Introduction

General Considerations

- Zimmer® Patient Specific Instruments (PSI) are not designed for use with the Zimmer MIS Quad-Sparing™ Total Knee Procedure.
- Zimmer PSI should be used in conjunction with a femur first technique.
- Verify stability and fixation of all pins. When securing the conventional cutting guides, avoid the use of spring pins as these may cause stress / unwanted shift on the cutting guide.
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**Femoral Technique**

**Position Femoral Pin Guide**
- Do not remove osteophytes from the femur.
- Position the Pin Guide on the distal femur (Fig. 1).
- Pin Guide will be captured by the anterior and proximal ridge of the femur. The guide fits over the edge on the proximal bone to increase locking.
- The A/P axis reference line on the Pin Guide can be used to assess alignment. The most distal end of the guide is parallel to the epicondylar axis and can also be used as reference.
- Apply anterior proximal pressure to the Pin Guide and verify a secure fit. Applying posterior pressure may destabilize the Pin Guide.

**Drill and Pin the Anterior Pin Holes**
- Drill and pin the anterior medial and lateral pin holes of the Pin Guide using the Universal Disposable Drill (2001-00-000) (Fig. 2).

**Drill Distal Pin Holes**
- Drill the distal pin holes of the Pin Guide (do not place pins) (Fig. 3).

**TECHNIQUE TIP**

When drilling the distal pin holes, ensure the holes are deep enough for visibility after the distal cut occurs.
SECTION 1

Femoral Technique

**TECHNIQUE TIP 1.B**

When performing the cuts, excessive force (considering the pressure being applied to the guide) on the medial or lateral side of the cut guide could influence the amount of varus/valgus in the cut.

**TECHNIQUE TIP 1.C**

If more fixation is required, insert a 3.2mm trocar tipped pin in the oblique hole on the cutting head.

**TECHNIQUE TIP 1.D**

In the event the drilled distal holes are covered up following the distal cut, clean the area. Alternatively, prior to removing the anterior pins, place the Pin Guide back over the anterior pins and locate the distal pins through the distal Pin Guide holes.

Place Distal Cut Guide and Cut Femur

- Remove the Pin Guide by sliding it off the pins, leaving the anterior pins in the bone.
- Secure the Persona® 0° Captured / Uncaptured Cutting Head (42-5099-010-00).
- Verify the distal resection on the medial and lateral side with a resection guide. Check alignment if desired, and make the cut (Fig. 4).

**Place Distal Cut Guide and Cut Femur**

- Secure the Persona® 0° Captured / Uncaptured Cutting Head (42-5099-010-00).
- Verify the distal resection on the medial and lateral side with a resection guide. Check alignment if desired, and make the cut (Fig. 4).

**Remove Distal Cut Guide**

- Locate the drilled pin holes.
- Remove the anterior pins (Fig. 5).

**Remove Distal Cut Guide**

- Locate the drilled pin holes.
- Remove the anterior pins (Fig. 5).

**Place the Persona 4-in-1 Femoral Cut Guide**

- Secure the Persona 4-in-1 Cut Guide (42-5099-085-54_74 for Anterior Referencing or 42-5099-044-54_74 for Posterior Referencing) and insert 3.2mm Trocar-tipped pins through the oblique holes of the cut guide. Verify resections using a resection guide.
- Finish the femur following the instructions from the Zimmer Persona The Personalized Knee Surgical Technique (Fig. 6).

**Place the Persona 4-in-1 Femoral Cut Guide**

- Secure the Persona 4-in-1 Cut Guide (42-5099-085-54_74 for Anterior Referencing or 42-5099-044-54_74 for Posterior Referencing) and insert 3.2mm Trocar-tipped pins through the oblique holes of the cut guide. Verify resections using a resection guide.
- Finish the femur following the instructions from the Zimmer Persona The Personalized Knee Surgical Technique (Fig. 6).

**Instruments**

- 0° Captured / Uncaptured Cutting Head 42-5099-010-00
- Persona 4-in-1 Cut Guide 42-5099-085-54_74 OR 42-5099-044-54_74
- Retention Guide 00-5977-084-00
- 3.2mm x 75mm Trocar Tipped Drill Pin (2.5mm hex) 09-5991-020-00
- Pin / Screw Inserter 09-5981-021-00
Instruments

Tibial Technique

Position Tibial Pin Guide

- Remove the meniscus.
- Do not remove osteophytes from the tibia. Clean the bone around the ACL and anterior tibia where the guide fits.
- Remove any soft tissues that may prevent proper placement of the Pin Guide.
- Position the Pin Guide on the tibia (Fig. 7).
- The mechanical axis and proximal resection lines may be used to assess the alignment.

Note: The tibia alignment may be verified by inserting the Tibia Alignment Adapter and Alignment Rod into the Tibia Pin Guide alignment holes (Fig. 8a & 8b).

Drill and Pin Anterior Lateral Pin Hole

- Drill and pin the lateral hole of the Pin Guide (Fig. 9).

Drill Anterior Medial Hole

- Drill the medial hole of Pin Guide (do not place pin) (Fig. 10).

Fig. 7

Fig. 8a

Fig. 8b

Fig. 9

Fig. 10
Removal of Tibial Pin Guide
- Remove the Pin Guide by lifting the medial hook off the posterior ridge and sliding off the anterior lateral pin (Fig. 11). Do not pry the Pin Guide from the tibia as this could shift the pins. (It may be necessary to remove the previously placed pin from the anterior lateral hole.)

Placement of Pins in Anterior Holes
- Ensure both pins are placed in the drilled anterior holes (Fig. 12).
Secure Cut Guide and Cut Tibia

- Secure the Persona Tibial Cut Guide. If more fixation is required, insert a 3.2mm Trocar-tipped pin in the oblique hole on the cutting head. Verify resections using the resection guide. Make tibial cut (Fig. 13).
- Use the appropriate right or left tibia cut guide.

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<td>42-5399-051-03</td>
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<td>7° Persona Left Cut Guide</td>
<td>42-5399-051-07</td>
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<td>3° Persona Right Cut Guide</td>
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<td>7° Persona Right Cut Guide</td>
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- Insert the Alignment Adapter into the Tibial Cut Guide, insert the Alignment Rod and check alignment (Fig. 14).

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<tr>
<td>Alignment Adapter</td>
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**TECHNIQUE TIP** 2.A
When fixing the Cut Guide, excessive force from screws can alter the planned location and could influence the amount of varus/varus in the cut.

**TECHNIQUE TIP** 2.B
When performing the cuts, excessive force (considering the pressure from leaning on the guide) on the medial or lateral side of the cut guide could influence the amount of varus/varus in the cut.

Instruments

- Persona Tibia Cut Guide 42-5399-051-03/07 42-5399-052-03/07
- Alignment Adapter 42-5399-006-00
- Alignment Rod with Copper 00-5785-080-00
- 3.2mm x 75mm Trocar Tipped Drill Pin (2.5mm hex) 00-5901-020-00
- Pin / Screw Inserter 00-5901-021-00
- Resection Guide 00-5977-084-00
Follow Persona The Personalized Knee System Surgical Technique

- Following the resection of the tibia, proceed with the surgery as suggested in the Zimmer Persona The Personalized Knee System Surgical Technique.