

SPC Distal Cut First Technique Addendum



SPC Distal Cut First Surgical Technique Addendum

This technique is indicated for patients with osteoarthritis who are undergoing Total Knee Arthroplasty. It is indicated to be used as an adjunct to the full technique of femoral, tibial, and patellar preparation as described in other GENESIS® II TKA techniques.

The following procedure will set rotation for the AP cutting blocks to 3° of external rotation to accommodate GENESIS II SPC femoral components.

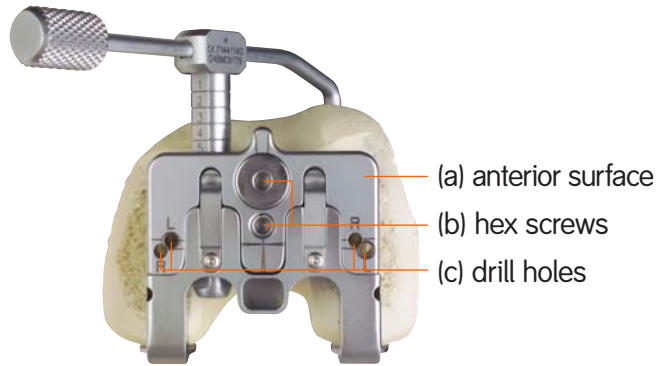


Figure 5

Femoral Sizing Guide Preparation

The unique feature of the sizing guide for this system is that it may be used in an anterior referencing or a traditional posterior referencing manner. It includes an anterior surface (Figure 5,a) located on the sizing guide which is adjustable by the hex screw mechanism (Figure 5,b), and is internally attached to the drill guide used to set the drill holes (Figure 5,c) for placement of the A-P cutting blocks.

Anterior Referencing

An anterior referencing technique is based on the anterior cortex, which serves as the primary reference point. The anterior resection is fixed while the posterior resection varies with size. When the sizing guide indicates the femoral implant is between two sizes, the **smaller size** should be selected. Choosing the smaller size results in more bone resection from the posterior condyles.

Anterior Referencing	
Advantages	Disadvantages
Reapproximation of the patellofemoral joint	Knee may be loose in flexion
Reduced chance of notching the anterior cortex	

To use the guide in this manner, femoral size is read from the graduations on the stylus arm relative to the anterior surface.

By adjusting the upper hex screw, the anterior surface can be raised from the lowest position (Figure 6a) to read the next smaller size on the stylus. In raising the anterior surface, the drill holes are also raised by the same amount (Figure 6b).

As a result, the anterior surface is shifted anteriorly by a distance equal to the amount the A-P dimension of the femur is from the next smaller implant size. Additional resection of the same amount is made from the posterior condyles.

Posterior Referencing

A posterior referencing technique is based on the posterior femoral condyles which serve as the reference point. The posterior resection remains constant while the anterior resection varies with respect to the anterior cortex. Therefore, the posterior resection will equal the posterior thickness of the prosthesis, resulting in a balanced flexion-extension space. When the sizing guide indicates the femoral implant is between two sizes, the **larger size** should be chosen.

Posterior Referencing	
Advantages	Disadvantages
Balanced flexion and extension spaces	Chance of notching the anterior cortex
	May overstuff the patellofemoral joint

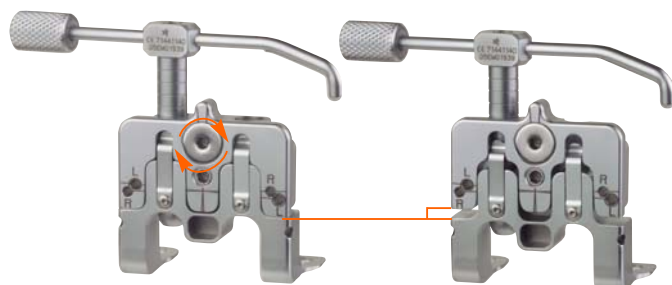


Figure 6a

Figure 6b

Note Bene

The technique description herein is made available to the healthcare professional to illustrate the authors' suggested treatment for the uncomplicated procedure. In the final analysis, the preferred treatment is that which addresses the needs of the patient.

Sizing Guide Procedure

1. Flex the knee, approximately 90° so the posterior condyles are accessible.
2. Position the femoral sizing guide flush against the distal femur, while ensuring the posterior paddles are contacting the underside of both posterior condyles.

Tip: It is not necessary that the guide be centered on the femur, as long as the paddles adequately reference both posterior condyles. Positioning the guide somewhat medial to the midline minimizes interference with the patella and extensor mechanisms during MIS procedures.

3. Adjustable shims (1-5mm) may be attached to the posterior paddles of the sizing guide in the event rotational alignment is not appropriate due to deficient posterior condyles. Laser marked lines to reference the A-P axis and the epicondylar axis may be used to determine the required shim thickness.

Sizing Procedure: Posterior Referencing (Fixed Posterior Resection):

1. Ensure the anterior surface of the sizing guide is in the lowest level position.
2. Drill and insert two pins through the appropriate holes (L for a left knee, R for a right knee) of the sizing guide to secure the guide and prepare holes for the A-P cutting block.
3. Position the sizing guide stylus so that it contacts the lateral ridge of the anterior femoral cortex (highest point on the anterior cortex of the femur) (Figure 7).

Tip: The stylus is designed to insert under the skin if necessary. The skin can be retracted to aid in placement of the stylus.

4. Determine the size of the component from the graduations on the shaft of the stylus.



Figure 7

5. If the femur is between sizes, choose the larger size.
6. Remove the pins and sizing guide.



Figure 8

Sizing Procedure: Anterior Referencing (Fixed Anterior Resection)

1. Ensure the anterior surface of the sizing guide is in the lowest level position
2. Position the sizing guide stylus so that it contacts the lateral ridge of the anterior femoral cortex (highest point on the anterior cortex of the femur) (Figure 7).
3. Determine the size of the component from the graduations on the shaft of the stylus.
4. If the indicated size is in-between sizes, turn the UPPER HEX SCREW to raise the anterior surface to the next smaller size. Once the appropriate size is selected, turn the LOWER HEX SCREW to lock the anterior surface and drill holes in position (Figure 8).
5. Drill the holes on the sizing guide on each side—"LEFT" holes for a left knee and "RIGHT" holes for a right knee—in order to externally rotate the cutting block.
6. Remove the pins and sizing guide.

Proceed as with the regular GII Technique as described in the GENESIS® II DCF or MIS DCF Technique for the rest of the procedure unless you are doing a PS knee.

For Posterior Stabilized Knees:

The SPC Posterior Stabilized Collet (7144-1258) MUST be used due to the difference between the SPC GENESIS II PS femoral component and the regular GENESIS II femoral component, as the SPC component is 5 mm deeper and has an anterior wall that acts as a cement dam.

Orthopaedics

Smith & Nephew, Inc.
1450 Brooks Road
Memphis, TN 38116
USA

www.smith-nephew.com

Telephone: 1-901-396-2121
Information: 1-800-821-5700
Orders/inquiries: 1-800-238-7538