

**LINEAGE® ACETABULAR CUP SYSTEM
SHELL & LINER
CROSS-REFERENCE**

Shell Size	Group	Ceramic Inside Diameters	Metal Inside Diameters	Polyethylene Inside Diameters
46 48 50	1	28mm	28mm	28mm
52 54 56	2	32mm	32mm	28 & 32mm
58 60 62	3	32mm	32mm	28 & 32mm
64 66 68	4	36mm	36mm	28, 32 & 36mm



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MH149-603

PROFEMUR Z
TOTAL HIP SYSTEM

ABBREVIATED SURGICAL TECHNIQUE

PREOPERATIVE PLANNING |

Proper surgical techniques are the responsibility of the medical professional. The following guidelines are furnished only as recommended techniques. Each surgeon must evaluate the appropriateness of the techniques based on his or her own medical training and experience.

SURGICAL TECHNIQUE AS DESCRIBED BY:

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STEP 1

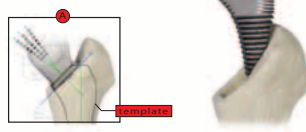
Make a 45-degree neck resection approximately 10-15mm above the lesser trochanter. Open the femoral canal with the **Initial Chisel (PPR67704)**.

STEP 2

Begin preparation of the femoral canal with the **Initial Starter Rasp (APA01070)**. Insert the rasp until it rests 1-2mm below the level of the neck resection. **(A)** Shows final position. (Depth marks can aid in determining the seating level based on pre-operative templating.)

STEP 3

Begin with **Rasp Number 1 (APA01072)** and progressively increase in rasp size until optimal rasp fit is found. This may be denoted by a change in tone or sensation as the rasps are driven into place. Since the polished collar of the proximal rasp (and implant) varies with rasp size, correct rasp depth is achieved when the amount of proximal rasp visible above the resection plane replicates the amount dictated on the corresponding x-ray template **(A)**. The S-Scale "0" mark **(B)** on the rasp handle corresponds to the center of rotation for a short neck and -3.5mm femoral head. The L-Scale "0" mark **(C)** is the center of rotation for a long neck and -3.5mm femoral head. (Other depth marks on rasp handle are not utilized with this technique.)



STEP 4

Utilize the final rasp as a femoral trial and perform a reduction with the trial modular necks and heads. A variety of neck options are available to optimize stability and motion.

STEP 5

Insert the appropriate femoral stem implant using the **Stem Guide Impactor (APA01114)**. The implant should sit at the same level as the final rasp. A final trial reduction can be performed using the trial femoral necks and heads.

Alternative insertion using **Final Stem Impactor (PPF60200)**.

STEP 6

It is extremely important to clean and dry tapers prior to assembly. Impact the femoral neck by placing a lap sponge over the taper portion and utilizing multiple firm mallet blows **(A)**. Affix the femoral head by impacting with several strong mallet blows to the **Head Impactor (PPR67702) (B)**.

MODULAR NECK REFERENCE

PROFEMUR Z
TOTAL HIP SYSTEM



PROFEMUR® MODULAR NECK REFERENCE (MAY BE USED WITH ANY TYPE OF PROFEMUR® HIP)

CURRENT NECK	NECK OPTIONS																																									
	Short - Straight	Long - Straight		Valgus - Short		Varus - Short		Valgus - Long		Varus - Long		Ant/Ret Valgus Short	Ant/Ret Varus Short	Ant/Ret Valgus Long	Ant/Ret Varus Long	8 Deg. Ant/Ret Short	8 Deg. Ant/Ret Long	15 Deg. Ant/Ret Short	15 Deg. Ant/Ret Long																							
Short Straight		Leg Length +7.4	Offset +7.4	Leg Length +2.2	Offset -3.0	Leg Length -2.2	Offset +3.0	11.4	4	4	11.4	Leg Length 2	Offset -1.6	Leg Length -1.6	Offset 2	Leg Length 9.8	Offset 4.7	Leg Length 4.7	Offset 9.8	Leg Length -0.5	Offset -0.5	Leg Length 7.2	Offset 7.2	Leg Length -0.4	Offset -0.4	Leg Length 6.7	Offset 6.7															
Long Straight	Leg Length -7.4	Offset -7.4		Leg Length -4.5	Offset -9.6	Leg Length -9.6	Offset -4.5	Leg Length 4	Offset -3.3	Leg Length -3.3	Offset 4	Leg Length -5.4	Offset -9	Leg Length -9	Offset -5.4	Leg Length 2.3	Offset -2.7	Leg Length -8	Offset -8	Leg Length -2.7	Offset 2.3	Leg Length -8	Offset -8	Leg Length -0.2	Offset -0.2	Leg Length -8	Offset -8	Leg Length -0.7	Offset -0.7													
Valgus Short	Leg Length -2.2	Offset 3	Leg Length 4.5	Offset 9.6		Leg Length -5	Offset 5	Leg Length 8.4	Offset 6.3	Leg Length 1.2	Offset 13.5	Leg Length -1	Offset 0.6	Leg Length -4.6	Offset 4.2	Leg Length 6.8	Offset 7	Leg Length 1.7	Offset 12	Leg Length -3.5	Offset 1.7	Leg Length 4.2	Offset 9.4	Leg Length -3.4	Offset 1.7	Leg Length 3.7	Offset 9															
Varus Short	Leg Length 2.2	Offset -3	Leg Length 9.6	Offset 4.5	Leg Length 5	Offset -5		Leg Length 13.5	Offset 1.2	Leg Length 6.3	Offset 8.4	Leg Length 4.2	Offset -4.6	Leg Length 0.6	Offset -1	Leg Length 12	Offset 7	Leg Length 7	Offset 6.8	Leg Length 1.7	Offset -3.5	Leg Length 9.4	Offset 4.2	Leg Length 1.7	Offset -3.4	Leg Length 9	Offset 3.7															
Valgus Long	Leg Length -11.4	Offset -4.1	Leg Length -4	Offset 3.3	Leg Length -8.4	Offset -6.3	Leg Length -13.5	Offset -1.2		Leg Length -7.2	Offset 7.2	Leg Length -9.3	Offset -5.8	Leg Length -13	Offset -2	Leg Length -1.6	Offset 0.5	Leg Length -6.7	Offset 5.6	Leg Length -12	Offset -4.7	Leg Length -4.2	Offset 3	Leg Length -11.8	Offset -4.6	Leg Length -4.6	Offset 2.6															
Varus Long	Leg Length -4	Offset -11.4	Leg Length 3.3	Offset -4	Leg Length -1.2	Offset -13.5	Leg Length -6.3	Offset -8.4	Leg Length 7.2	Offset -7.2		Leg Length -2	Offset -13	Leg Length -5.8	Offset -9.3	Leg Length 5.6	Offset -6.7	Leg Length -1.6	Offset 0.5	Leg Length -4.7	Offset -12	Leg Length 3	Offset -4.2	Leg Length -4.6	Offset -11.8	Leg Length 2.6	Offset -4.6															
4 Deg. Ant/Ret 6 Deg. Valgus Short	Leg Length -2	Offset 1.6	Leg Length 5.4	Offset 9	Leg Length 1	Offset -0.6	Leg Length -4.2	Offset 4.6	Leg Length 9.3	Offset 5.8	Leg Length 2	Offset 13		Leg Length -3.7	Offset 3.7	Leg Length 7.7	Offset 6.3	Leg Length 2.6	Offset 11.4	Leg Length -2.6	Offset 1	Leg Length 5	Offset 8.8	Leg Length -2.5	Offset 1.2	Leg Length 4.7	Offset 8.3															
4 Deg. Ant/Ret 6 Deg. Varus Short *	Leg Length 1.6	Offset -2	Leg Length 9	Offset 5.4	Leg Length 4.6	Offset -4.2	Leg Length -0.6	Offset 1	Leg Length 13	Offset 2	Leg Length 5.8	Offset 9.3	Leg Length 3.7	Offset -3.7		Leg Length 11.4	Offset 2.6	Leg Length 6.3	Offset 7.7	Leg Length 1	Offset -2.6	Leg Length 8.8	Offset 5	Leg Length 1.2	Offset -2.5	Leg Length 8.3	Offset 4.7															
4 Deg. Ant/Ret 6 Deg. Valgus Long *	Leg Length -9.8	Offset -4.7	Leg Length -2.3	Offset 2.7	Leg Length -6.8	Offset -7	Leg Length -12	Offset -1.7	Leg Length 1.6	Offset -0.5	Leg Length -5.6	Offset 6.7	Leg Length -7.7	Offset -6.3	Leg Length -11.4	Offset -2.6		Leg Length -5	Offset 5	Leg Length -10.3	Offset -5.2	Leg Length -2.6	Offset 2.5	Leg Length -10.2	Offset -5	Leg Length 2	Offset -3															
4 Deg. Ant/Ret 6 Deg. Varus Long *	Leg Length -4.7	Offset -9.8	Leg Length 2.7	Offset -2.3	Leg Length -1.7	Offset -12	Leg Length -7	Offset -6.8	Leg Length 6.7	Offset -5.6	Leg Length 1.6	Offset -0.5	Leg Length -2.6	Offset -11.4	Leg Length 5	Offset -5		Leg Length -5.2	Offset -10.3	Leg Length 2.5	Offset -2.6	Leg Length -5	Offset -10.2	Leg Length -3	Offset 2	Leg Length 2	Offset 2															
8 Deg. Ant/Ret Short	Leg Length 0.5	Offset 0.5	Leg Length 8	Offset 8	Leg Length 3.5	Offset -1.7	Leg Length -1.7	Offset 3.5	Leg Length 12	Offset 4.7	Leg Length 4.7	Offset 12	Leg Length 2.6	Offset -1	Leg Length -1	Offset 2.6	Leg Length 10.3	Offset 5.2	Leg Length 5.2	Offset 10.3		Leg Length 7.7	Offset 7.7	Leg Length 0	Offset 0	Leg Length 7.2	Offset 7.2															
8 Deg. Ant/Ret Long	Leg Length -7.2	Offset -7.2	Leg Length 0.2	Offset 0.2	Leg Length -4.2	Offset -9.4	Leg Length -9.4	Offset -4.2	Leg Length 4.2	Offset -3	Leg Length -3	Offset 4.2	Leg Length -5	Offset -8.8	Leg Length -8.8	Offset -5	Leg Length 2.6	Offset -2.5	Leg Length -2.5	Offset 2.6	Leg Length -7.7	Offset -7.7		Leg Length -7.6	Offset -7.6	Leg Length -0.5	Offset -0.5															
15 Deg. Ant/Ret Short	Leg Length 0.4	Offset 0.4	Leg Length 8	Offset 8	Leg Length 3.4	Offset -1.7	Leg Length -1.7	Offset 3.4	Leg Length 11.8	Offset 4.6	Leg Length 4.6	Offset 11.8	Leg Length 2.5	Offset -1.2	Leg Length -1.2	Offset 2.5	Leg Length 10.2	Offset 5	Leg Length 5	Offset 10.2	Leg Length 0	Offset 0	Leg Length 7.6	Offset 7.6		Leg Length 7.2	Offset 7.2															
15 Deg. Ant/Ret Long	Leg Length -6.7	Offset -6.7	Leg Length 0.7	Offset 0.7	Leg Length -3.7	Offset -9	Leg Length -9	Offset -3.7	Leg Length 4.6	Offset -2.6	Leg Length -2.6	Offset 4.6	Leg Length -4.7	Offset -8.3	Leg Length -8.3	Offset -4.7	Leg Length -2	Offset 3	Leg Length 3	Offset -2	Leg Length -7.2	Offset -7.2	Leg Length 0.5	Offset 0.5	Leg Length -7.2	Offset -7.2																
Effect of +3.5 mm Head Addition	Short Straight	Leg Length +2.5	Offset +2.5	Long Straight	Leg Length +2.5	Offset +2.5	Valgus Short	Leg Length +2.8	Offset +2	Varus Short	Leg Length +2	Offset +2.8	Valgus Long	Leg Length +2.8	Offset +2	Varus Long	Leg Length +2	Offset +2.8	Ant/Ret Valgus Short	Leg Length +2.7	Offset +2.2	Ant/Ret Varus Short	Leg Length +2.2	Offset +2.7	Ant/Ret Valgus Long	Leg Length +2.7	Offset +2.2	Ant/Ret Varus Long	Leg Length +2.2	Offset +2.7	8 Deg. Ant/Ret Short	Leg Length 2.5	Offset 2.5	8 Deg. Ant/Ret Long	Leg Length 2.5	Offset 2.5	15 Deg. Ant/Ret Short	Leg Length 2.4	Offset 2.4	15 Deg. Ant/Ret Long	Leg Length 2.4	Offset 2.4

HOW TO USE THIS CHART:

- Option 1**
- Find the PROFEMUR® modular neck that is currently being trialed in the far left "Current Neck" column.
 - Look along that row and find where it intersects with the "Neck Options" columns to see what effect changing to a particular neck would have.
 - Example: If a "Long Straight" neck is being trialed, changing to a "Valgus Long" neck would increase leg length 4mm and would decrease offset 3.3mm.

- Option 2**
- Find the PROFEMUR® modular neck that is currently being trialed in the far left "Current Neck" column.
 - Scan that row to find the "Leg Length" and "Offset" numbers of the neck that offers the desired result.
 - Example: If a "Varus Short" neck is being trialed, and slightly more leg length is needed, a "Short Straight" neck will increase length 2.2mm but decrease offset approximately 3mm.

OTHER CHARTS

- The "Effect of +3.5mm Head Addition" chart details how increasing femoral head length affects the length and offset of a particular neck.
 - Example: If a "Long Straight" neck and a 0mm femoral head were being trialed, adding a +3.5 head would add 2.5mm of leg length and 2.5mm of offset.
- The "Anteverted & Retroverted Necks" chart lists what effect AR/VV1 and AR/VV2 necks would have if used on either the left or right hip.

Anteverted & Retroverted Necks	Neck Type	Hip	Effect
	* AR/VV1 Short or Long	On a Right hip	
On a Left hip			Neck is varus/retroverted or valgus/anteverted
* AR/VV2 Short or Long	On a Right hip		Neck is valgus/anteverted or varus/retroverted
	On a Left hip		Neck is valgus/retroverted or varus/anteverted