



# APS Natural-Hip™ System

Surgical Technique



Bone conserving, anatomic fit



## APS Natural-Hip System Surgical Technique

### Table of Contents

<b>Preoperative Planning</b>	<b>2</b>
Determination of Leg Length	2
Determination of Abductor Muscle Tension and Femoral Offset	2
Component Size Selection/Templating	3
The APS Natural-Hip System	4
<b>Surgical Technique</b>	<b>4</b>
Incision	4
Exposure of the Hip Joint	4
Determination of Leg Length	4
Osteotomy of the Femoral Neck	4
Preparation of the Femur	6
Attachment of the Rasp Alignment Tip (Optional)	7
Femoral Rasping	7
Trial Reduction	8
Insertion of the Femoral Component	8
Attachment of the Femoral Head	9
<b>Wound Closure</b>	<b>9</b>
<b>Postoperative Management</b>	<b>9</b>

## Preoperative Planning

Effective preoperative planning allows the surgeon to predict the impact of different interventions in order to perform the joint restoration in the most accurate and safest manner. Optimal femoral stem fit, the level of the femoral neck cut, the prosthetic neck length, and the femoral component offset can be evaluated through preoperative radiographic analysis. Preoperative planning also allows the surgeon to have the appropriate implants available at surgery.

The objectives of preoperative planning include:

- 1 Determination of leg length
- 2 Establishment of appropriate abductor muscle tension and femoral offset
- 3 Determination of the anticipated component sizes

The overall objective of preoperative planning is to enable the surgeon to gather anatomic parameters which will allow accurate intraoperative placement of the femoral implant.

### Determination of Leg Length

Determining the preoperative leg length is essential for restoration of the appropriate leg length during surgery. For most patients, leg lengths are not equal. An A/P pelvic radiograph often gives enough documentation of leg length inequality to proceed with surgery. If more information is needed, a scanogram or CT evaluation of leg length may be helpful. From the clinical and radiographic information on leg lengths, determine the appropriate correction, if any, to be achieved during surgery.

### Determination of Abductor Muscle Tension and Femoral Offset

Once the requirements for establishing the desired postoperative leg length have been decided, the next step is to consider the requirement for abductor muscle tension.

When the patient has a very large offset due to an exceptionally long or varus femoral neck, insertion of an implant with a lesser offset will, in effect, medialize the femoral shaft and may lead to laxity of the abductor musculature. In patients with a significant varus neck-shaft angle, wherein the center of rotation of the femoral head lies well below the top of the greater trochanter, it is often necessary to seat the implant very low (or near the top of the lesser trochanter); use an oblique acetabular liner (which adds 3mm of additional offset); and use a varus angle modular neck if further offset is necessary. In this way, it is almost never necessary to increase the leg length to achieve a stable construct. Similarly, a 36mm or 40mm head diameter leads to an acetabular liner with an additional 3mm of offset (but it will add approximately 2mm in length). Whenever possible it is advisable to avoid long and extra-long neck lengths as they are sometimes associated with the soft-tissue type of instability.

Although rare, it may not be possible to restore offset in patients with an unusually large preoperative offset or with a severe varus deformity. In such cases, the tension in the abductors can be increased by lengthening the limb, a method that is especially useful when the involved hip is short. If this option is not advisable and if the disparity is great between the preoperative offset and the offset achieved at surgery by using the longest head-neck piece possible, some surgeons may choose to osteotomize and advance the greater trochanter to eliminate the slack in the abductor muscles. Technical variations in the placement of the acetabular components can also reduce the differences in offset.

## Component Size Selection/ Templating

Preoperative planning for insertion of a cementless anatomic femoral component requires at least two views of the involved femur; an anterior/posterior (A/P) view of the pelvis centered at the pubic symphysis, and a frog leg lateral view on an 11x17-inch cassette. Both views should show at least 8 inches of the proximal femur. In addition, it may be helpful to obtain an A/P view of the involved side with the femur internally rotated. This compensates for naturally occurring femoral anteversion and provides a more accurate representation of the true medial to lateral dimension of the metaphysis. When templating, magnification of the femur will vary depending on the distance from the x-ray source to the film, and the distance from the patient to the film. The APS *Natural-Hip* System templates (Fig. 1) use standard 20 percent magnification, which is near the average magnification on most clinical x-rays.

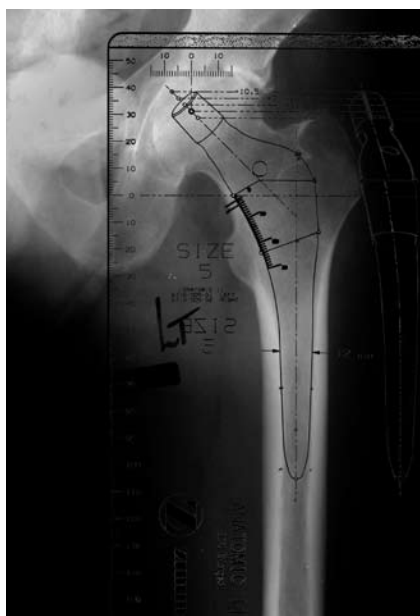


Fig. 1

Large patients and obese patients may have magnification greater than 20 percent because their osseous structures are farther away from the surface of the film. Similarly, smaller patients may have magnification less than 20 percent. To better determine the magnification of any x-ray film, use a standardized marker at the level of the femur. (Templates of 15 and 10 percent magnification can be obtained by special order.)

The initial templating begins with the A/P roentgenogram. Superimpose the acetabular templates sequentially on the pelvic x-ray with the acetabular component in approximately 40 degrees of abduction. Range of motion and hip stability are optimized when the socket is placed in approximately 35 to 45 degrees of abduction. Assess several sizes to estimate which acetabular component will provide the best fit for maximum coverage. In most cases, select the largest component possible, being certain that the outside diameter is not too large to seat completely in the acetabulum. (Refer to the Zimmer *Trilogy*® Acetabular System surgical technique for further details on acetabular reconstruction.) Consider the position and thickness of the acetabular component in estimating the optimum femoral neck length to be used. (To simplify this, the acetabular templates are on a separate acetate sheet from the femoral templates.) Mark the acetabular size and position, and the center of the head on the x-rays. This allows any femoral component to be matched with the desired acetabular component by placing the femoral template over the acetabular template. This will provide the best estimation of femoral component size and head-neck length necessary to achieve the correct leg length.

The APS *Natural-Hip* System includes four head diameters. In most patients with average sized acetabula, consider a femoral head with an intermediate diameter, such as 28mm or 32mm. The intermediate femoral heads allow for the use of an acetabular component with an outside diameter small enough to seat completely in the bone while also allowing for a polyethylene liner of sufficient thickness.

In special circumstances, such as the treatment of small patients and patients with congenital hip dysplasia and small acetabular volume, it is preferable to use a 22mm diameter head to allow for adequate polyethylene thickness.

The specific objectives in templating the femoral component include:

- 1 Determining the anticipated size of the implant to be inserted
- 2 Determining the height of the implant in the femur and the location of the femoral neck osteotomy

Now select the appropriate femoral template.

## The APS Natural-Hip System

To estimate the femoral implant size, assess the body size on the A/P radiograph. Superimpose the template on the metaphysis and estimate the appropriate size of the femoral stem. The body of the femoral component should fill, or nearly fill, the metaphyseal area on the A/P x-ray film. The medial portion of the body of the component should fit along the medial cortex in the proximal metaphysis as fully as possible, compatible with the anatomic endosteal contours of that region. Also, check the distal canal diameter and match it to the appropriate rasp alignment tip as offered on the template. These tips aid in maintaining neutral alignment during rasping.

After establishing the proper size of femoral component that will sit at the desired level to reproduce the proposed leg length using the +3.5 head/neck, mark the femoral neck on the film. The center of rotation should approximate the native femoral head center in the medial-lateral plane while being rather precise in the superior-inferior plane. To shorten the limb, one must down size to allow the implant to ride lower. To lengthen the limb, one must up size to allow the implant to seat proud.

Once the height has been determined, note the distance in millimeters from the top of the coating or other reliable feature on the implant, to the top of the lesser trochanter by using the millimeter scale on the template. For example, one might decide from the templating that a 52mm OD socket with a size 5 prosthesis and a +3.5mm x 28mm diameter femoral head, placed 15mm above the lesser trochanter, are the appropriate choices. Proximal/distal adjustments in prosthesis position can reduce the need for a femoral head with a skirt.

## Surgical Technique

### Incision

In total hip arthroplasty, exposure can be achieved through a variety of methods based on the surgeon's preference. The APS *Natural-Hip* can be implanted using a variety of surgical approaches, conventional or minimally invasive, including the posterior, posterolateral, anterolateral, straight lateral, or transtrochanteric approaches.

### Exposure of the Hip Joint

Develop the exposure of the posterior capsule. To facilitate this, place the leg in internal rotation. The key landmark for division of the short external rotators is the tendon of the piriformis muscle. This tendon runs parallel to the posterior border of the gluteus medius and can be readily palpated as it approaches the posterior superior portion of the greater trochanter. Retract the gluteus medius superiorly and identify the tendon of the piriformis.

### Determination of Leg Length

Establish landmarks and obtain measurements before dislocation of the hip so that, after reconstruction, a comparison of leg length and femoral shaft offset can be obtained. From this comparison, adjustments can be made to achieve the goals established during preoperative planning.

## Osteotomy of the Femoral Neck

There is a tendency in total hip replacement surgery during insertion of the femoral component to place it in a varus position. The likelihood of this can be reduced if visualization of the posterior femoral neck is improved. To accomplish this, remove all of the remaining soft tissue from the posterior femoral neck, exposing the intertrochanteric crest and the junction between the femoral neck and greater trochanter. Release some of the inferior capsule to expose the lesser trochanter. When the ideal position of the appropriately selected femoral component was determined during the preoperative planning, the distance between the top surface of the lesser trochanter and the level of the collar was noted. In the example used, this measurement was 15mm. Use this information to determine the level for the femoral neck osteotomy.

The hip is dislocated in flexion, internal rotation, and adduction. The tibia is placed perpendicular to the femur. Direct the foot toward the ceiling, which will allow the femoral neck and head to be visualized in the depths of the incision. Using a small metal ruler, the desired length can be determined and the neck scribed with a cautery. (A ruler that is adjusted for magnification error could be used.) The cutting guide, which is too large and long to fit within the incision, is placed on the surface of the leg parallel to the femoral shaft to judge the varus-valgus. Next it is positioned such that the cutting slot aligns with the scribed mark on the femoral neck and the 45 degree osteotomy is completed. The greater trochanter is never visualized and often only the distal 1/2 to 2/3 of the femoral head is seen at this point.

Superimpose the Osteotomy Guide (Fig. 2) on the femur. This guide is a metal replica of the acetate template. There are two criteria for positioning the guide: First, determine the varus or valgus relationship so the center line of the femoral stem overlies the diaphyseal mid-line, bisecting the longitudinal axis of the medullary canal. Palpate both the medial and lateral cortices of the femur in the region of the isthmus, through the bulk of the vastus lateralis muscle group, to determine the distal position of the Osteotomy Guide. Second, once neutral alignment has been determined, move the template proximally or distally to the correct height, as determined by preoperative planning. The Osteotomy Guide has a linear scale starting at the osteotomy cut and running distally along the medial edge. This scale is identical to that used preoperatively on the acetate template. Align the hole with the center of rotation of the femoral



Fig. 2

head. All holes on the Osteotomy Guide refer to +0 head center. The tip of the greater trochanter should coincide with the mark designated as “0” on the lateral edge of the Osteotomy Guide. This alignment of the Osteotomy Guide would be appropriate for most femurs that have a neck shaft angle of 135 degrees. However, if the femur has a neck shaft angle more than or less than 135 degrees, adjustments to the position of the Osteotomy Guide should be made. When adjusting the position of the guide for a low hip center, a varus neck, or a valgus neck, the cut angle is always 45 degrees and only the relative height changes. It is against this angle that we clinically estimate our varus/valgus position of the implant, thus the importance of a mark on the implant at 45 degrees to parallel with the cut line. Since the desired position (in the example used) of the height of the femoral component is 15mm proximal to the top of the lesser trochanter, adjust the template proximally and distally until that relationship has been established. At that point, use electrocautery to inscribe a line across the femoral neck parallel to the under surface of the Osteotomy Guide. Using the inscribed line as a guide, perform the osteotomy of the femoral neck. To prevent possible damage to the greater trochanter, stop the cut as the saw approaches the greater trochanter. Remove the saw and either bring it in from the superior portion of the femoral neck to complete the osteotomy cut, or use an osteotome to finish the cut.

The acetabulum should be prepared before preparing the femur, as the center of the acetabular component will then be known and will allow adjustment of neck length. Also, this is the sequence most commonly performed at surgery.

### Preparation of the Femur

To appropriately insert the femoral prosthesis, excellent exposure of the proximal femur must be obtained. Soft tissue should be removed from the medial portion of the greater trochanter and lateral portion of the femoral neck. It is important to adequately visualize this area so the correct insertion site for femoral reaming can be located. Refer to the preoperative planning at this point. Identify the mid-femoral shaft extension intraoperatively as viewed on the A/P and lateral radiographs. This is usually in the area of the piriformis tendon insertion, in the junction between the medial trochanter and lateral femoral neck. After using a starter awl (Fig. 3) to find the femoral canal, use the Box Osteotome (Fig. 4), or Trochanteric Reamer (Fig. 5) to remove this medial

portion of the greater trochanter and lateral femoral neck. Insert a reamer to determine the distal diameter of the femoral canal corresponding to the templated stem.

The opening must be large enough for the passage of each sequential Rasp to ensure neutral rasp/implant alignment. However, the opening should not be significantly larger than the Rasp or implant. An insufficient opening may result in varus stem positioning. Before using the next size Rasp, be sure that the opening is large enough. If it is not, use the Trochanteric Reamer to open the piriformis fossa in a lateral direction. After removing the cortical bone, insert the Starter Awl to open the medullary canal. This will provide a reference for the direction of femoral rasping.



Fig. 3



Fig. 4



Fig. 5

### Attachment of the Rasp Alignment Tip (Optional)

Before impacting a rasp, attach the Rasp Alignment Tip, (Fig. 6) determined from preoperative templating, to the end of the rasp. Care must be taken to fully thread the tip onto the rasp.



Fig. 6

### Femoral Rasping

Begin the rasping sequence with the smallest standard Rasp and rasp up to the estimated implant size. The APS *Natural-Hip* stem should be implanted with the APS *Natural-Hip* System Rasps. When inserting the Rasp (Fig. 7), be sure that it advances with each blow of the mallet. Progress to the next rasp size and repeat until the predicted final rasp size has been seated. Test the stability of the rasp by manually torquing the rasp handle. When the Rasp is to be extracted, calcar planing may be needed. Also, the Rasp Handle must be attached directly to the Rasp Trunion.



Fig. 7

### Trial Reduction

Assemble the appropriately sized Neck Provisional and Provisional Femoral Head to the Rasp and perform a trial reduction (Fig. 8). Check the leg length and offset of the femur by referencing the lengths measured prior to dislocation of the hip. It is important at this stage to reposition the leg exactly where it was during the first measurement. Adjust the neck length by changing Provisional Femoral Heads to achieve the desired result. For the 28mm Femoral Head, the APS *Natural-Hip* System has 5 neck lengths (-3.5mm to +10.5mm) which provide a total range of 14mm of neck length. When satisfactory leg length, offset, range of motion, and stability have been achieved, dislocate the hip.



Fig. 8

### Insertion of the Femoral Component

Press the implant down the canal by hand until it will no longer advance (Fig. 9). Place the Stem Impactor in the implant insertion slot located on the stem shoulder (Fig. 10). Begin to tap the Impactor Handle with a mallet until the prosthesis is fully seated or until the implant will no longer advance. The prosthesis should be seated until the most proximal part of the porous surface is level with the osteotomy line. If the implant is not advancing with each blow of the mallet, stop insertion and remove the component. Rasp additional bone from the areas that are preventing the insertion, and insert the component again.



Fig. 9

The Rasps and corresponding implants are sized such that a press fit is created proximally. The plasma spray surface adds 0.5mm of press fit circumferentially. Thus, the implant is 1mm larger than the Rasp in both the A/P and M/L dimensions. This relationship can be seen on the templates. When the implant is seated, a 0.5mm press fit per surface is achieved. Note that the metaphyseal press fit engagement provides the implant with greater rotational stability than the Rasp.

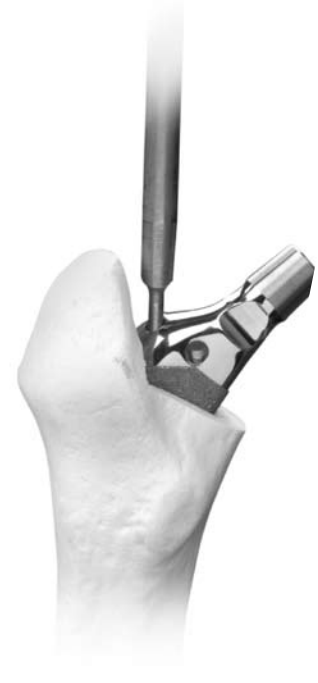


Fig. 10

### Attachment of the Femoral Head

Once the implant is fully seated in the femoral canal, place the selected Femoral Head Provisional onto the taper of the implant (Fig 11). Perform a trial reduction to assess joint stability, range of motion, restoration of leg length, and offset. When the appropriate femoral head implant is confirmed, remove the Femoral Head Provisional and check to ensure that the 12/14 taper is clean and dry. Place the selected Femoral Head/Neck into the taper (Fig. 12) and secure it firmly by striking it once with the Head Impactor. Test the security of the head fixation by trying to remove it by hand.

**Note: Do not impact the Femoral Head/Neck into the taper before driving in the prosthesis as the Femoral Head may loosen during impaction. Reduce the hip and assess leg length, range of motion, stability, and abductor tension for the final time.**

### Wound Closure

After obtaining hemostasis, insert a *Hemovac*® Wound Drainage Device and close the wound in layers.

### Postoperative Management

The postoperative management of patients with an APS *Natural-Hip* implant is determined by the surgical technique, the patient's bone quality, fit of the implant, and the surgeon's judgment. Fifty percent weight bearing, using two crutches or a walker for 6 weeks, is generally recommended for patients with bone ingrowth implants. Over the next 6 to 8 weeks there may be a reduction in external support and an incremental increase in weight bearing.



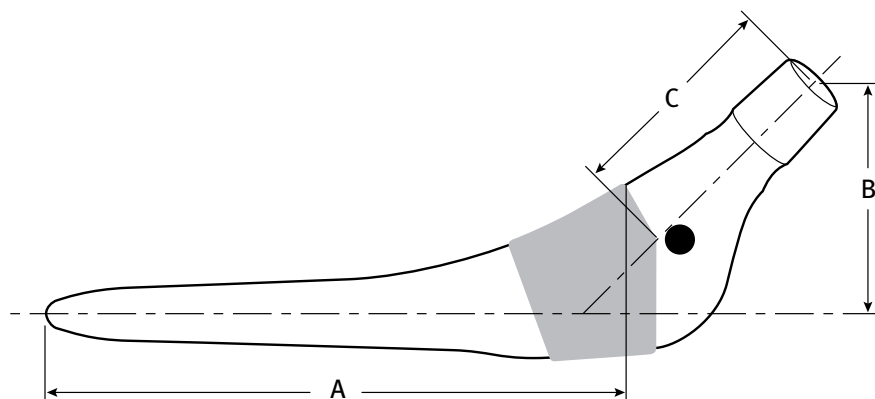
Fig. 11



Fig. 12

## Order Information

Description	Part Number	Description	Part Number
Fem ST STD Ante SZ LT 1	00-6710-001-01	Fem ST STD Ante SZ LT 7	00-6710-007-01
Fem ST STD Ante SZ RT 1	00-6710-001-02	Fem ST STD Ante SZ RT 7	00-6710-007-02
Fem ST STD Ante SZ LT 2	00-6710-002-01	Fem ST STD Ante SZ LT 8	00-6710-008-01
Fem ST STD Ante SZ RT 2	00-6710-002-02	Fem ST STD Ante SZ RT 8	00-6710-008-02
Fem ST STD Ante SZ LT 3	00-6710-003-01	Fem ST STD Ante SZ LT 9	00-6710-009-01
Fem ST STD Ante SZ RT 3	00-6710-003-02	Fem ST STD Ante SZ RT 9	00-6710-009-02
Fem ST STD Ante SZ LT 4	00-6710-004-01	Fem ST STD Ante SZ LT 10	00-6710-010-01
Fem ST STD Ante SZ RT 4	00-6710-004-02	Fem ST STD Ante SZ RT 10	00-6710-010-02
Fem ST STD Ante SZ LT 5	00-6710-005-01	Fem ST STD Ante SZ LT 11	00-6710-011-01
Fem ST STD Ante SZ RT 5	00-6710-005-02	Fem ST STD Ante SZ RT 11	00-6710-011-02
Fem ST STD Ante SZ LT 6	00-6710-006-01	Fem ST STD Ante SZ LT 12	00-6710-012-01
Fem ST STD Ante SZ RT 6	00-6710-006-02	Fem ST STD Ante SZ RT 12	00-6710-012-02



## APS Natural-Hip Anteverted

Prod. No.	A Stem Length (mm)	B Offset (mm) When Head/Neck Component Selected is:					C Neck Length (mm) When Head/Neck Component Selected is:				
		-3.5	+0	+3.5	+7	+10.5	-3.5	+0	+3.5	+7	+10.5
00-6710-001-01, 02	90	30	33	35	38	40	24	27	31	34	38
00-6710-002-01, 02	90	30	33	35	38	40	24	27	31	34	38
00-6710-003-01, 02	95	33	36	38	41	43	28	32	35	39	42
00-6710-004-01, 02	100	36	39	41	44	46	33	36	40	43	47
00-6710-005-01, 02	105	36	39	41	44	46	33	36	40	43	47
00-6710-006-01, 02	110	39	42	44	47	49	37	41	44	48	51
00-6710-007-01, 02	115	39	42	44	47	49	37	41	44	48	51
00-6710-008-01, 02	120	42	45	47	50	52	42	45	49	52	56
00-6710-009-01, 02	125	42	45	47	50	52	42	45	49	52	56
00-6710-010-01, 02	130	45	48	50	53	55	46	50	53	57	60
00-6710-011-01, 02	135	45	48	50	53	55	46	50	53	57	60
00-6710-012-01, 02	140	45	48	50	53	55	46	50	53	57	60

### APS Natural-Hip System Instrumentation

Part Number	Description
<b>00-6712-000-00</b>	<b>APS Natural-Hip Instrument System</b> (Set includes one of each of the following) * Skirted ** Item includes two
00-6711-095-00	APS Natural-Hip Instrument Case Assembly
00-6601-036-00	Starter Awl
00-6601-054-00	Box Osteotomy Small
00-6601-056-00	Box Osteotomy Large
00-7896-010-00	Trochanteric Reamer
00-9801-032-00	Calcar Planer, Small
00-9801-033-00	Calcar Planer, Large
00-7896-052-00	Stem Impactor
00-7804-035-00**	Rasp Handle
00-0155-002-00	Mallet
00-9027-058-00	Head Impactor
00-6551-006-00	Slap Hammer
00-6601-002-00	Extractor Hook
00-6711-001-00	Osteotomy Guide Standard Size 1,2
00-6711-003-00	Osteotomy Guide Standard Size 3
00-6711-004-00	Osteotomy Guide Standard Size 4,5
00-6711-006-00	Osteotomy Guide Standard Size 6,7
00-6711-008-00	Osteotomy Guide Standard Size 8,9
00-6711-010-00	Osteotomy Guide Standard Size 10,11,12
00-6711-009-40**	Alignment Tip Size 9x40
00-6711-010-40**	Alignment Tip Size 10x40
00-6711-011-40**	Alignment Tip Size 11x40
00-7896-040-00	Rasp Tip Wrench
00-7892-090-00	Provisional Head Mini Tray
00-7803-022-01	Femoral Head Provisional, -2x22mm
00-7803-022-02	Femoral Head Provisional, +0x22mm
00-7803-022-03	Femoral Head Provisional, +3x22mm
00-7803-026-01	Femoral Head Provisional, -3.5x26mm
00-7803-026-02	Femoral Head Provisional, +0x26mm
00-7803-026-03	Femoral Head Provisional, +3.5x26mm
00-7803-026-04*	Femoral Head Provisional, +7x26mm
00-7803-026-05*	Femoral Head Provisional, +10.5x26mm
00-7803-028-01	Femoral Head Provisional, -3.5x28mm
00-7803-028-02	Femoral Head Provisional, +0x28mm
00-7803-028-03	Femoral Head Provisional, +3.5x28mm
00-7803-028-14	Femoral Head Provisional, +7x28mm
00-7803-028-05*	Femoral Head Provisional, +10.5x28mm
00-7803-032-01	Femoral Head Provisional, -3.5x32mm
00-7803-032-02	Femoral Head Provisional, +0x32mm
00-7803-032-03	Femoral Head Provisional, +3.5x32mm
00-7803-032-14	Femoral Head Provisional, +7x32mm
00-7803-032-05*	Femoral Head Provisional, +10.5x32mm

Part Number	Description
<b>00-6712-000-11</b>	<b>APS Natural-Hip System Rasp Set Left</b> (Set includes one of each of the following)
00-6712-001-01	APS Natural-Hip Rasp Standard, Left Size 1
00-6712-002-01	APS Natural-Hip Rasp Standard, Left Size 2
00-6712-003-01	APS Natural-Hip Rasp Standard, Left Size 3
00-6712-004-01	APS Natural-Hip Rasp Standard, Left Size 4
00-6712-005-01	APS Natural-Hip Rasp Standard, Left Size 5
00-6712-006-01	APS Natural-Hip Rasp Standard, Left Size 6
00-6712-007-01	APS Natural-Hip Rasp Standard, Left Size 7
00-6712-008-01	APS Natural-Hip Rasp Standard, Left Size 8
00-6712-009-01	APS Natural-Hip Rasp Standard, Left Size 9
00-6712-010-01	APS Natural-Hip Rasp Standard, Left Size 10
00-6712-011-01	APS Natural-Hip Rasp Standard, Left Size 11
00-6712-012-01	APS Natural-Hip Rasp Standard, Left Size 12
00-6713-001-01	APS Natural-Hip Cone Provisional Left Size 1,2
00-6713-003-01	APS Natural-Hip Cone Provisional Left Size 3
00-6713-004-01	APS Natural-Hip Cone Provisional Left Size 4,5
00-6713-006-01	APS Natural-Hip Cone Provisional Left Size 6,7
00-6713-008-01	APS Natural-Hip Cone Provisional Left Size 8,9
00-6713-010-01	APS Natural-Hip Cone Provisional Left Size 10,11,12
00-6711-085-00	APS Natural-Hip Rasp/Cone Prov Case Assy - LT

Part Number	Description
<b>00-6712-000-12</b>	<b>APS Natural-Hip System Rasp Set Right</b> (Set includes one of each of the following)
00-6712-001-02	APS Natural-Hip Rasp Standard, Right Size 1
00-6712-002-02	APS Natural-Hip Rasp Standard, Right Size 2
00-6712-003-02	APS Natural-Hip Rasp Standard, Right Size 3
00-6712-004-02	APS Natural-Hip Rasp Standard, Right Size 4
00-6712-005-02	APS Natural-Hip Rasp Standard, Right Size 5
00-6712-006-02	APS Natural-Hip Rasp Standard, Right Size 6
00-6712-007-02	APS Natural-Hip Rasp Standard, Right Size 7
00-6712-008-02	APS Natural-Hip Rasp Standard, Right Size 8
00-6712-009-02	APS Natural-Hip Rasp Standard, Right Size 9
00-6712-010-02	APS Natural-Hip Rasp Standard, Right Size 10
00-6712-011-02	APS Natural-Hip Rasp Standard, Right Size 11
00-6712-012-02	APS Natural-Hip Rasp Standard, Right Size 12
00-6713-001-02	APS Natural-Hip Cone Provisional Right Size 1,2
00-6713-003-02	APS Natural-Hip Cone Provisional Right Size 3
00-6713-004-02	APS Natural-Hip Cone Provisional Right Size 4,5
00-6713-006-02	APS Natural-Hip Cone Provisional Right Size 6,7
00-6713-008-02	APS Natural-Hip Cone Provisional Right Size 8,9
00-6713-010-02	APS Natural-Hip Cone Provisional Right Size 10,11,12
00-6711-090-00	APS Natural-Hip Rasp/Cone Prov Case Assy - RT

Please refer to package insert for complete product information, including contraindications, warnings, precautions, and adverse effects.

Contact your Zimmer representative or visit us at [www.zimmer.com](http://www.zimmer.com)

