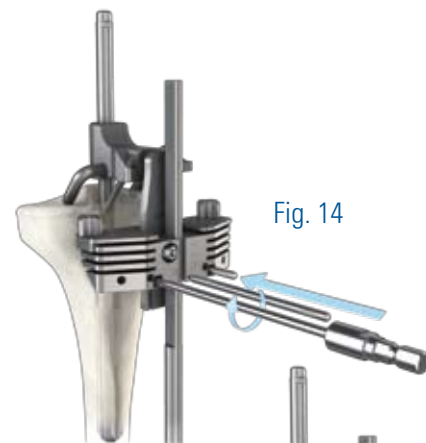


Fig. 14

Fig. 15



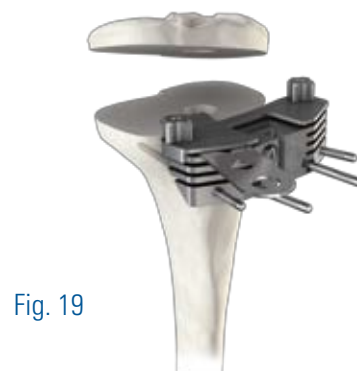
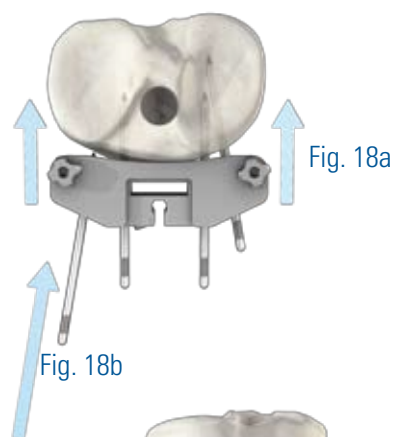
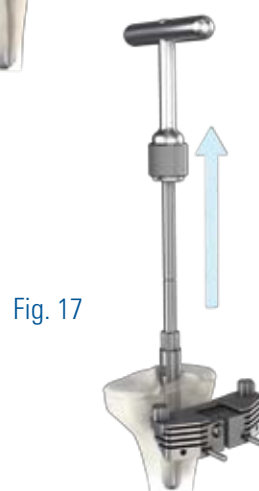
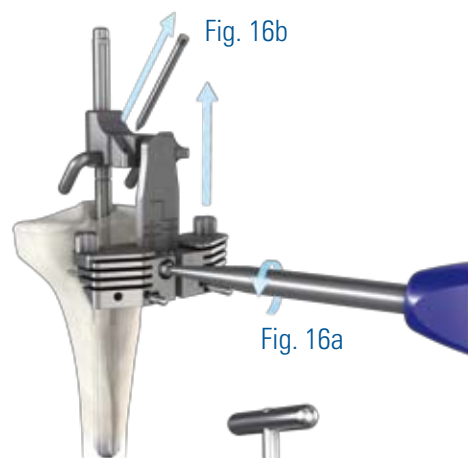
SURGICAL TECHNIQUE

1.1.4 Tibial cut

- Loosen the set screw. (Fig. 16a)
- Remove the 45° angled pin and the tibial probe. (Fig. 16b)
- Extract the IM alignment system using the T-handle. (Fig. 17)
- Apply the tibial cutting guide (Fig. 18a) and insert a pin through the oblique hole to secure the position. (Fig. 18b)
- Perform the cut. (Fig. 19)

If necessary, reposition the cutting guide on the pins through the superior holes to remove an additional 2 mm of bone.

In case of asymmetrical bone defects, use the slots at 4, 8, or 12 mm to perform the step cut.



1.2 Implant revision

Preparation of the medullary canal is identical to the above-described preparation.

The difference resides in adjustment of the tibial cutting level.

- Adjust the resection level to 2 mm on the tibial probe's scale for a clean resection and block the screw of the resection guide. (Fig. 20)
- Slide the tibial cutting guide/probe assembly onto the stem guide. (Fig. 21)
- Place the tibial probe in contact with the resected tibial surface. If there is insufficient support, it is possible to slide the resection probe under the probe horns by leveraging on the anterior and posterior edges of the tibial resection.
- Insert 2 pins through the holes marked with black boxes to secure the tibial cutting block in position. (Fig. 22)
- Loosen the set screw. (Fig. 23a)
- Remove the 45° angled pin and the tibial probe. (Fig. 23b)
- Extract the IM alignment system using the T-handle. (Fig. 24)
- Bring the tibial guide close (Fig. 25a) and secure it with a pin through the oblique hole. (Fig. 25b)
- Perform the cut. (Fig. 26)

If necessary, reposition the cutting guide on the pins through the superior holes to remove an additional 2 mm of bone.

- In case of asymmetrical bone defects, use the slots at 4, 8, or 12 mm to perform the step cut.

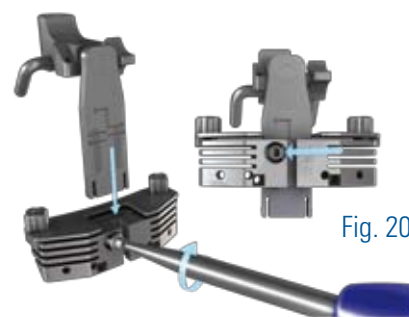


Fig. 20



Fig. 21

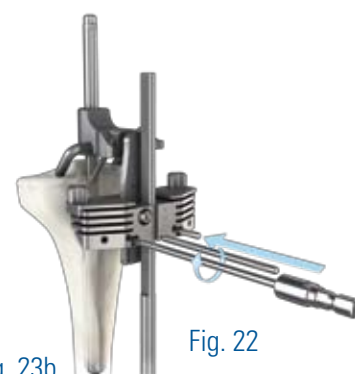


Fig. 22

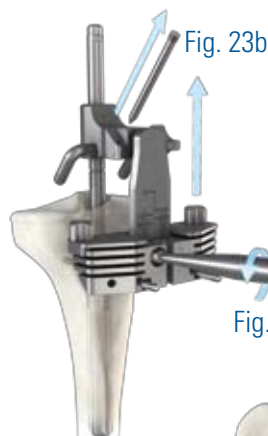


Fig. 23a

Fig. 23b



Fig. 24

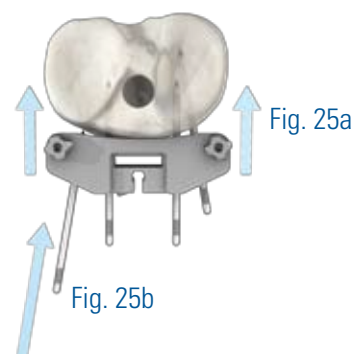


Fig. 25a



Fig. 25b



Fig. 26

1.3 Tibial keel preparation

1.3.1 Determining the size of the tibial plate

- Reinsert the intramedullary alignment system (guide rod + trial stem). (Fig. 27)
- Select the appropriate size for the tibial stem preparation plate – S, M, or L – so as to cover the bone maximally. Slide the tibial component adaptor on the preparation plate and secure the tibial component/preparation plate assembly using the screw. (Fig. 28)
- Slide the tibial component/preparation plate assembly on the rod guide (Fig. 29) and adjust rotation using the clamp for the tibial preparation plate and the extramedullary rod. (Fig. 30)
- Fix the tibial component/preparation plate assembly using 2 headed pins. It is preferable to drill using a $\varnothing 3.5$ -mm trephine before inserting the 2 pins. (Fig. 31)

In the case of a repositioning cut, insert a trial tibial half-block of the thickness selected (8 or 12 mm) under the tibial keel's preparation plate. The half-block should be the same size as the preparation plate.



Fig. 27



Fig. 28



Fig. 29

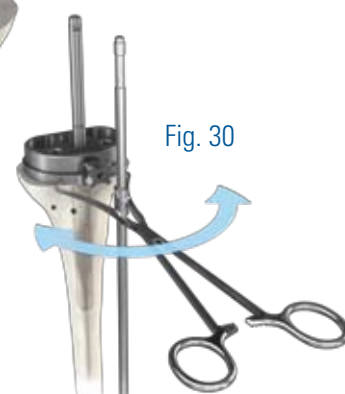


Fig. 30



Fig. 31

1.3.2 Tibial keel preparation

- Drill the two anterior holes using the anterior tibial stud reamer to the stop. (Fig. 32)
- Place the posterior tibial stud drill guide.
- Drill the hole for the posterior hole up to the stop. (Fig. 33)

IMPORTANT:

The cutting guide support system should not extend beyond the posterior stud drill guide so that any conflict between the reamer and the base of the cutting guide support stem is prevented.

- Loosen the frontal screw that connects the tibial tray adaptor to the preparation plate.
- Remove the tibial tray adaptor. (Fig. 34)
- Prepare the tibial keel hole using the punch matching the preparation plate in size, following the cutting guide support. (Fig. 35)
- Finish the preparation using the graft remover of the same size as the preparation plate. (Fig. 36)



Fig. 32



Fig. 33



Fig. 34

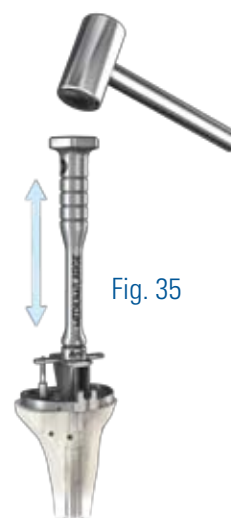


Fig. 35

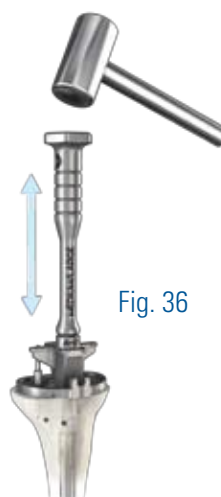


Fig. 36

2. FEMORAL PREPARATION

2.1 Canal preparation:

2.1.1 Powered Reamers

- Prepare the entry point of the intramedullary canal using a reamer 10 mm in diameter. (Fig. 37)
 - Mount the reamers on the power source or on the T-shaped handle. (Fig. 38)
 - Ream the medullary canal while sequentially increasing diameters until cortical contact is achieved. (Fig. 39)
- Reamers are available in the following sizes: Ø 10, 12, 14, 16 and 18 mm.*

IMPORTANT:

- For good guidance, it is preferable to ream to the 150-mm depth mark and use the stem that has been lengthened by 150 mm.
- If the diameter of the last reamer used is less than 14 mm, then the tibial keel housing must be prepared. This requires passing a 14-mm reamer to the 30-mm depth mark.

2.1.2 Cannulated Reamers

- Prepare the entry point for the intramedullary rod (IM) using a 10-mm reamer. (Fig. 40)
 - Insert the IM rod.
 - Screw on the handle for the annulated reamers (Fig. 41) and insert the assembly over the IM rod.
 - Ream the medullary canal with sequentially increasing diameters until cortical contact is achieved. (Fig. 42)
- Reamers are available in the following sizes: Ø 10, 12 and 14 mm.*

IMPORTANT:

- If the diameter of the tibial shaft exceeds 14 mm, reaming should be completed with powered reamers (Ø 16 and Ø 18 mm).
- For good guidance, it is preferable to ream to the 150-mm depth mark and use the stem that has been lengthened by 150 mm.
- If the diameter of the last reamer used is less than 14 mm, then the tibial keel hole must be prepared. This requires passing a 14-mm reamer to the 30-mm depth mark.



Fig. 37



Fig. 38

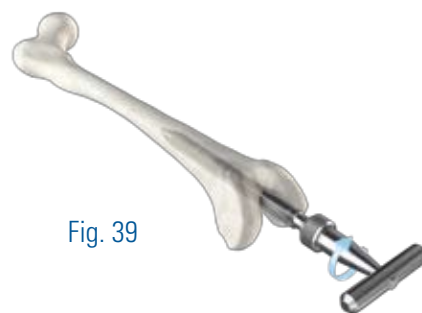


Fig. 39



Fig. 40

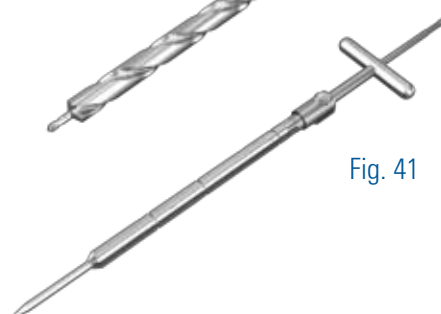


Fig. 41

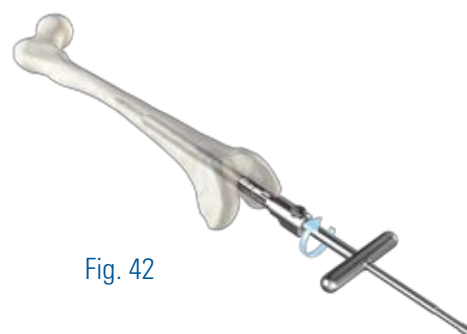


Fig. 42

2.2 Inserting stem guide

- Screw the cutting guide support stem into a trial stem having the same diameter as the reamer

IMPORTANT:

- It is important to secure the components using the wrenches. (Fig. 43)
- To ensure correct alignment of the instruments, it is recommended to use a 150-mm trial stem.
- Insert the cutting guide support stem/trial stem assembly into the medullary canal; the mark on the stem should be flush with the bottom of the femoral notch. (Fig. 44)

2.3 Distal femoral resection

2.3.1 Assembling the resection guide component

- Mount the resection guide on part-2 of the resection guide support. (Fig. 45a)
- If this is a primary arthroplasty, adjust the cutting level to 10 mm (thickness of the distal implant condyles) on the millimeter rule. Tighten the holding screws.
- If this is revision surgery, adjust the cutting level to 2 mm (clean distal cut) on the rule. Tighten the holding screw.
- Screw the distal part-1 resection guide support on the part-2 resection guide support. (Fig. 45b)
- Insert the valgus guide of the femoral resection guide on part-1, ensuring that the arrow indicates the operated side. (Fig. 45c)

NB: It is possible to use the primary tibial resection guide for the pin-guided resection.



Fig. 43



Fig. 44



Fig. 45a

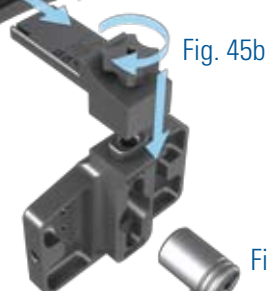


Fig. 45b



Fig. 45c

2.3.2 Fixing the femoral component

- Insert the femoral component on the resection guide support until contact with the condyles (primary surgery) or the resected surface (revision surgery) is achieved.
- Check for good femoral rotation using the usual landmarks and attach the component using two headed pins, Ø 3.5 mm, length 50 mm. (Fig. 46)
- Check the resection level using the cutting probe.
- Using a trephine Ø 3.5 mm, prepare the 2 holes of the distal cutting block encased in black boxes.
- Insert 2 guide pins, Ø 3.5 mm, 80 mm in length, in the holes. (Fig. 47)

2.3.3 Distal cut

- Loosen the holding screw. (Fig. 48a)
- Loosen the screw between parts 1 and 2 of the cutting guide support. (Fig. 48b)
- Remove the holding pins from the cutting guide support part-1 using the pin clamp. (Fig. 48c)
- Remove the femoral component with the cutting guide support rod. (Fig. 49)



Fig. 46

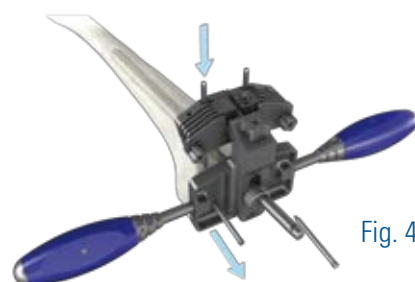


Fig. 47



Fig. 48a



Fig. 48b



Fig. 48c



Fig. 49

2.3.3 Distal cut (following)

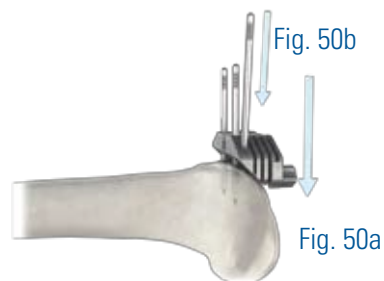
- Bring the bone cutting guide close to the femur. (Fig. 50a)
- Secure the cutting guide with a pin inserted into the lateral oblique holes. (Fig. 50b)
- Perform the distal cut. (Fig. 51)
- In case of bone defects, use the slots at 4, 8, and 12 mm to perform the cut.
- Remove the cutting guide.

2.4 Anterior and posterior femoral cuts and chamfer

- Insert the cutting guide stem support mounted on the trial stem. (Fig. 52)
- Choose the 4-in-1 cutting block that fits the size of the tibial component → the femoral component size must be identical to that of the previously defined tibial component.
- Install the positioning device in valgus on the cutting block for the proper side (the arrow points to the left or right mark).
- Slide the cutting block on the cutting guide support stem until contact is made with the distal part.
- Adjust the rotation position of the cutting guide using the usual landmarks.
- Fix the cutting guide with headed pins: Ø 3.5 mm, length 80 mm.
- Check the resection levels with the anterior cutting probe.
- Perform the four cuts. (Fig. 53 and 54)

NB: If preparing a unilateral distal augment, it is possible to compensate the defect with an augment mounted on a 4-in-1 guide. Take a small 4 or 8 mm posterior femoral augment and insert it in the central holes.

If the bone defect is **12 mm**, take the round **12-mm-thick cutting guide augments**. (Fig. 55)



2.5 Preparation of the intercondylar cage

- Install the positioning device in valgus on the preparation guide of the intercondylar cage (the arrow points to the left (L) or right (R) mark).
- Slide the preparation guide on the support stem until it has good leverage on the distal resection.
- Fix the cutting guide with 2 guide pins, Ø 3.5 mm, length 80 mm, in the holes situated on the trochlea. (Fig. 56)
- Remove the positioning device and the cutting guide support stem. (Fig. 57)

IMPORTANT:

Distal and/or posterior trial augments can be attached to the preparation guide of the intercondylar cage. If the diameter of the last stem is more than 14 mm, it should be removed before impacting the guide pins.

- Make the mediolateral cuts leveraging on the internal walls of the preparation guide. (Fig. 58a)
- Make the distal intercondylar cut leveraging on the distal intercondylar cutting guide (Fig. 58b)
- Clean out the bone cut with a chisel.
- Check the cage preparation using a gauge of the same size as the guide

IMPORTANT:

The gauge must be leveraged on the preparation guide. (Fig. 59)

Clear the internal part of the intercondylar cage slightly so that excessive pressure is not applied when the gauge is inserted.

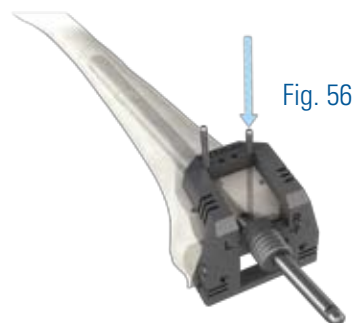


Fig. 56



Fig. 57

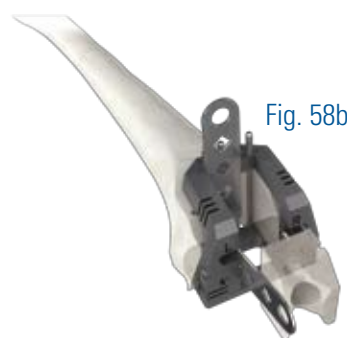


Fig. 58b

Fig. 58a

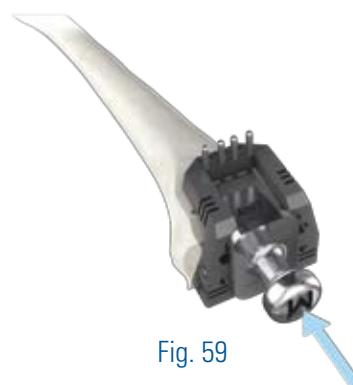


Fig. 59

● 3. IMPLANTING THE TRIAL IMPLANTS

3.1 Assembly of tibial trial

- Take the trial tray size as chosen previously.
- Select the trial stem of the appropriate length and diameter: Ø 10, 12, 14, 16, 18 mm.
Length: 75, 100, 125 (50 +75), 150 (50+100) mm

The trial stem may be of a different diameter than that used previously in the IM alignment system.

- Screw the trial stem onto the trial tray. (Fig. 60)
 - If a half-block is necessary, it should be snapped into place on the trial tray fin.
- Insert the assembly into the tibia to check the sizes. (Fig. 61)

3.2 Assembly of trial femoral component

- Take the trial femur corresponding to the trial selected previously.
- Select the appropriate length and diameter for the trial stem: Ø 10, 12, 14, 16, 18 mm
Length: 75, 100, 125 (50 +75), 150 (50+100) mm

The trial stem can have a different length and diameter than those used previously in the intramedullary alignment system.

- Screw the trial stem onto the trial femur.
- If necessary, snap the distal and/or posterior augments in place on the trial femur.
- Insert the assembly in the femur, positioning the knee in flexion. The hinge's stud should be inserted in its tibial hole before completely advancing the femoral component (20–30 mm before coming into contact with the distal cut). (Fig. 62)

Test the knee in flexion and in extension to check that the components and the choice of the lengthened stems and augments are appropriate. (Fig. 63)

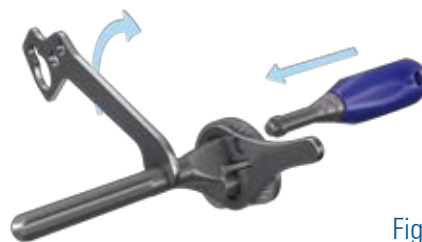


Fig. 60



Fig. 61



Fig. 62



Fig. 63

4. PATELLAR PREPARATION

4.1 Primary surgery

- Determination of the patellar cutting level:
 - Either restore the initial thickness of the patella, taking into account that the three sizes of the button (small, medium, large) are 6.5 mm, 7.5 mm, and 8.5 mm, respectively
 - Or make the cut leaving between 12 and 15 mm of patellar thickness.

In all cases, the thickness of the patella with the implant must be less than or equal to the initial thickness. This residual thickness results from the height set on the patellar impaction clamp.

- Orientation of the patellar cut. It is parallel to the anterior cortex and should provide homogenous residual thickness (generally, one must resect more on the inside than on the outside). (Fig. 64a)

- Verification of residual patellar thickness and the homogeneity of the cut.

- Stud preparation: the patellar impaction clamp (Fig. 64b) is designed for drilling the stud holes (2 studs inside, 1 stud outside, which are not aligned on a transversal plane to prevent patellar fracture).

- With the trial button in place (Fig. 65), patellar laxity must be tested in flexion-extension. The interpretation of this test can be distorted by the presence of a tourniquet. Above all, any malposition (in rotation) of the components must be eliminated.

4.2 Revision

- Proceed with ablation of the patella if it is detached.
- Refresh the cut with the patellar resection clamp on the slot.
- Drill a hole in the 3 studs using the impaction clamp and the patellar reamer.
- Perform a trial reduction in flexion-extension with all the trial components in place.

Fig. 64a



Fig. 64b



Fig. 65

● 5. ASSEMBLING THE FINAL IMPLANTS

5.1 Assembly of tibial implant

- The tibial augments are screwed in using 1 screw on the tibial tray with a 4.5-mm screwdriver.
- The stem extension is screwed into place on the tray using the stem assembly key. (Fig. 66)

IMPORTANT:

- The stability of the tibial implant requires a 75-mm-long stem minimum.
- The 150-mm lengths are reserved for stages where the bone stock is highly deteriorated.

5.2 Assembly of femoral implant

- Screw in the distal augments and then the posterior augments using the 4.5-mm screwdriver.

IMPORTANT:

- The stability of the tibial implant requires a 75-mm-long stem minimum.
- The 150 mm lengths are reserved for stages where the bone stock is highly deteriorated.
- Screw in the femoral extension using the wrench.



Fig. 66

SURGICAL TECHNIQUE

5.3 Implantation

- The bone surfaces are cleaned and dried beforehand.
- Impact the tibia using the impaction head of the tibial tray mounted on the tibial impaction head handle. (Fig. 67)
- Mount the femur on the femoral gripper, then impact it using the femoral impactor. (Fig. 68)
- Insert the femur by positioning the knee in maximal flexion. The hinge's stud should be inserted in its tibial hole before completely advancing the femoral component (20–30 mm before coming into contact with the distal cut). (Fig. 69)
- Cement the patellar component, then press with the patellar impaction clamp.
- Flexion (Fig. 70) and Extension (Fig. 71) with the definitive implants.



Fig. 67

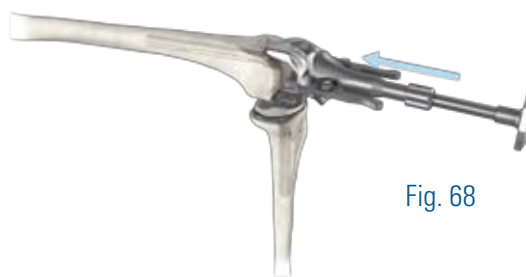


Fig. 68

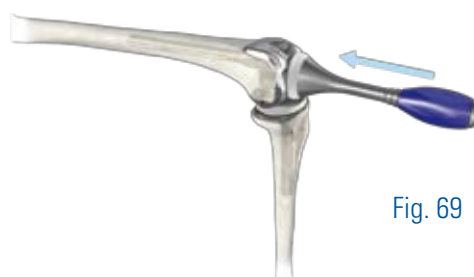


Fig. 69















Fig. 70



Fig. 71

IMPLANT COMPATIBILITY

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			Femoral Implant			Tibial Insert			Tibial Tray				
													
Femoral Implant		Size	SMALL	MEDIUM	LARGE	SMALL	MEDIUM	LARGE	SMALL	MEDIUM	LARGE		
		SMALL				●			●				
		MEDIUM					●			●			
		LARGE						●			●		
Tibial Insert		SMALL	●						●				
		MEDIUM		●						●			
		LARGE			●						●		
Tibial Tray		SMALL	●			●							
		MEDIUM		●			●						
		LARGE			●			●					
Distal Femoral Augment		Size	Thickness (mm)	SMALL	MEDIUM	LARGE	SMALL	MEDIUM	LARGE	SMALL	MEDIUM	LARGE	
		SMALL	4 / 8 / 12	●									
		MEDIUM	4 / 8 / 12		●								
		LARGE	4 / 8 / 12			●							
Posterior Femoral Augment		SMALL	4 / 8	●									
		MEDIUM	4 / 8		●								
		LARGE	4 / 8			●							
Tibial Hemi Augment		SMALL	8 / 12							●	●	●	
		MEDIUM	8 / 12								●	●	
		LARGE	8 / 12									●	
Tibial Full Augment		SMALL	8 / 12							●			
		MEDIUM	8 / 12								●		
		LARGE	8 / 12									●	
Stem		Length	Diameter (mm)	SMALL	MEDIUM	LARGE	SMALL	MEDIUM	LARGE	SMALL	MEDIUM	LARGE	
		75	10/12/14/16/18	●	●	●				●	●	●	
		100	10/12/14/16/18	●	●	●				●	●	●	
		125	10/12/14/16/18	●	●	●				●	●	●	
		150	10/12/14/16/18	●	●	●				●	●	●	
Patella		Size	SMALL	MEDIUM	LARGE	SMALL	MEDIUM	LARGE	SMALL	MEDIUM	LARGE		
		SMALL	●	●	●								
		MEDIUM	●	●	●								
		LARGE	●	●	●								

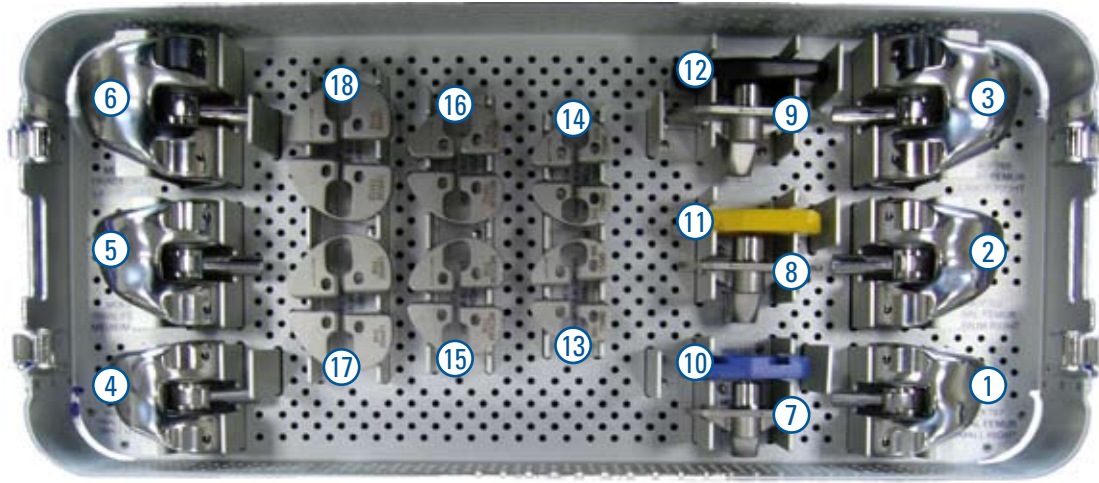
NB: For implant stability, you have to:

- associate a 75 mm long stem minimum to the femoral implant
- associate a 75 mm long stem minimum to the tibial implant

INSTRUMENTATION

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● Instrumentation - YKAG57 - Lower Tray



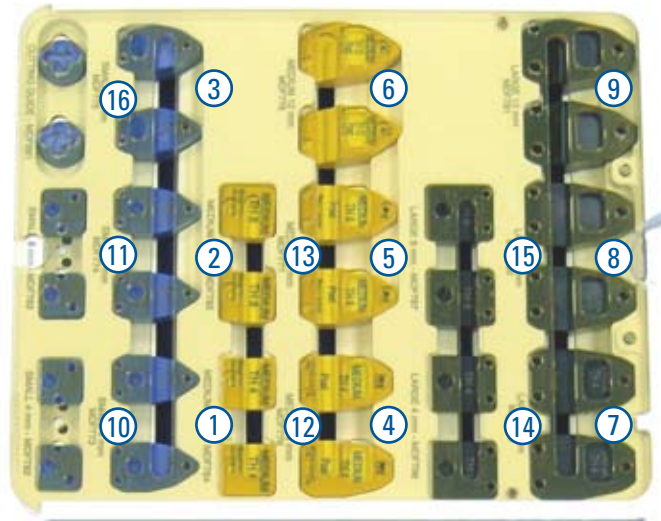
Instrumentation

#	Description	Reference	Quantity
1	Trial Femur SMALL Right	MDF767	1
2	Trial Femur MEDIUM Right	MDF768	1
3	Trial Femur LARGE Right	MDF769	1
4	Trial Femur SMALL Left	MDF770	1
5	Trial Femur MEDIUM Left	MDF771	1
6	Trial Femur LARGE Left	MDF772	1
7	Tibial tray Trial SMALL	MDF734	1
8	Tibial tray Trial MEDIUM	MDF735	1
9	Tibial tray Trial LARGE	MDF736	1
10	Trial insert SMALL	MDF737	1
11	Trial insert MEDIUM	MDF738	1
12	Trial insert LARGE	MDF739	1
13	Hemi Tibial Augment Trial SMALL 8 mm	MDF740	2
14	Hemi Tibial Augment Trial SMALL 12 mm	MDF741	2
15	Hemi Tibial Augment Trial MEDIUM 8 mm	MDF742	2
16	Hemi Tibial Augment Trial MEDIUM 12mm	MDF743	2
17	Hemi Tibial Augment Trial LARGE 8 mm	MDF744	2
18	Hemi Tibial Augment Trial LARGE 12 mm	MDF745	2

INSTRUMENTATION

● Instrumentation - YKAG57 - Upper Tray

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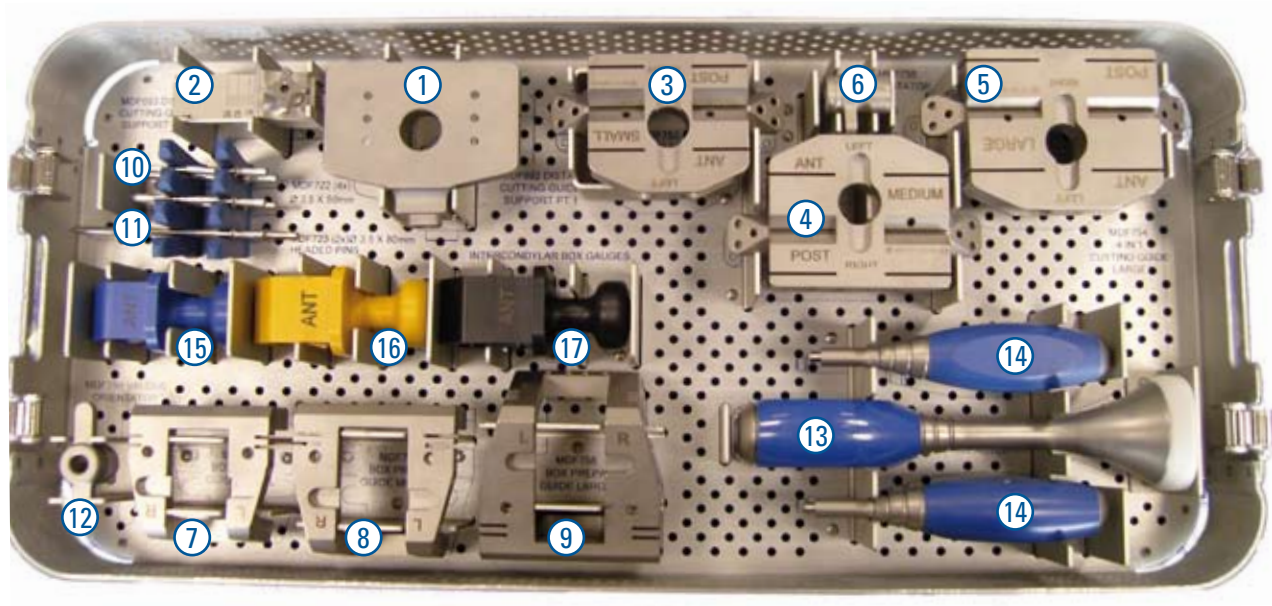


Instrumentation

#	Description	Reference	Quantity
1	Femoral Distal Augment Trial SMALL 4 mm	MDF773	2
2	Femoral Distal Augment Trial SMALL 8 mm	MDF774	2
3	Femoral Distal Augment Trial SMALL 12 mm	MDF775	2
4	Femoral Distal Augment Trial MEDIUM 4 mm	MDF776	2
5	Femoral Distal Augment Trial MEDIUM 8 mm	MDF777	2
6	Femoral Distal Augment Trial MEDIUM 12 mm	MDF778	2
7	Femoral Distal Augment Trial LARGE 4 mm	MDF779	2
8	Femoral Distal Augment Trial LARGE 8 mm	MDF780	2
9	Femoral Distal Augment Trial LARGE 12 mm	MDF781	2
10	Femoral Posterior Augment Trial SMALL 4 mm	MDF782	2
11	Femoral Posterior Augment Trial SMALL 8 mm	MDF783	2
12	Femoral Posterior Augment Trial MEDIUM 4 mm	MDF784	2
13	Femoral Posterior Augment Trial MEDIUM 8 mm	MDF785	2
14	Femoral Posterior Augment Trial LARGE 4 mm	MDF786	2
15	Femoral Posterior Augment Trial LARGE 8 mm	MDF787	2
16	4 in 1 cutting guide wedge 12 mm	MDF691	2

INSTRUMENTATION

Instrumentation - YKAG58



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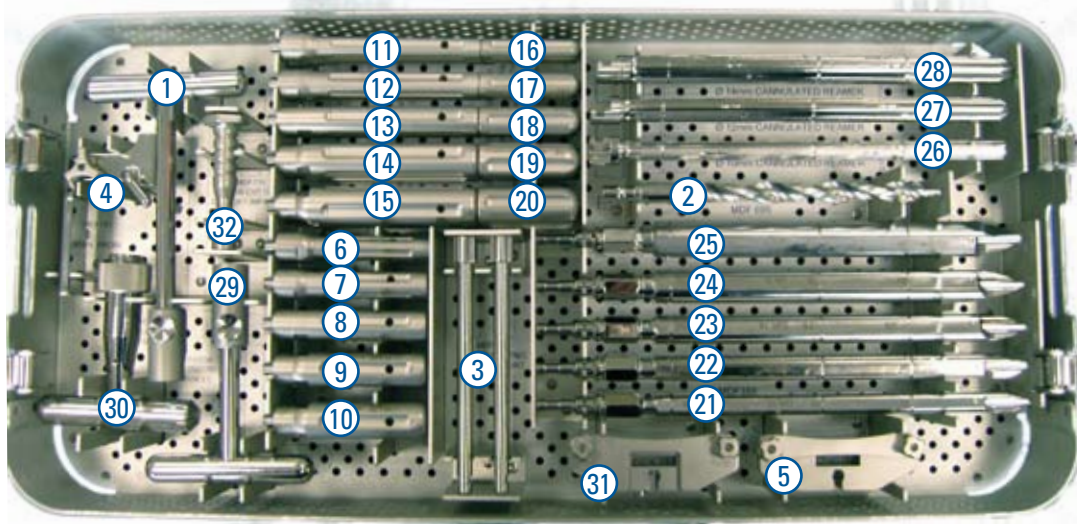
Instrumentation

#	Description	Reference	Quantity
1	Distal cutting guide support part 1	MDF692	1
2	Distal cutting guide support part 2	MDF693	1
3	4 in 1 Femoral cutting guide SMALL	MDF752	1
4	4 in 1 Femoral cutting guide MEDIUM	MDF753	1
5	4 in 1 Femoral cutting guide LARGE	MDF754	1
6	4 in 1 Fem cutting guide orientator	MDF755	1
7	Intercondylar Box preparation guide SMALL	MDF756	1
8	Intercondylar Box preparation guide MEDIUM	MDF757	1
9	Intercondylar Box preparation guide LARGE	MDF758	1
10	Headed Pin Ø 3,5mm Length 50mm	MDF722	4
11	Headed Pin Ø 3,5mm Length 80mm	MDF723	2
12	Interc. Box prep valgus orientator	MDF759	1
13	Femoral impactor	MDF765	1
14	Femoral cutting guide handle	MDE025	2
15	Intercondylar box gauge SMALL	MDF762	1
16	Intercondylar box gauge MEDIUM	MDF763	1
17	Intercondylar box gauge LARGE	MDF764	1

INSTRUMENTATION

Instrumentation - YKAG59

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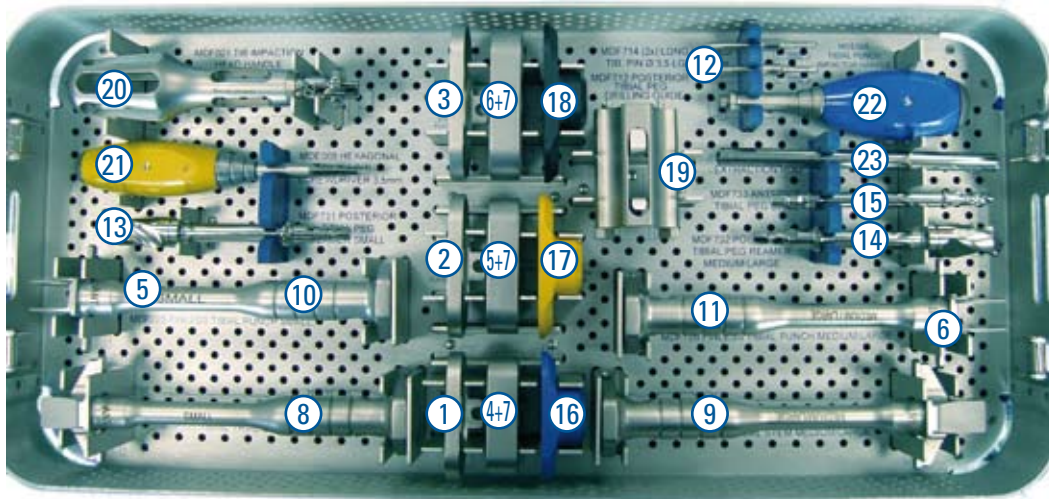


Instrumentation

#	Description	Reference	Quantity
1	Extraction handle	MDF694	1
2	Ø 10 mm drill	MDF695	1
3	Fem/Tib cutting guide support	MDF789	1
4	Tibial probe	MDF791	1
5	Tibial cutting guide	MDF717	1
6	Trial stem Ø10 length 75 mm	MDF830	2
7	Trial stem Ø12 length 75 mm	MDF831	2
8	Trial stem Ø14 length 75 mm	MDF832	2
9	Trial stem Ø16 length 75 mm	MDF833	2
10	Trial stem Ø18 length 75 mm	MDF834	2
11	Trial stem Ø10 length 100 mm	MDF840	2
12	Trial stem Ø12 length 100 mm	MDF841	2
13	Trial stem Ø14 length 100 mm	MDF842	2
14	Trial stem Ø16 length 100 mm	MDF843	2
15	Trial stem Ø18 length 100 mm	MDF844	2
16	Trial stem extension Ø10 Lgth 50mm	MDF850	2
17	Trial stem extension Ø12 Lgth 50mm	MDF851	2
18	Trial stem extension Ø14 Lgth 50mm	MDF852	2
19	Trial stem extension Ø16 Lgth 50mm	MDF853	2
20	Trial stem extension Ø18 Lgth 50mm	MDF854	2
21	Reamer Ø10 mm	MDF359	1
22	Reamer Ø12 mm	MDF520	1
23	Reamer Ø14 mm	MDF360	1
24	Reamer Ø16 mm	MDF521	1
25	Reamer Ø18 mm	MDF522	1
26	Ø 10 mm cannulated reamer	MDF203	1
27	Ø 12 mm cannulated reamer	MDF207	1
28	Ø 14 mm cannulated reamer	MDF204	1
29	Handle for cannulated reamer	MDF205/282	1
30	Reamer Handle	MDF361	1
31	Revision tib/fem cutting guide	MDF696	1
32	Fem/Tib cut guide support impactor	MDF716	1

INSTRUMENTATION

Instrumentation - YKAG60



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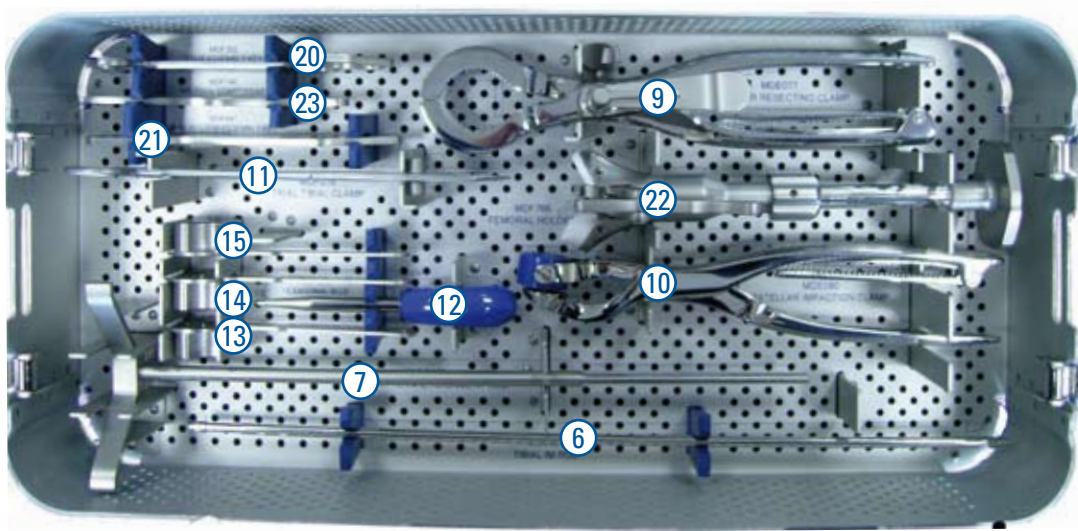
Instrumentation

#	Description	Reference	Quantity
1	Tibial stem preparation plate SMALL	MDF794	1
2	Tibial stem preparation plate MEDIUM	MDF795	1
3	Tibial stem preparation plate LARGE	MDF796	1
4	Tibial component adaptor size SMALL	MDF797	1
5	Tibial component adaptor size MEDIUM	MDF798	1
6	Tibial component adaptor size LARGE	MDF799	1
7	Screw for tibial component adaptor	MDF724	3
8	Tibial trial stem SMALL	MDF727	1
9	Tibial trial stem MEDIUM / LARGE	MDF728	1
10	Finless tibial punch SMALL	MDF725	1
11	Finless tibial punch MEDIUM / LARGE	MDF726	1
12	Long headed Tibial pin Ø 3,5 Length 30mm	MDF714	2
13	Posterior Tibial peg reamer SMALL	MDF731	1
14	Posterior Tibial peg reamer MEDIUM/LARGE	MDF732	1
15	Anterior Tibial peg drill	MDF733	1
16	Tibial tray impaction head SMALL	MDF747	1
17	Tibial tray impaction head MEDIUM	MDF748	1
18	Tibial tray impaction head LARGE	MDF749	1
19	Posterior Tibial peg drilling guide	MDF712	1
20	Tibial impaction head Handle	MDF021	1
21	Hexagonal yellow screwdriver 3,5mm	MDE008	1
22	Tibial punch impactor handle	MDE028	1
23	Ø10 mm extraction rod	MDE029	1

INSTRUMENTATION

● Instrumentation - YKAG61 - Lower Tray

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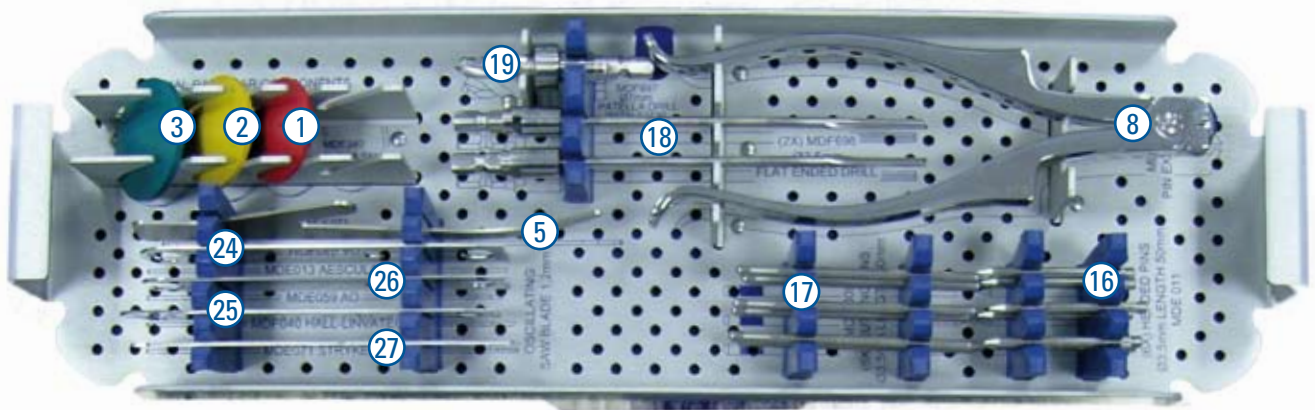
Instrumentation

#	Description	Reference	Quantity
6	Tibial IM rod	MDS401	1
7	Tibial external alignment rod	MDE007	1
9	Patellar resecting clamp*	MDE077	1
10	Patellar impaction clamp	MDE080	1
11	Trial tibial clamp	MDF018	1
12	Hexagonal blue screwdriver 2,5mm	MDF636	1
13	Patellar drilling guide SMALL	MDE130	1
14	Patellar drilling guide MEDIUM	MDE131	1
15	Patellar drilling guide LARGE	MDE132	1
20	Stem assembly key	MDF352	1
21	Ø 10-18 stem assembly key	MDF647	1
22	Femoral holder	MDF766	1
23	RH Tibial component assembly key	MDF746	1

* Optional, limited trading

INSTRUMENTATION

● Instrumentation - YKAG61 - Upper Tray




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Instrumentation

#	Description	Reference	Quantity
1	Trial patellar component SMALL	MDF341	1
2	Trial patellar component MEDIUM	MDF342	1
3	Trial patellar component LARGE	MDF343	1
5	Anterior cortex stylus	MDE073	1
8	Pin extractor	MDE070	1
16	Headed pin Ø 3,5mm length 50mm	MDE011	6
17	Cutting pins Ø 3,5 mm Length 80 mm	MDE009	6
18	Flat ended drill Ø 3,5 mm	MDF698	2
19	Ø 7 mm patella drill with stop	MDF697	1
24	Oscillating saw blade 1,2mm Aesculap	MDE013	1
25	Oscillating saw blade 1,2mm Hall-Linvatec	MDF040	1
26	Oscillating saw blade 1,2mm AO	MDE059	1
27	Oscillating saw blade 1,2mm Stryker B	MDE071	1

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HLS NOETOS RH® Surgical Technique - UGNCT09.2

TORNIER 

IMPLANTS

HLS NOETOS RH®

Femoral Implant

Description	Reference
Small Right	GDF833
Medium Right	GDF835
Large Right	GDF837
Small Left	GDF834
Medium Left	GDF836
Large Left	GDF838



Tibial Tray

Description	Reference
Small	GDF830
Medium	GDF831
Large	GDF832



Distal Femoral Augment

Description	Reference
Small 4 mm	GDF800
Small 8 mm	GDF801
Small 12 mm	GDF802
Medium 4 mm	GDF803
Medium 8 mm	GDF804
Medium 12 mm	GDF805
Large 4 mm	GDF806
Large 8 mm	GDF807
Large 12 mm	GDF808



Screw	GDF585
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Posterior Femoral Augment

Description	Reference
Small 4 mm	GDF809
Small 8 mm	GDF810
Medium 4 mm	GDF811
Medium 8 mm	GDF812
Large 4 mm	GDF813
Large 8 mm	GDF814



Post. Fem Augment Srew	GDF586
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Patella

Description	Reference
Small	GDF021
Medium	GDF022
Large	GDF023



Tibial Insert

Description	Reference
Thickness Small 11 mm	GDF839
Thickness Medium 11 mm	GDF840
Thickness Large 11 mm	GDF841



Tibial Hemi-Augment

Description	Reference
Small 8 mm	GDF815
Small 12 mm	GDF816
Medium 8 mm	GDF817
Medium 12 mm	GDF818
Large 8 mm	GDF819
Large 12 mm	GDF820



Tibial Full Augment

Description	Reference
Small 8 mm	GDF821
Small 12 mm	GDF822
Medium 8 mm	GDF823
Medium 12 mm	GDF824
Large 8 mm	GDF825
Large 12 mm	GDF826



Small Screw(Augm. Th.8 mm)	GDF842
Large Screw (Augm.Th.12 mm)	GDF844



Stem

Diameter	Length	Reference
Ø 10 mm	75 mm	GDF511
Ø 12 mm	75 mm	GDF512
Ø 14 mm	75 mm	GDF513
Ø 16 mm	75 mm	GDF514
Ø 18 mm	75 mm	GDF515
Ø 10 mm	100 mm	GDF600
Ø 12 mm	100 mm	GDF601
Ø 14 mm	100 mm	GDF602
Ø 16 mm	100 mm	GDF603
Ø 18 mm	100 mm	GDF604
Ø 10 mm	125 mm	GDF605
Ø 12 mm	125 mm	GDF606
Ø 14 mm	125 mm	GDF607
Ø 16 mm	125 mm	GDF608
Ø 18 mm	125 mm	GDF609
Ø 10 mm	150 mm	GDF521
Ø 12 mm	150 mm	GDF522
Ø 14 mm	150 mm	GDF523
Ø 16 mm	150 mm	GDF524
Ø 18 mm	150 mm	GDF525

