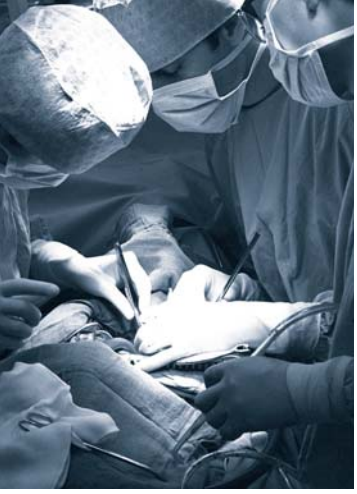


Surgical Technique

Knee system

HLS Noetos® Revision

TORNIER

SURGICAL IMPLANTS

CONTENTS

CONTENTS

INTRODUCTION

In approaching revision total knee arthroplasty, the surgeon must consider:

• Failure mode
Failure of a primary arthroplasty may have several causes including wear, aseptic loosening, sepsis, osteolysis, ligamentous instability and patellofemoral complications. It is tremendously important to identify the exact failure mode so as not to repeat the previous errors.

• Bone stock and soft tissue
Condition of the soft tissue, function of the extensor mechanism, and quality of the remaining bone stock should be taken into consideration.

• Procedure
The procedure should aim to restore proper joint alignment, functional stability, and joint line position.

Primary goals of a revision procedure

• Re-establish a tibial platform
The first step is to establish a reliable tibial platform on the remaining bone stock. This will provide a reference plane for evaluating the flexion and extension gaps.

• Stabilize the knee in flexion
The second step is to determine which femoral component size will stabilize the knee in flexion, and whether posterior augments will be necessary.

• Stabilize the knee in extension
The third and last step is to stabilize the knee in extension by restoring the joint line and using distal augments, if necessary.

Preoperative planning

• Femur
Estimate the size of the femoral component.
Evaluate the thicknesses of modular augments (if any).

• Tibia
Evaluate the tibial resection level.
Evaluate the size of the tibial component and the thicknesses of modular augments (if any).
Check the angle of the posterior slope and evaluate the correct position of the tibial stem extension.

• Joint line position
Once the components have been properly positioned, it is advisable to mark on the bone the position of the prosthetic joint line. Later on, this will assist in accurately restoring the joint line.

1. REVISION OF A PRIMARY TOTAL KNEE REPLACEMENT

1. TIBIAL PREPARATION

Primary goal: establish a tibial platform that is perpendicular to the tibial mechanical axis.

1/ Canal preparation

Reaming may be performed with Reamers or Cannulated Reamers.

a/ Reamers

- Open the tibial medullary canal.
- The Reamer is assembled to the Handle for Cannulated Reamer or attached to the power source (Fig. 01).

(Fig. 01)

- Ream with sequentially increasing diameters until cortical contact is achieved (Fig. 02).
  Reamers are available in the following sizes:
  ø 10, 12, 14, 16, 18 mm.

(Fig. 02)

b/ Cannulated Reamers

- Determine the entry point for the intramedullary (IM) rod and open the tibial canal.
- Insert the IM Rod (Fig. 03).

(Fig. 03)

1. REVISION OF A PRIMARY TOTAL KNEE REPLACEMENT

- Thread the Handle for Cannulated Reamer onto the Cannulated Reamer (Fig. 04) and insert the assembly over the IM Rod.

(Fig. 04)

- Ream with sequentially increasing diameters until cortical contact is achieved (Fig. 05).
  Reamers are available in the following sizes:
  ø 10, 12, 14 mm.

If the diameter of the tibial shaft exceeds 14 mm, reaming should be completed with Powered Reamers (16 and 18 mm).

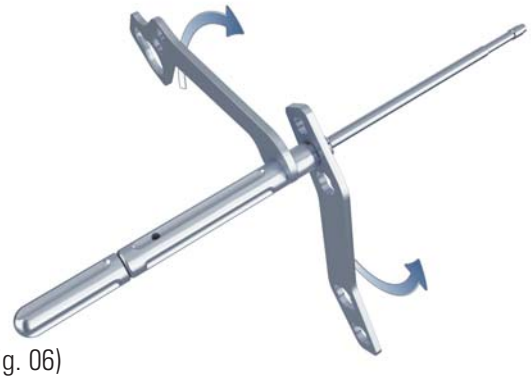
(Fig. 05)

IMPORTANT
To ensure correct alignment of all instruments, it is recommended to ream to the 150 mm depth mark. If the diameter of the last reamer used is less than 14 mm, then use the 14 mm reamer for preparation of the tibial keel and ream to the first scribe line.

1. REVISION OF A PRIMARY TOTAL KNEE REPLACEMENT

2/ Insertion of Cutting Guide Support Stem

- Thread the Cutting Guide Support Stem into a Trial Stem with the same diameter as the last Reamer used (Fig. 06).



(Fig. 06)

IMPORTANT
It is important to secure the connection using the two wrenches. 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 down the medullary canal (Fig. 07).

(Fig. 07)

1. REVISION OF A PRIMARY TOTAL KNEE REPLACEMENT

3/ Proximal tibial resection

a/ Determine the resection level

The resection plane should be perpendicular to the tibial mechanical axis and resection should preserve as much of the bone stock as possible.

- Assemble the Tibial Cutting Guide to the Tibial Probe (Fig. 08a).

(Fig. 08a)

- Set the Tibial Cutting Guide at 2 mm as read off from the scale of the Tibial Probe (Fig. 08b).

(Fig. 08b)

b/ Position the Tibial Cutting Guide/Probe assembly

- Slide the Tibial Cutting Guide/Probe assembly onto the IM Rod (Fig. 09).

(Fig. 09)

1. REVISION OF A PRIMARY TOTAL KNEE REPLACEMENT

- Place the Tibial Probe in contact with the resected surface.
  In case of significant bone loss, pass a Saw Blade through the slot to simulate the initial resection plane; the tip of the Probe will rest on the Saw Blade.

- Adjust rotation using the Extramedullary (EM) Alignment Rod (Fig. 10a), and fix the position of the Cutting Guide with the 45° angled top pin (Fig. 10b).

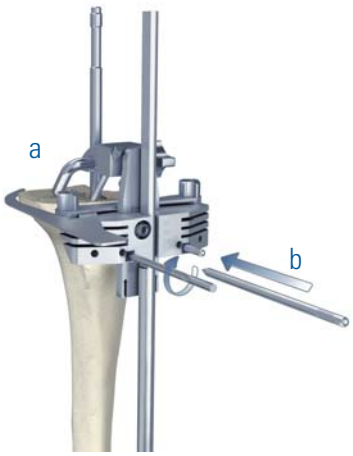
(Fig. 10)

- Check the resection level with the blade runner (Fig. 11a).

  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 a tibial half block.

  Half blocks can only be used with a fixed tibial tray.

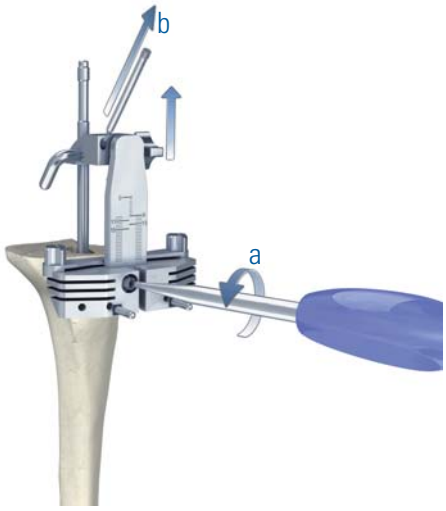
- Insert 2 pins through the holes enclosed in black boxes to secure the Tibial Cutting Block in position (Fig. 11b).



(Fig. 11)

c/ Proximal tibial cut

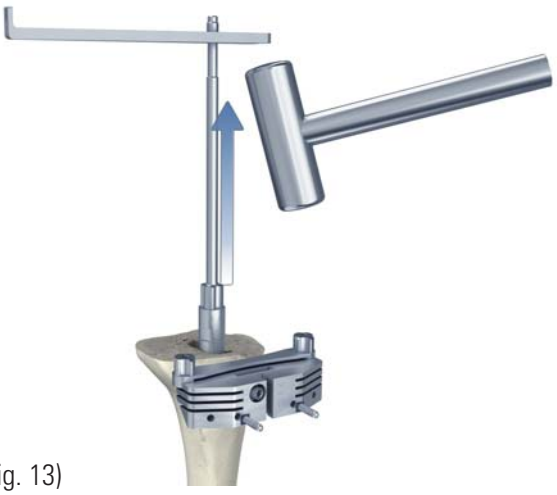
- Loosen the set screw (Fig. 12a).
- Remove the 45° angled top pin (Fig. 12b).



(Fig. 12)

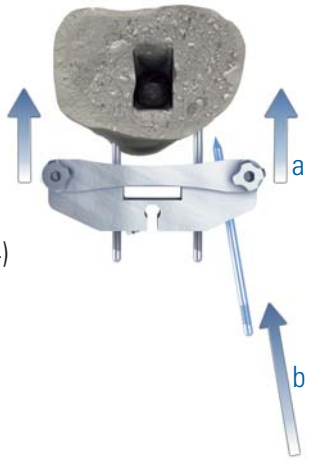
1. REVISION OF A PRIMARY TOTAL KNEE REPLACEMENT

- Remove the intramedullary (IM) alignment system using the slotted hammer (Fig. 13).



(Fig. 13)

- Apply the Tibial Cutting Guide to the anterior tibial cortex (Fig. 14a), and insert a pin through the oblique hole to secure the position (Fig. 14b).



(Fig. 14)

- The proximal tibial cut can be performed (Fig. 15).

(Fig. 15)

1. REVISION OF A PRIMARY TOTAL KNEE REPLACEMENT

If necessary, reposition the Cutting Guide on the pins through the superior holes to remove an additional 2 mm of bone (Fig. 16).

(Fig. 16)

- In case of asymmetrical bone defects, use the slots at 4, 8 or 12 mm to perform the step cut (Fig. 17).

(Fig. 17)

4/ Preparation for the tibial keel

a/ Tibial Stem Preparation Plate

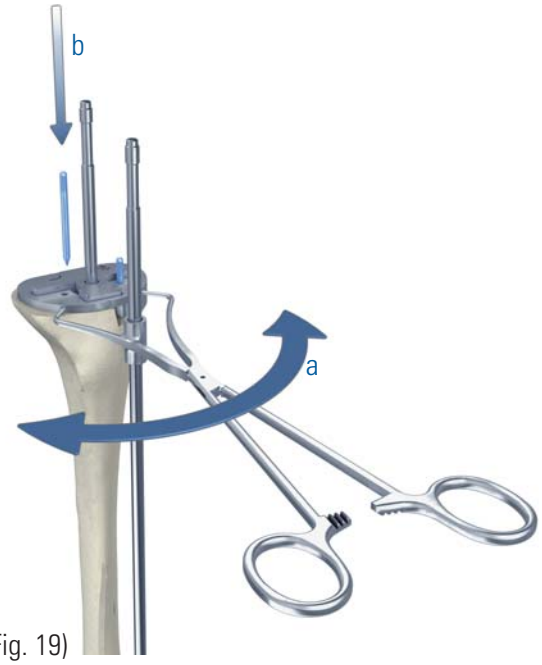
- Reinsert the IM alignment system (guide rod + trial stem).
- Select the appropriate size Tibial Stem Preparation Plate.
  Avoid undersizing of the Tibial Stem Preparation Plate, as it is the size of the tibial tray that dictates the size of the femoral component (see B/Section 2).
- Slide the Tibial Component Adaptor down the IM rod so that it sits on the Tibial Stem Preparation Plate. Properly orient the Adaptor in the usual manner (usual landmarks) (Fig. 18).

(Fig. 18)

1. REVISION OF A PRIMARY TOTAL KNEE REPLACEMENT

- Adjust the rotation of the Tibial Stem Preparation Plate using both the Clamp for Tibial Preparation Plate and the IM Rod (Fig. 19a).
- Insert 2 headed pins to secure the Tibial Stem Preparation Plate in correct position (Fig. 19b).

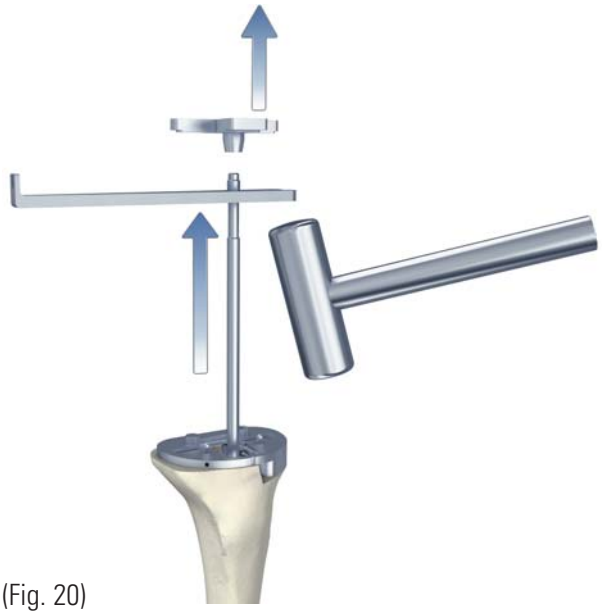
If a Trial Tibial Augment is used, select the appropriate size I (4, 8 or 12 mm) and insert it between the Tibial Stem Preparation Plate and the resected bone surface. The dimensions of the Trial Tibial Augment should match those of the Tibial Stem Preparation Plate (Fig. 18).



(Fig. 19)

b/ Tibial keel punching

- Remove the Adaptor and the Cutting Guide Support Stem using the IM Rod Extractor (Fig. 20).


(Fig. 20)

1. REVISION OF A PRIMARY TOTAL KNEE REPLACEMENT

- Insert the Finless Tibial Punch guide through the Tibial Stem Preparation Plate, and fully seat it with a mallet (Fig. 21).
- Then, the keel punch is inserted through the Tibial Stem Preparation Plate and fully advanced into the cancellous bone (Fig. 22).

Caution
If a half block has been placed, it must be removed or shifted from its position.

(Fig. 21)

(Fig. 22)

5/ Assembly/insertion of the Tibial Tray Component

- Select the Tibial Tray Component that corresponds to the size of the Tibial Stem Preparation Plate.
- Select the Trial Ttem of the appropriate length and diameter:
  ø 10, 12, 14, 16, 18 mm
  L 75, 100, 125 (50+75), 150 (50+100) mm

The Trial Stem could be of different length and diameter than used previously in the IM alignment system.

- Thread the Trial Stem into the Tibial Tray Component (Fig. 23).

(Fig. 23)

1. REVISION OF A PRIMARY TOTAL KNEE REPLACEMENT

- If a half block is necessary, it should be snapped into place on the undersurface of the Tibial Tray Component (Fig. 24).

(Fig. 24)

- Insert the assembly into the prepared hole in the tibia to check for correct sizing (Fig. 25).)

(Fig. 25)

1. REVISION OF A PRIMARY TOTAL KNEE REPLACEMENT

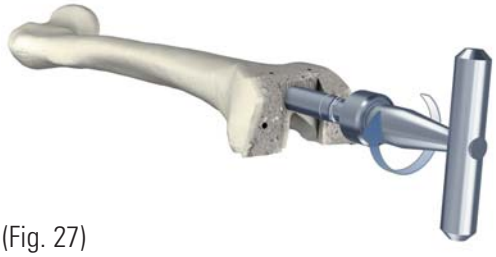
2. Femoral preparation

1/ Canal preparation

- Open the femoral medullary canal for subsequent reaming.
  The hole must be aligned with the long axis of the femur.
- The Reamer is assembled to the Handle for Cannulated Reamer or attached to the power source (Fig. 26).

(Fig. 26)

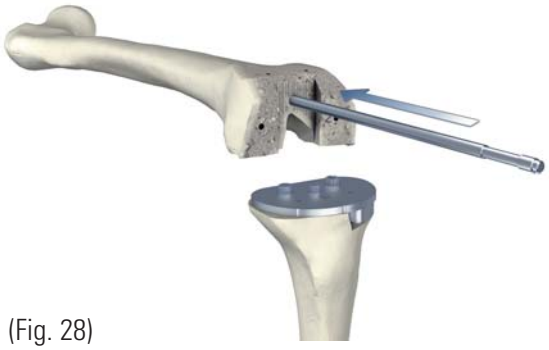
- Ream with sequentially increasing diameters until cortical contact is achieved (Fig. 27).
  Reamers are available in the following sizes:
  ø 10, 12, 14, 16, 18 mm.



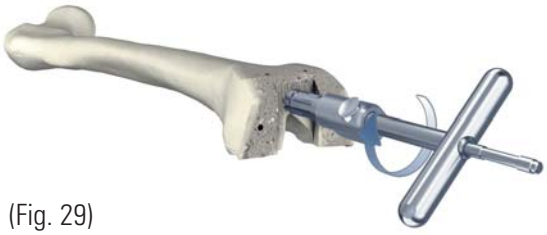
(Fig. 27)

IMPORTANT

- **If the diameter of the last reamer used is less than 18 mm, advance the 18 mm reamer up to the 30 mm scribe line to prepare the housing for the femoral slide.**
- **As for the tibia, the femoral canal may be prepared with the Cannulated Reamers over the IM rod (Figs 28 and 29).**



(Fig. 28)



(Fig. 29)

1. REVISION OF A PRIMARY TOTAL KNEE REPLACEMENT

2/ Selection of Trial Femoral Component

- Select the Trial Femoral Component based on the AP dimension of the explanted component or according to preoperative planning.

Caution! The femoral component size must be identical to that of the tibial component. If necessary, however, the femoral component may be downsized by one size.

- Select the Trial Flange (5°, 7°, or 9°) that corresponds to the preoperatively measured valgus angle.
- Select the appropriate size Trial Stem:
  ø 10, 12, 14, 16, 18 mm
  L 75, 100, 125 (50+75), 150 (50+100) mm

3/ Assembly of the Trial Femoral Component

- *The right and left sides are respectively identified by:*
  A black triangle ▲ for the right side
  A black circle ● for the left side
  Those symbols are located on the inner surface of the Trial Femoral Component (level with the trochlear groove) and on the anterior and/or posterior surfaces of the Trial Sledge and Trial Flange.
- The Trial Femoral Stem Bridge is mounted onto the Trial Femoral Component and secured using the 4.5 mm Universal Hexagonal Screwdriver (Figs 30 and 31).

(Fig. 30)

(Fig. 31)

1. REVISION OF A PRIMARY TOTAL KNEE REPLACEMENT

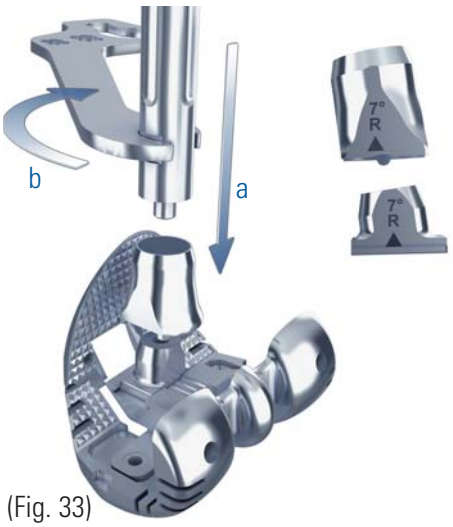
- Engage the Trial Sledge transversely into the Trial Femoral Stem Bridge, with the symbol facing that on the Trial Femoral Component (Fig. 32).

(Fig. 32)

Attach the assembly to the Trial Sledge, taking care to align the two symbols (Fig. 33a).

- Thread the Trial Stem into the assembly and lock the translation of the stem in the "centered" position (Fig. 33b).

  The use of aStem Adaptor Femoral Key (size 1 to 6 according to the femoral component size) facilitates tightening and ensures a secure connection.



(Fig. 33)

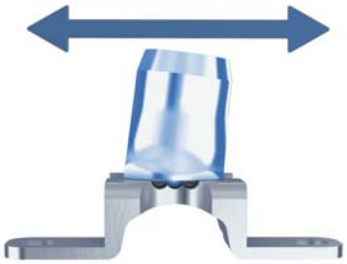
4/ Femoral trial insertion

- Prior to placing the Trial Femoral Component on the femur, check for correct rotational position relative to the transepicondylar axis.
- Insert the Trial Femoral Component (Fig. 34).

(Fig. 34)

1. REVISION OF A PRIMARY TOTAL KNEE REPLACEMENT

- Check for correct ML alignment of the Trial Femoral Component. If necessary, unscrew the Trial Stem and shift the Trial Sledge 2 mm medially or laterally (Fig. 35).
- Then, reinsert the Trial Stem and secure the connection using the Stem Adaptor Femoral Key.



(Fig. 35)

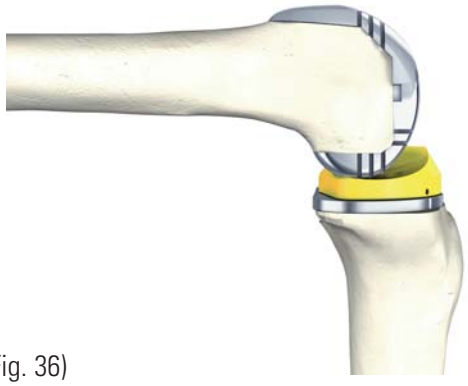
IMPORTANT
If minor bone defects are present, it may be necessary to prepare a housing for the Trial Femoral Stem Bridge in the femoral notch.

The AP dimension of the distal femur is now restored.

5/ Soft tissue balancing

Step 1: In flexion

- Insert a Tibial Trial Articular Surface.
- Assess ligament stability (Fig. 36).
- In case of symmetric laxity, gradually increase the thickness of the Tibial Trial Articular Surface to achieve soft tissue balance at 90° of flexion. *Make sure that the previously marked joint line position is maintained.*

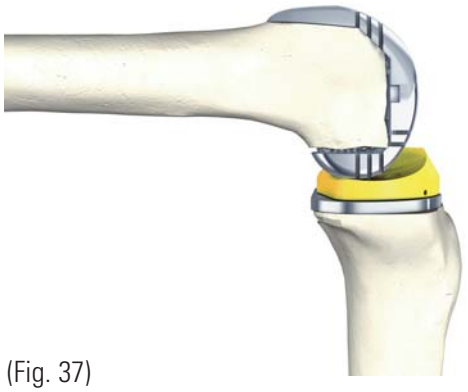


(Fig. 36)

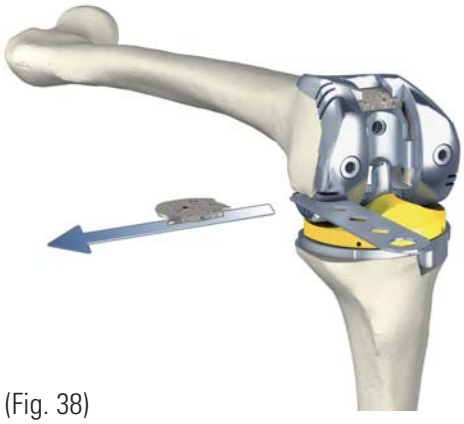
1. REVISION OF A PRIMARY TOTAL KNEE REPLACEMENT

- In case of bone loss from one or both posterior condyles, use one or two Trial Femoral Posterior Augments. A fresh resection must be performed through the 4 mm or 8 mm slots (Fig. 38). Similarly, adjustment of the femoral rotation may require the use of a Trial Femoral Posterior Augment, most often laterally, in order to correct a medial malrotation (Fig. 39).

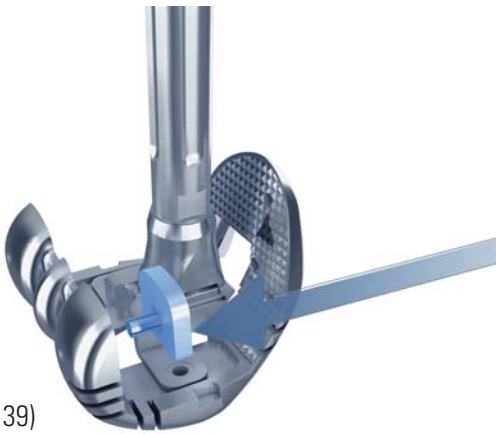
NOTE
The femoral augments can be easily removed by pushing them out of the posterior condyle with the tip of the small screwdriver.



(Fig. 37)



(Fig. 38)



(Fig. 39)

1. REVISION OF A PRIMARY TOTAL KNEE REPLACEMENT

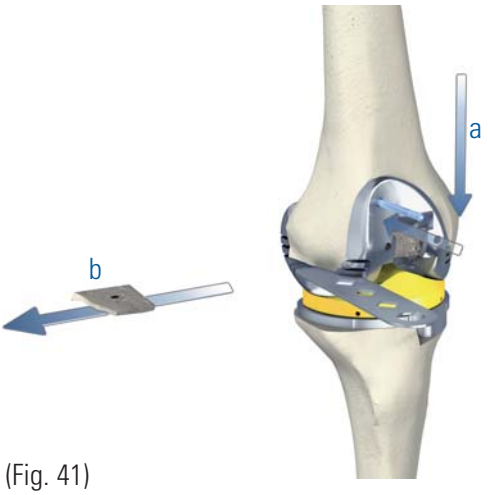
Step 2: In extension

- If the knee is stable and the extension gap is symmetrical, the femoral preparation is complete.

- If some laxity persists (Fig. 40), the femoral trial should be moved further distally, and the gap should be filled with distal augments:

(Fig. 40)

- Move the trial down to the desired level and fix it in position by inserting two headed pins through the trochlear holes (Fig. 41a).
- If necessary, perform "fresh" resections through the slots of the trial (Fig. 41b).



(Fig. 41)

- Remove the Trial Femoral Component and insert the Trial Femoral Distal Augments (Fig. 42).

(Fig. 42)

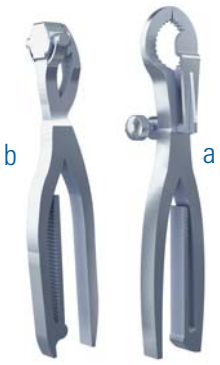
1. REVISION OF A PRIMARY TOTAL KNEE REPLACEMENT

- Re-assess the flexion and extension gaps (Fig. 43).

(Fig. 43)

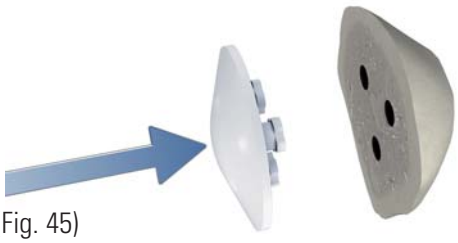
3. Patellar preparation

- If the patellar component is loose, it should be removed.
- Make a clean-up cut through the slot of the Patellar Resection Clamp (Fig. 44a).
- Drill the 3 peg holes using the Patellar Impaction Clamp and the Patellar Drill with Stop (Fig. 44b).



(Fig. 44)

- Perform a trial reduction in flexion-extension with all trial components in place (Fig. 45).



(Fig. 45)

1. REVISION OF A PRIMARY TOTAL KNEE REPLACEMENT

4. Assembly of final components

1/ Tibial component

- The tibial augments are secured to the undersurface of the fixed tibial tray with 2 screws using the 4.5 mm Universal Screwdriver (tibial augments should not be used with the mobile bearing tray) (Fig. 46).

(Fig. 46)

- The stem extension is assembled with the tibial tray using the appropriate Stem Assembly Key (Fig. 47).

(Fig. 47)

- The tibial insert is snapped into place on the tibial tray. (Fig. 48)

(Fig. 48)

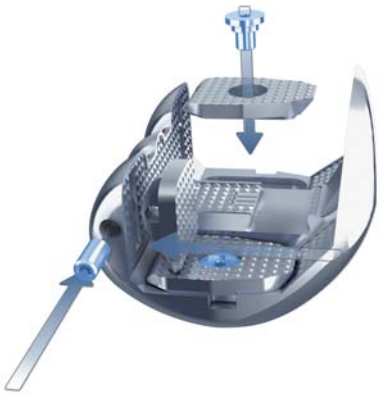
1. REVISION OF A PRIMARY TOTAL KNEE REPLACEMENT

2/ Femoral component

- The distal augments and the posterior augments are successively assembled to the femoral component using the 4.5 mm Universal Screwdriver (Fig. 49).

  Caution! If 2 distal augments thicker than 4 mm are used, first assemble the lateral augment, insert the femoral slide from the medial side, and then assemble the medial augment.

- *The right and left sides are respectively identified by:*
  A black triangle ▲ for the right side
  A black circle ● for the left side
  which are located on the inner surface of the femoral component (level with the trochlear groove) and on the anterior and/or posterior surfaces of the femoral slide and assembly piece.
  The same symbol should be present on all the elements of the Trial Femoral Component .
- Engage the femoral Sledge transversely into the Flange, with the symbol facing that on the femoral component.



(Fig. 49)

- Attach the assembly piece to the femoral Sledge, taking care to align the two symbols (Fig. 50) as previously described for the Trial Femoral Component.
- Thread the stem into the assembly piece, and lock the translation of the stem in the position selected during trialing.
- Lock the construct with the Stem Assembly Key.

(Fig. 50)

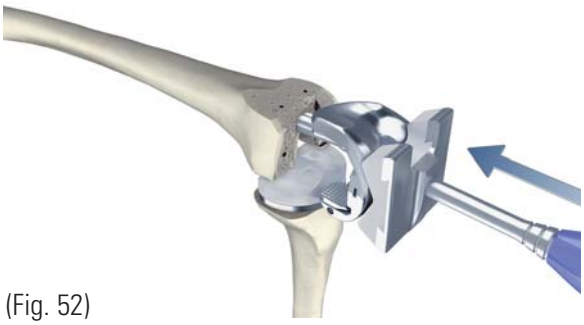
1. REVISION OF A PRIMARY TOTAL KNEE REPLACEMENT

5. Implantation

- The site must be thoroughly cleansed and carefully dried.
- The tibial component should be inserted first (Fig. 51).

(Fig. 51)

- The femoral and tibial components may be inserted in a single cementing procedure, or the femoral component may be inserted after the cement has hardened on the tibia (Fig. 52).
- Cement the patellar component, and gently press with the patellar clamp while the cement hardens.



(Fig. 52)

2. REVISION OF A UNICOMPARTMENTAL KNEE REPLACEMENT

1. Tibial preparation

Tibial preparation is the same as for total knee replacement.

The only difference is the level of the main resection plane: 9 mm. The augmentation resections (if needed) are 4, 8 or 12 mm thick to accommodate a half block (of the same thickness).

2. Femoral preparation

The femoral preparation is performed using the primary instrument system.

Leaving the UKR in place may facilitate the rotational positioning of the femoral component. It will further allow to check this position with reference to the epicondyles.

- Open the medullary canal.
- Set the adjustable IM Femoral Guide to the appropriate valgus angle (Fig. 53).

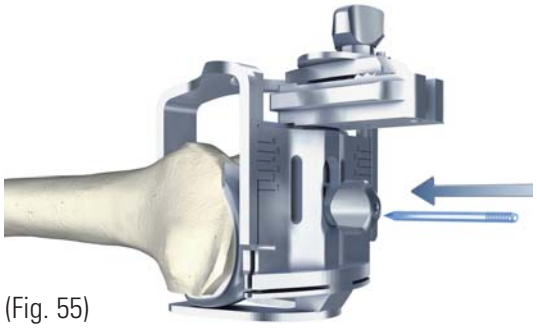
(Fig. 53)

- The adjustable IM Femoral Guide is then inserted and applied to the femoral condyles (Fig. 54).)

(Fig. 54)

2. REVISION OF A UNICOMPARTMENTAL KNEE REPLACEMENT

- Insert a headed pin into the healthy condyle to secure the adjustable IM Femoral Guide in position (Fig. 55).

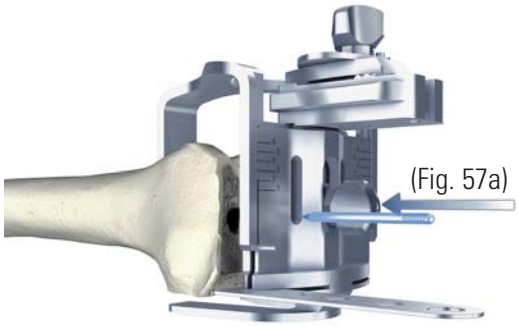


(Fig. 55)

- Remove the adjustable IM Femoral Guide and extract the component (Fig. 56).

(Fig. 56)

- Reposition the adjustable IM Femoral Guide using the headed pin hole as a reference point for correct alignment (Fig. 57a).
- In order to avoid tilting of the assembly onto the healthy condyle, insert a Thickness Gauge between the IM Femoral Guide and the resected surface of the condyle.
- Pin the Posterior Femoral Cutting Block in place and perform the posterior cut (Fig. 57b).



(Fig. 57a)

(Fig. 57b)

The next steps are those of a primary TKA:

- Ligament balancing in flexion using the Spacer Gauge
- Ligament balancing in extension using the Distractor Forceps
- Positioning of the Distal Femoral Cutting Guide
- Distal femoral cut
- Positioning of the AP/Chamfer Cutting Block
- Anterior and Chamfer cuts
- Insertion of trial components and Trial reduction

In case of bone loss, it may be necessary to use distal or posterior femoral augments and a femoral stem extension. Refer to "Revison of a Primary Total Knee Replacement", *Section 2 (Femoral Preparation).*

INSTRUMENTS

INSTRUMENTS

Instrument set #1
Cat. No. YKAG48

Case - H 140 mm
Cat. No. NBR005

Basket - H 100 mm
Cat. No. NPR004

Insert
Cat. No. YRAG48

Trial Stem, 75 mm

Ø 10 mm	Cat. No. MDF830
Ø 12 mm	Cat. No. MDF831
Ø 14 mm	Cat. No. MDF832
Ø 16 mm	Cat. No. MDF833
Ø 18 mm	Cat. No. MDF834

Trial Stem, 100 mm

Ø 10 mm	Cat. No. MDF840
Ø 12 mm	Cat. No. MDF841
Ø 14 mm	Cat. No. MDF842
Ø 16 mm	Cat. No. MDF843
Ø 18 mm	Cat. No. MDF844

Trial Stem Extension, 50 mm (for trial stem, 100 mm)

Ø 10 mm	Cat. No. MDF850
Ø 12 mm	Cat. No. MDF851
Ø 14 mm	Cat. No. MDF852
Ø 16 mm	Cat. No. MDF853
Ø 18 mm	Cat. No. MDF854

Reamer

Ø 12 mm	Cat. No. MDF520
Ø 16 mm	Cat. No. MDF521
Ø 18 mm	Cat. No. MDF522

Revision Tibial Cutting Guide
Cat. No. MDE087

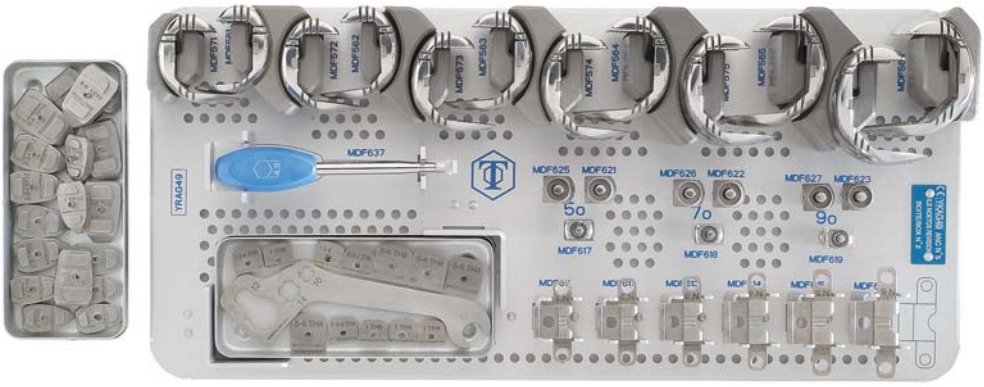
2.5 mm Universal Hexagonal Screwdriver
Cat. No. MDF636

Trial Tibial Augment

	H 4 mm	H 8 mm	H 12 mm
T1	MDF531	MDF532	MDF533
T2	MDF536	MDF537	MDF538
T3	MDF541	MDF542	MDF543
T4	MDF546	MDF547	MDF548
T5	MDF551	MDF552	MDF553
T6	MDF556	MDF557	MDF558

INSTRUMENTS

Instrument set #2
Cat. No. YKAG49



Case - H 140 mm
Cat. No. NBR005

Basket - H 100 mm
Cat. No. NPR004

Insert
Cat. No. YRAG49

Trial Femoral Component

	Right	Left
Size 1	MDF561	MDF571
Size 2	MDF562	MDF572
Size 3	MDF563	MDF573
Size 4	MDF564	MDF574
Size 5	MDF565	MDF575
Size 6	MDF566	MDF576

Trial Femoral Distal Augment

	H 4 mm	H 8 mm	H 12 mm
Size1	MDF581	MDF586	MDF591
Sizes 2-3-4	MDF582	MDF587	MDF592
Sizes 5-6	MDF583	MDF588	MDF593

Trial Femoral Posterior Augment

	H 4 mm	H 8 mm
Size 1	MDF601	MDF606
Sizes 2-3-4	MDF602	MDF607
Sizes 5-6	MDF603	MDF608

Trial Femoral Stem Bridge

Size 1	Cat. No. MDF611
Size 2	Cat. No. MDF612
Size 3	Cat. No. MDF613
Size 4	Cat. No. MDF614
Size 5	Cat. No. MDF615
Size 6	Cat. No. MDF616

INSTRUMENTS

Trial Sledge

5°	Cat. No. MDF617
7°	Cat. No. MDF618
9°	Cat. No. MDF619

Trial Flange

	Right	Left
5°	MDF621	MDF625
7°	MDF622	MDF626
9°	MDF623	MDF627

4.5 mm Universal Hexagonal Screwdriver

Cat. No. MDF637

Stem Assembly Key

Cat. No. MDF352

Stem Adaptor Femoral Key

N° 1	Cat. No. MDF651
N° 2	Cat. No. MDF652
N° 3	Cat. No. MDF653
N° 4	Cat. No. MDF654
N° 5	Cat. No. MDF655
N° 6	Cat. No. MDF656

Assembly Key for ø 10 - 18 mm Stem

Cat. No. MDF647

Cutting Guide Support Stem

Cat. No. MDF699

NOTE: A complete HLS Noetos Revision Instrumentation should include the above instruments as well as the HLS Noetos Instruments (YKAG381, YKAG39, YKAG40, YKAG41 et YKAG42).

INSTRUMENTS

Instrument set #3
Cat. No. YKAG50

Case - H 140 mm
Cat. No. NBR002

Basket - H 100 mm
Cat. No. NPR005

Insert
Cat. No. YRAG50

Cannulated Reamer

Ø 10 mm	Cat. No. MDF203
Ø 12 mm	Cat. No. MDF207
Ø 14 mm	Cat. No. MDF204

Handle for Cannulated Reamer
Cat. No. MDF205

Thickness Gauge

Épaisseur 4 mm	Cat. No. MDF632
Épaisseur 8 mm	Cat. No. MDF633
Épaisseur 12 mm	Cat. No. MDF638

Tibial Component Adaptor

Sizes 1-2	Cat. No. MDF639
Sizes 3-4-5-6	Cat. No. MDF640

Headed Pin, 3.5 mm
Cat. No. MDF641

Finless Tibial Punch

Sizes 1-2	Cat. No. MDF642
Sizes 3-4-5-6	Cat. No. MDF643

Tibial Probe
Cat. No. MDE005

NOTES

NOTES

IMPLANTS

IMPLANTS

HLS Noetos® Revision

Femoral Revision Component

	Right	Left
1	GDF541	GDF551
2	GDF542	GDF552
3	GDF543	GDF553
4	GDF544	GDF554
5	GDF545	GDF555
6	GDF546	GDF556

Femoral Distal Augment

	Thick. 4	Thick. 8	Thick. 12
Size 1	GDF571	GDF572	GDF573
Sizes 2-3-4	GDF576	GDF577	GDF578
Sizes 5-6	GDF581	GDF582	GDF583

Femoral Posterior Augment

	Thick. 4	Thick. 8
Size 1	GDF591	GDF592
Sizes 2-3-4	GDF594	GDF595
Sizes 5-6	GDF597	GDF598

Sledge

5°	GDF687
7°	GDF688
9°	GDF689

Flange

	Right	Left
5°	GDF680	GDF683
7°	GDF681	GDF684
9°	GDF682	GDF685

Screw for Femoral Distal Augment Block

GDF585

Screw for Femoral Posterior Augment Block

GDF586

Screw for Tibial Augment

GDF587

Tibial Revision Component

1	GDF561
2	GDF562
3	GDF563
4	GDF564
5	GDF565
6	GDF566

Tibial Augment

	Thick. 4	Thick. 8	Thick. 12
Size 1	GDF471	GDF472	GDF473
Size 2	GDF475	GDF476	GDF477
Size 3	GDF481	GDF482	GDF483
Size 4	GDF485	GDF486	GDF487
Size 5	GDF491	GDF492	GDF493
Size 6	GDF495	GDF496	GDF497

Extension Stem

	L 75	L 100	L 125	L 150
Ø10	GDF511	GDF600	GDF605	GDF521
Ø12	GDF512	GDF601	GDF606	GDF522
Ø14	GDF513	GDF602	GDF607	GDF523
Ø16	GDF514	GDF603	GDF608	GDF524
Ø18	GDF515	GDF604	GDF609	GDF525
Ø20	GDF516*			GDF526*
Ø22	GDF517*			GDF527*

*Optional. Please, specify.

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