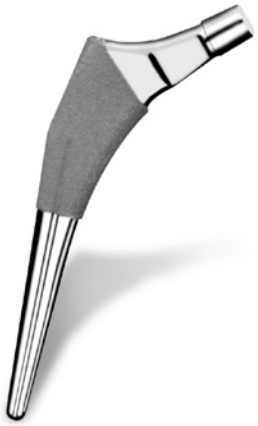
Zimmer® M/L Taper Hip Prosthesis

Surgical Technique



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Zimmer M/L Taper Hip Prosthesis Surgical Technique

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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 safe 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, and
3. determination of the anticipated component size.

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. If there are concerns regarding lower extremity or lumbar abnormalities, such as equinus of the foot, flexion or varus/valgus deformities of the knee, or scoliosis, perform further radiographic evaluation to aid in the determination of preoperative leg length status.

An anterior/posterior (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.

If the limb is to be significantly shortened, osteotomy and advancement of the greater trochanter or a subtrochanteric shortening osteotomy may be necessary. If the limb is shortened without osteotomy and advancement of the greater trochanter, the abductors will be lax postoperatively, and the risk of dislocation will be high. Also, gait will be compromised by the laxity of the abductors. If leg length is to be maintained or increased, it is usually possible to perform the operation successfully without osteotomy of the greater trochanter. However, if there is some major anatomic abnormality, osteotomy of the greater trochanter may be helpful.

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 templating, center the femoral component in the canal. Choose the offset (standard or extended) that most closely approximates that of the patient when the new center of rotation is determined (after acetabular component templating). For patients with a very large distance between the center of rotation of the femoral head and the line that is centered in the medullary canal, insertion of a femoral component with a lesser offset will, in effect, medialize the femoral shaft. To the extent that this occurs, laxity in the abductors will result with a heightened dislocation risk.

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, 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.

Warning: Higher offsets may increase the potential for ceramic head fracture.

Component Size Selection/Templating

Preoperative planning for insertion of a cementless femoral component requires at least two radiographic views of the involved femur: an 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. Magnification markers can be used to identify the actual magnification of the radiograph. Knowing this will help to more accurately predict the component size when templating. The *Zimmer* M/L Taper Hip System Templates (Fig. 1) use standard 20 percent magnification, which is near the average magnification on most clinical radiographs.

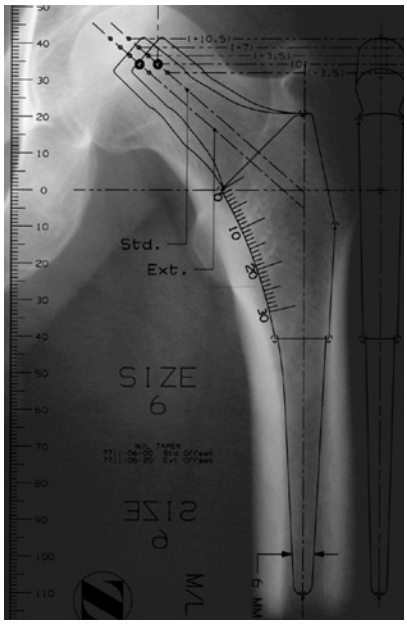


Fig. 1

Preoperative planning is important in choosing the optimal acetabular component, and in providing an estimation of the range of acetabular components that might ultimately be required. The initial templating begins with the A/P radiograph. Superimpose the acetabular templates sequentially on the pelvic radiograph 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. (Refer to your preferred Zimmer acetabular system surgical technique for further details on acetabular reconstruction.) Consider the amount of medialization and liner options in estimating the optimum femoral neck length to be used. Mark the acetabular size and position, and the center of rotation on the radiographs.

The objectives in templating the femoral component include determining the anticipated size of the implant to be inserted and the location of the femoral neck osteotomy. The *Zimmer* M/L Taper Hip Prosthesis is available in 14 standard body sizes (4.0mm through 22.5mm).

The femoral templates show the neck length and offset for each of the head/neck combinations (-3.5 to +10.5mm, depending on head diameter).

Note: Skirts are present on the 26mm +7mm head, the 22mm +3.5mm head, and the 26/28/32mm +10.5mm heads.

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 fit, or nearly fit, the medial-lateral dimensions of the medullary canal on the A/P x-ray film, and should not be superimposed onto cortical bone. It is not necessary for the stem to have cortical contact in the medullary canal.

After establishing the proper size of the femoral component, determine the height of its position in the proximal femur and the amount of offset needed to provide adequate abductor muscle tension. Generally, if the leg length and offset are to remain unchanged, the center of the head of the prosthesis should be at the same level as the center of the femoral head of the patient's hip. This should also correspond to the center of rotation of the templated acetabulum. To lengthen the limb, raise the template proximally. To shorten the limb, shift the template distally. The extended offset option offers lateral translation of 5mm. This allows for an offset increase of 5mm without changing the vertical height or leg length. The femoral head neck length will also affect leg length and offset.

Once the height has been determined, note the distance in millimeters from the underside of the osteotomy line 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 15 prosthesis and a +3.5 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.

The *Zimmer* M/L Taper Hip System accommodates a variety of Zimmer head diameters with a 12/14 internal taper. The intermediate femoral heads allow 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, size 22mm heads are available.

Surgical Technique

Incision

In total hip arthroplasty, exposure can be achieved through a variety of methods based on the surgeon's preference. The *Zimmer* M/L Taper Hip Prosthesis can be implanted using a variety of standard surgical approaches.

Determination of Leg Length

Establish landmarks and take 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. There are several methods to measure leg length. One method is to fix a leg length caliper to the wing of the ilium. Then, take baseline measurements to a cautery mark at the base of the greater trochanter while marking the position of the lower limb on the table.

Osteotomy of the Femoral Neck

After dislocating the joint, superimpose the *Zimmer* M/L Taper Stem Osteotomy Guide (Fig. 2) on the femur. This guide is a metal replica of a midsize stem neck and 30mm diameter head. Orient the guide so "G" is toward the greater trochanter, "L" is toward the lesser trochanter, and "0" on the head of the guide is at the femoral head center. The base of the guide should be at a 45 degree angle to the centerline of the femur.

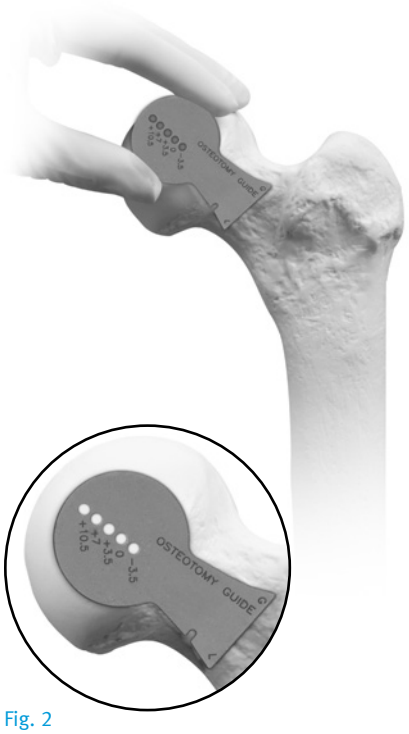


Fig. 2

Once neutral alignment has been determined, move the template proximally or distally to the correct height as determined by preoperative planning. Then use electrocautery to inscribe a line across the femoral neck parallel to the base 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.

Preparation of the Femur

It is crucial to adequately visualize the proximal femur so the correct insertion site for the femoral instruments 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. Use the Box Osteotome (Fig. 3) to remove this medial portion of the greater trochanter and lateral femoral neck.

Fig. 3

The opening must be large enough for the passage of each sequential rasp to help ensure neutral rasp/implant alignment. An insufficient opening may result in varus stem positioning.

Use of the hand starter rasp will remove additional bone from the greater trochanter, and help avoid varus stem positioning.

Fig. 4

After removing the cortical bone, use the Starter Awl (Fig. 4) or Starter Rasp to open the medullary canal. This will provide a reference for the direction of femoral rasping.

Advance the Starter Awl into the medullary canal until the appropriate stem size zone on the Starter Awl is at the level of the greater trochanter.

Stem Size(s)	Zone on Starter Awl
4-6	Distal Groove
7.5-11	Between Distal Groove and Proximal Groove
12.5-17.5	Between proximal Groove and Proximal End of Teeth
20-22.5	Proximal End of Teeth

Femoral Rasping

After using the Starter Awl, begin the rasping sequence with an M/L Taper Rasp (Fig. 5) that is at least two sizes smaller than the estimated implant size. Alternatively, if the Starter Awl is not used, begin with the smallest rasp. Advance in 1 or 2 size increments until the desired fit and stability is achieved. When inserting the rasp, be sure that it advances with each strike of the mallet. If the rasp can be seated at least 5mm below the osteotomy, progress to the next rasp size and repeat until the predicted final rasp size has been seated.

Before using the next size rasp, be sure that the opening is large enough. If it is not, use the Box Osteotome or starter rasp again. However, the opening should not be significantly larger than the rasp or implant.

Fig. 5

If the predicted final rasp size can be countersunk more than 5mm and adequate cancellous bone is available in the metaphysis region (including the medial calcar), progress to the next larger rasp size after ensuring that there is sufficient room in the distal medullary canal.

Rasp Options

The rasps and corresponding implants are sized such that a press-fit is created in the proximal porous region of the implant. This metaphyseal press-fit engagement provides the implant with greater rotational stability than the rasp.

The M/L Taper system includes two styles of rasps to best address surgeon preference:

The System Rasp includes a total press fit of 1mm in both the M/L and A/P dimensions of the proximal region.

The 0mm Rasp includes 0mm of total press fit in the M/L dimension of the proximal region and 1mm of total press fit in the A/P dimension of the proximal region.

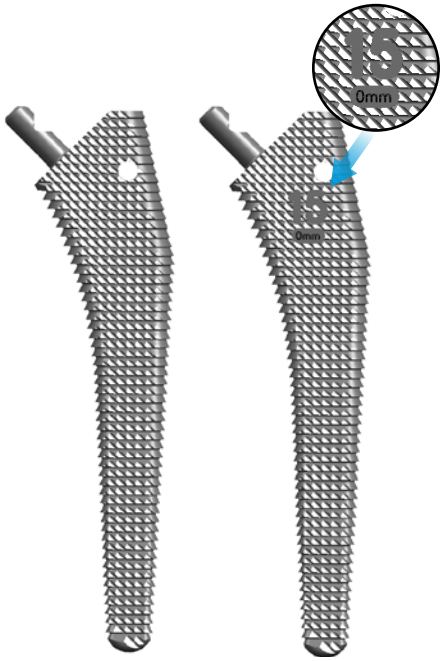


Fig. 6 System Rasp 0mm Rasp

Differentiating between System and 0mm Rasp

The 0mm Rasp is differentiated from the System Rasp by markings on the proximal A/P sides of the rasp. The 0mm Rasp has the rasp size and "0mm" included on both proximal A/P sides (Fig. 6). The System Rasp does not include any markings on the proximal A/P sides.

Torque the Rasp (Optional)

If desired, after the final rasp has been inserted, the torque wrench may be applied to the grip handle to confirm rasp stability. Alternatively, rotational stability can be tested by trying to rotate the grip handle by hand. The final sized rasp should be both longitudinally and rotationally stable.

Calcar Planing (Optional)

If desired, after the final rasp has been inserted to the proper level, use the Calcar Planer to plane the femoral neck. Insert the trunnion post of the rasp into the hole on the bottom of the Calcar Planer (Fig.7). Start the drill/driver and advance the planer into the bone slowly until the appropriate neck area has been planed.

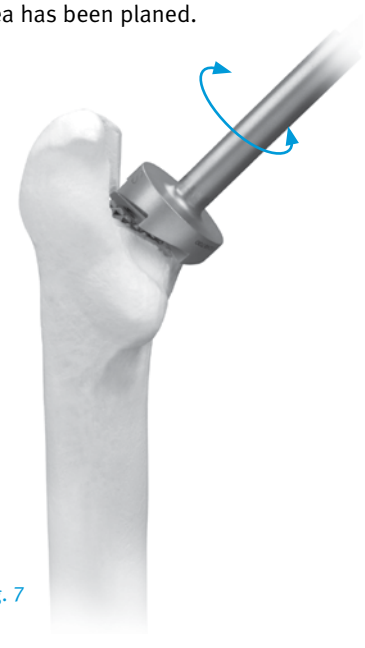


Fig. 7

Trial Reduction

Assemble the appropriately sized Standard or Extended Neck Provisional and Femoral Head Provisional to the rasp (Fig. 8). The size 4 neck provisional works with the size 4 rasp. The size 5-6 neck provisionals work with the size 5-6 rasps and sizes 7.5-22.5 work with the remaining sizes. Visually verify that no gap is present between the neck provisional and the rasp area and the neck provisional and the femoral head provisional.

Verify etched size on rasp and provisionals before performing a trial reduction. Perform a trial reduction. 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 Femoral Head Provisionals to achieve the desired result. The 28mm and 32mm Femoral Heads are available with five 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. Remove the rasp and provisionals, use the provisional size markings to confirm desired implant size(s).

Insertion of the Femoral Component

Insert the implant into the canal until it will no longer advance with hand pressure, which is approximately 1 to 2 cm above the final seated position. (Fig. 9). The Standard Stem Driver has a teardrop-shaped tip to allow the surgeon to control intitial rotation during insertion. An optional Round Tip Stem Driver is also available to allow rotational freedom during insertion. Allow the stem to follow the prepared envelope, to better avoid any potential for fracture. The insertion hole on the implant will accept either tip.

Apply the Stem Driver to the implant and begin to tap the handle with a mallet until the implant will no longer advance (Fig. 10). **Do not continue to try to advance the prosthesis once it has made contact with the cortical bone in the medial calcar.** The prosthesis should be seated when the most proximal part of the porous surface is level with the osteotomy line. If the implant does not advance with each strike of the mallet, stop insertion and remove the component. Then, rasp or ream additional bone from the areas that are preventing the insertion and insert the component again.

Note: If switching from the System Rasps to the 0mm Rasps, begin the rasping sequence with a 0mm Rasp that is at least one size smaller than the last System Rasp size used.

Fig. 8

Fig. 9

Fig. 10

Optional Insertion Technique

If preferred, a Stem Inserter can be used to impact the implant (Fig. 11).

Attach the Stem Inserter to the selected femoral implant. To facilitate alignment, the Stem Inserter has three holes that will accept 1/8" diameter Steinmann pins. The holes are marked for 0, 7.5, and 15 degrees of anteversion.

Note: When disengaging the Stem Inserter, listen for an audible click to confirm that the instrument is completely released from the stem.

Fig. 11

Femoral Component Extraction

An Extraction Hook to remove the femoral component is included in the instrument set (Fig. 12). If the femoral component is removed, do not re-insert it. Implant a new femoral component.

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. Perform a trial reduction to assess joint stability, range of motion, and 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.

Fig. 12

Then place the selected femoral head on the taper and secure it firmly by twisting it and striking it once with the Head Impactor (Fig. 13). Test the security of the head fixation by trying to remove it by hand.

Note: Do not impact the femoral head onto 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.

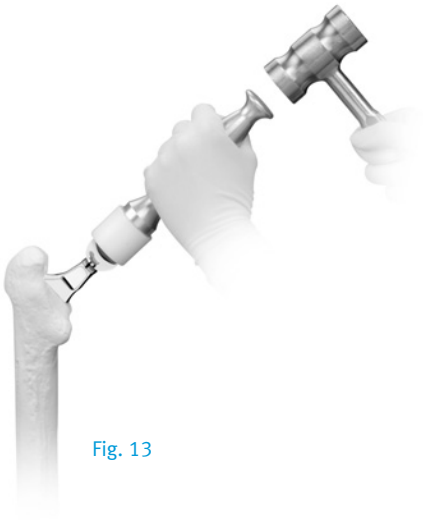


Fig. 13

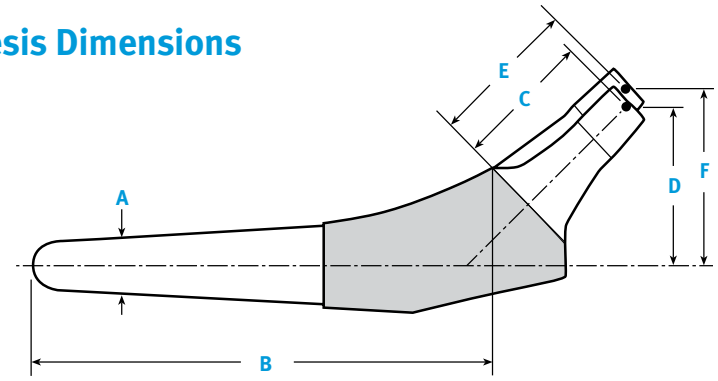
Wound Closure

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

Postoperative Management

The postoperative management of patients with a *Zimmer* M/L Taper Hip Prosthesis is determined by the surgical technique, patient's bone quality, fit of the implant, and the surgeon's judgment.

Zimmer M/L Taper Hip Prosthesis Dimensions



Standard Offset

Prod. No.	HA/TCP Prod. No.	A Stem Size (mm)	B Stem Length (mm)	C Neck Length (mm) When Head/Neck Component Selected is: -3.5	+0	+3.5	+7	+10.5	D Stem Offset (mm) When Head/Neck Component Selected is: -3.5	+0	+3.5	+7	+10.5
00-7711-004-10	65-7711-004-10	4	107	28	32	35	39	42	33	35	38	40	43
00-7711-005-00	65-7711-005-00	5	109	33	37	40	44	47	37	40	42	45	48
00-7711-006-00	65-7711-006-00	6	111	33	37	40	44	47	38	40	43	46	48
00-7711-007-00	65-7711-007-00	7.5	114	35	38	42	45	49	40	43	45	48	50
00-7711-009-00	65-7711-009-00	9	117	35	38	42	45	49	41	43	46	49	51
00-7711-010-00	65-7711-010-00	10	119	35	38	42	45	49	41	44	46	49	52
00-7711-011-00	65-7711-011-00	11	121	35	38	42	45	49	42	44	47	50	52
00-7711-012-00	65-7711-012-00	12.5	124	35	38	42	45	49	42	45	48	50	53
00-7711-013-00	65-7711-013-00	13.5	126	35	38	42	45	49	43	46	48	51	53
00-7711-015-00	65-7711-015-00	15	129	35	38	42	45	49	44	46	49	52	54
00-7711-016-00	65-7711-016-00	16.25	132	35	39	42	46	49	44	47	49	52	54
00-7711-017-00	65-7711-017-00	17.5	134	35	38	42	45	49	45	48	50	53	55
00-7711-020-00	65-7711-020-00	20	139	35	38	42	45	49	46	49	51	54	57
00-7711-022-00	65-7711-022-00	22.5	144	35	38	42	46	49	47	50	53	55	58

Extended Offset

Prod. No.	HA/TCP Prod. No.	A Stem Size (mm)	B Stem Length (mm)	E Neck Length (mm) When Head/Neck Component Selected is: -3.5	+0	+3.5	+7	+10.5	F Stem Offset (mm) When Head/Neck Component Selected is: -3.5	+0	+3.5	+7	+10.5
00-7711-004-40	65-7711-004-40	4	107	32	35	39	42	46	38	40	43	45	48
00-7711-005-20	65-7711-005-20	5	109	37	40	44	47	51	42	45	47	50	53
00-7711-006-20	65-7711-006-20	6	111	37	40	44	47	51	43	45	48	51	53
00-7711-007-20	65-7711-007-20	7.5	114	39	42	46	49	52	45	48	50	53	55
00-7711-009-20	65-7711-009-20	9	117	39	42	46	49	52	46	48	51	54	56
00-7711-010-20	65-7711-010-20	10	119	39	42	46	49	52	46	49	51	54	57
00-7711-011-20	65-7711-011-20	11	121	39	42	46	49	53	47	49	52	55	57
00-7711-012-20	65-7711-012-20	12.5	124	39	42	46	49	52	47	50	53	55	58
00-7711-013-20	65-7711-013-20	13.5	126	39	42	46	49	52	48	51	53	56	58
00-7711-015-20	65-7711-015-20	15	129	39	42	46	49	53	49	51	54	57	59
00-7711-016-20	65-7711-016-20	16.25	132	39	42	46	49	53	49	52	54	57	59
00-7711-017-20	65-7711-017-20	17.5	134	39	42	46	49	52	50	53	55	58	60
00-7711-020-20	65-7711-020-20	20	139	39	42	46	49	52	51	54	56	59	62
00-7711-022-20	65-7711-022-20	22.5	144	39	42	46	49	53	52	55	58	60	63

Zimmer M/L Taper Hip Prosthesis Instrumentation

For additional information on M/L Taper instruments and representative pictures, please go to the Zimmer Product Catalog at www.my.zimmer.com.

NOTE: The instrument sets do NOT contain a rasp handle, as there are several that can be used based on the surgical technique. However, there are places in the tray for two handles. Please be sure to order the rasp handles that are appropriate for the surgeon's surgical approach (see Table 1 for a list of compatible rasp handles).

Table 1. Rasp handles compatible with the *Zimmer* M/L Taper Long Post Instruments.

Part Number	Description
00-7712-050-60	*Zimmer* M/L Taper Long Post Straight Rasp Handle
00-7806-050-00	*Zimmer* M/L Taper MIS Anterior Offset Rasp Handle
00-7712-035-01	*Zimmer* M/L Taper MIS Anterolateral Offset Rasp Handle (Left)
00-7712-035-02	*Zimmer* M/L Taper MIS Anterolateral Offset Rasp Handle (Right)

The *Zimmer* M/L Taper Hip Prosthesis has one required set of instruments and three optional cases.

Required Set

00-7712-001-63 - Size 4 – 17 Rasp/General Instrument Set

- Required to implant any size *Zimmer* M/L Taper Hip Prosthesis

Optional Sets (Do Not Order Both)

00-7712-001-61 - Size 20 – 22.5 Rasp/Specialty Instrument Set (restricted release)

- Required to implant size 20 – 22.5 *Zimmer* M/L Taper Hip Prosthesis
- Includes optional instrumentation (starter rasp, stem extractor, tapered awl, ostoetomy guide, stem inserter)

Or

00-7712-001-62 - Specialty Instrument Set

- Includes the same optional instrumentation as the -61 set **without** the size 20 and 22.5 rasps

Additional Optional Set:

KT-7712-001-64 – 0mm M/L Taper Long Post Rasp Instrument Set

- Includes Size 4-22.5 0mm M/L Taper Rasp Case
- Includes Generic Stackable Lid Assembly
- Includes 0mm M/L Taper Long Post Rasps Sizes 4-22.5

Zimmer M/L Taper Hip Prosthesis Instrumentation

Cat. No.	Description:
00-7712-001-63	**Size 4 - 17.5 Rasp General Instrument Set**
00-7712-080-00	Zimmer M/L Taper Rasp and General Instrument Case
00-7712-004-60	Zimmer M/L Taper Size 4 Long Post Rasp
00-7712-005-60	Zimmer M/L Taper Size 5 Long Post Rasp
00-7712-006-60	Zimmer M/L Taper Size 6 Long Post Rasp
00-7712-007-60	Zimmer M/L Taper Size 7.5 Long Post Rasp
00-7712-009-60	Zimmer M/L Taper Size 9 Long Post Rasp
00-7712-010-60	Zimmer M/L Taper Size 10 Long Post Rasp
00-7712-011-60	Zimmer M/L Taper Size 11 Long Post Rasp
00-7712-012-60	Zimmer M/L Taper Size 12.5 Long Post Rasp
00-7712-013-60	Zimmer M/L Taper Size 13.5 Long Post Rasp
00-7712-015-60	Zimmer M/L Taper Size 15 Long Post Rasp
00-7712-016-60	Zimmer M/L Taper Size 16.25 Long Post Rasp
00-7712-017-60	Zimmer M/L Taper Size 17.5 Long Post Rasp
00-7712-080-60	Neck Provisional Std. Offset Size 4
00-7712-082-60	Neck Provisional Ext. Offset Size 4
00-7712-068-60	Neck Provisional Std. Offset Size 5-6
00-7712-070-60	Neck Provisional Ext. Offset Size 5-6
00-7712-060-60	Neck Provisional Std. Offset Size 7.5-22.5
00-7712-062-60	Neck Provisional Ext. Offset Size 7.5-22.5
00-7896-004-00	Charnley Awl
00-7712-057-00	Stem Driver with Teardrop Tip
00-9801-032-00	Small Calcar Planer
00-7895-028-01	Provisional Head 28mm -3.5
00-7895-028-02	Provisional Head 28mm +0
00-7895-028-03	Provisional Head 28mm +3.5
00-7803-028-14	Provisional Head 28mm +7
00-7895-028-05	Provisional Head 28mm +10.5
00-7895-032-01	Provisional Head 32mm -3.5
00-7895-032-02	Provisional Head 32mm +0
00-7895-032-03	Provisional Head 32mm +3.5
00-7803-032-14	Provisional Head 32mm +7
00-7895-032-05	Provisional Head 32mm +10.5
00-6601-054-00	Small Box Osteotome
00-6551-060-00	VerSys® T-Handle
00-9027-058-00	Head Impactor
00-155-002-00	Mallet
00-7897-046-00	VerSys Prov. Head Tray
00-7712-093-00	Neck Provisional Tray
Must order separately	Rasp Handle (2) - see handle options on previous page

Cat. No.	Description:
00-7712-001-61	**Size 20-22.5 Rasp/Specialty Instrument Set**
00-7712-085-00	Zimmer M/L Taper Rasp and Specialty Instrument Case
00-7803-065-00	Hand Starter Rasp
00-7712-020-60	Zimmer M/L Taper Size 20 Long Post Rasp
00-7712-022-60	Zimmer M/L Taper Size 22.5 Long Post Rasp
00-7712-063-00	Extractor Hook
00-7712-056-00	Stem Inserter
00-7712-052-00	Tapered Awl
00-7712-054-00	Osteotomy Guide

Zimmer M/L Taper Hip Prosthesis Instrumentation

Cat. No.	Description:
	0mm Rasp Instrument Set
KT-7712-001-64	**(Includes one each of the following:)**
00-7712-075-00	*Zimmer* Size 4-22.5 0mm M/L Taper Rasp Case
00-5900-099-00	Generic Stackable Lid Assembly
00-7712-004-64	*Zimmer* 0mm M/L Taper Size 4 Long Post Rasp
00-7712-005-64	*Zimmer* 0mm M/L Taper Size 5 Long Post Rasp
00-7712-006-64	*Zimmer* 0mm M/L Taper Size 6 Long Post Rasp
00-7712-007-64	*Zimmer* 0mm M/L Taper Size 7.5 Long Post Rasp
00-7712-009-64	*Zimmer* 0mm M/L Taper Size 9 Long Post Rasp
00-7712-010-64	*Zimmer* 0mm M/L Taper Size 10 Long Post Rasp
00-7712-011-64	*Zimmer* 0mm M/L Taper Size 11 Long Post Rasp
00-7712-012-64	*Zimmer* 0mm M/L Taper Size 12.5 Long Post Rasp
00-7712-013-64	*Zimmer* 0mm M/L Taper Size 13.5 Long Post Rasp
00-7712-015-64	*Zimmer* 0mm M/L Taper Size 15 Long Post Rasp
00-7712-016-64	*Zimmer* 0mm M/L Taper Size 16.25 Long Post Rasp
00-7712-017-64	*Zimmer* 0mm M/L Taper Size 17.5 Long Post Rasp
00-7712-020-64	*Zimmer* 0mm M/L Taper Size 20 Long Post Rasp
00-7712-022-64	*Zimmer* 0mm M/L Taper Size 22.5 Long Post Rasp

Cat. No.	Description:
00-7712-001-62	**Specialty Instrument Set (same as -61, but less rasps)**
00-7712-085-00	Zimmer M/L Taper Rasp and Specialty Instrument Case
00-7803-065-00	Hand Starter Rasp
00-7712-063-00	Extractor Hook
00-7712-056-00	Stem Inserter
00-7712-052-00	Tapered Awl
00-7712-054-00	Osteotomy Guide

Cat. No.	Description:
Miscellaneous Instruments	**Order Separately**
00-7712-085-00	*Zimmer* M/L Taper Rasp and Specialty Instrument Case
00-6601-030-00	Anatomic Hip Square Drive Torque Wrench 3/8 inch
00-7712-055-00	*Zimmer* M/L Taper Torque Wrench Adapter 3/8 inch
00-7803-057-00	MIS Provisional Head Inserter
00-7712-064-00	Stem Driver with Round Tip

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