

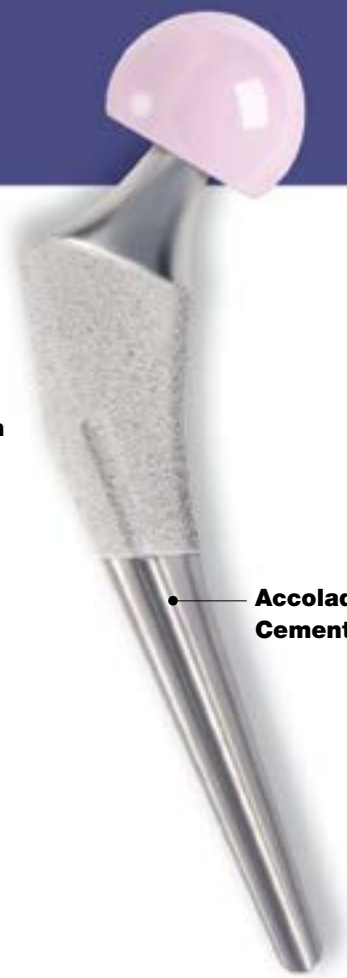
Accolade® System

Surgical Technique

Your Skill
Our Technology
Their Quality of Life
Achieving Perfect Balance



● **Accolade C**
Cemented Hip System



● **Accolade TMZF**
Cementless Hip System



● **Accolade HFx**
Cementless Hip System

The Power of Performance. The Power of Simplicity.

Accolade System

Femoral Hip System

Accolade C & Accolade HFx

Indications:**The indications for use of total hip replacement prostheses include:**

- Noninflammatory degenerative joint disease including osteoarthritis and avascular necrosis;
- Rheumatoid arthritis;
- Correction of functional deformity;
- Revision procedures where other treatments or devices have failed; and,
- Treatment of nonunions, femoral neck and trochanteric fractures of the proximal femur with head involvement that are unmanageable using other techniques.

Contraindications:**Absolute contraindications include:**

- overt infection;
- distant foci of infections (which may cause hematogenous spread to the implant site);
- rapid disease progression as manifested by joint destruction or bone absorption apparent on roentgenogram;
- skeletally immature patients; and,
- cases where there is a loss of abductor musculature, poor bone stock, or poor skin coverage around the hip joint which would make the procedure unjustifiable.

Conditions presenting increased risk of failure include:

- uncooperative patient or patient with neurologic disorders, incapable of following instructions;
- osteoporosis;
- metabolic disorders which may impair bone formation; and,
- osteomalacia.

Accolade TMZF

Indications:

- Noninflammatory degenerative joint disease including osteoarthritis and avascular necrosis;
- Rheumatoid arthritis;
- Correction of functional deformity;
- Revision procedures where other treatments or devices have failed; and,
- Nonunions, femoral neck and trochanteric fractures of the proximal femur with head involvement that are unmanageable using other techniques.

Contraindications:

- Active infection or suspected latent infection in or about the hip joint;
- Bone stock that is inadequate for support or fixation of the prosthesis;
- Skeletal immaturity;
- Any mental or neuromuscular disorder that would create an unacceptable risk of prosthesis instability, prosthesis fixation failure, or complications in postoperative care; and
- Obesity. An overweight or obese patient can produce loads on the device that can lead to failure of the fixation of the device or to failure of the device itself.

Warnings and Precautions:

See package insert for warnings, precautions, adverse effects and other essential product information.

Before using Accolade System instrumentation, verify:

- Instruments have been properly disassembled prior to cleaning and sterilization;
- Instruments have been properly assembled post-sterilization;
- Instruments have maintained design integrity; and,
- Proper size configurations are available.

For cleaning and sterilization instructions of surgical instruments, refer to the instrument package insert.

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This publication sets forth detailed recommended procedures for using Stryker Orthopaedics devices and instruments. It offers guidance that you should heed, but, as with any such technical guide, each surgeon must consider the particular needs of each patient and make appropriate adjustments when and as required.

Accolade C Cemented Surgical Technique

Objectives

1. To place the stem in neutral position in the medullary canal with an adequate cement mantle.
2. To restore the offset, limb length and center of rotation.

Step 1

Pre-operative Planning and X-Ray Evaluation

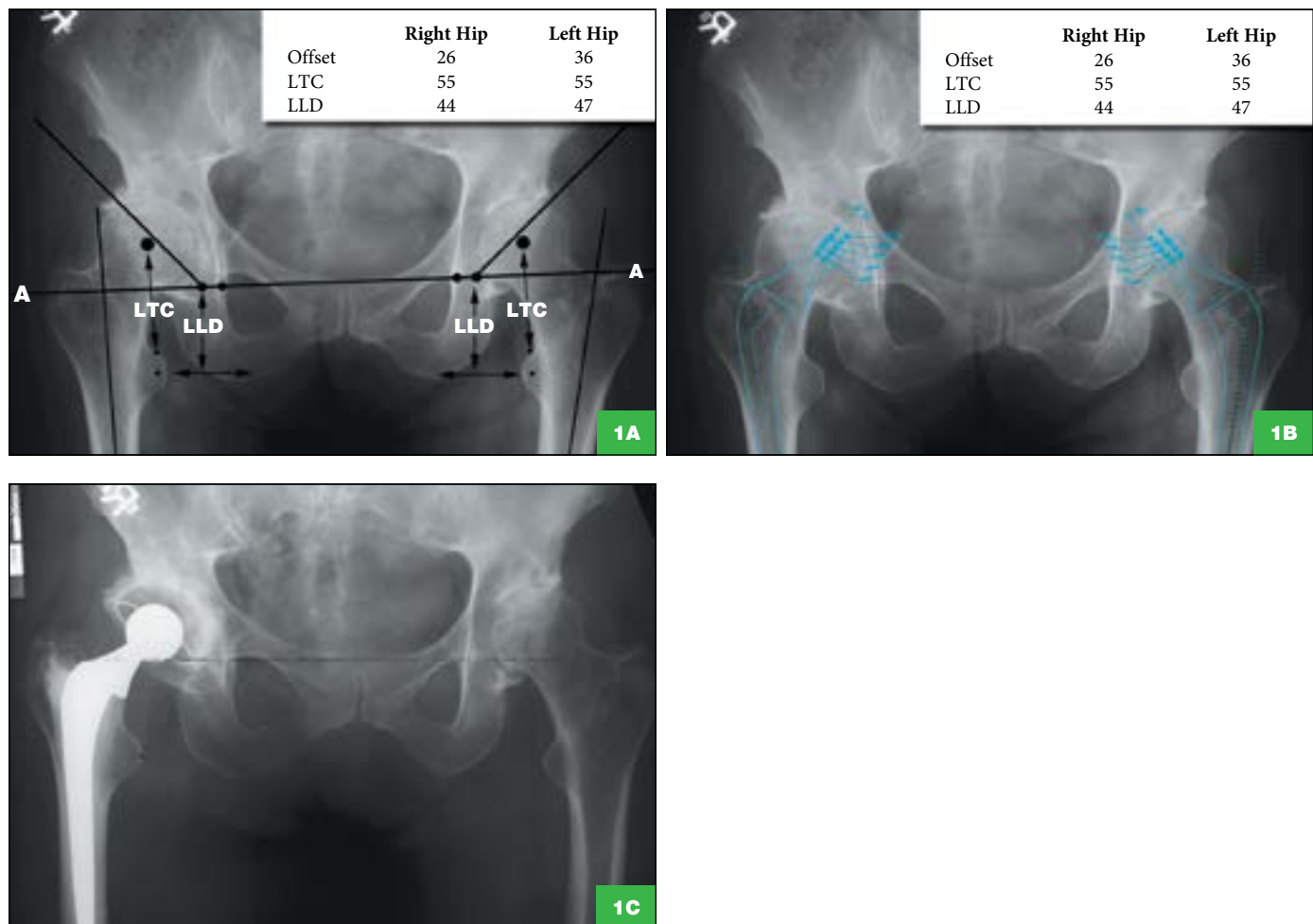
Pre-operative planning allows:

1. Appropriate implant size selection.
2. Restoration of leg length, offset and center of rotation.
3. Appreciation of anatomic anomalies of the femur.

Method: A standing A/P pelvis radiograph is utilized. The center of the femoral heads and the axis of the medullary canals are located as shown in Figure 1A. A 45° line is drawn 1cm lateral to the teardrop from the inter-teardrop line (A-A). The socket is located inside the true acetabulum at this angle. The offset and the distance between the center of the femoral head and the top of the lesser trochanter center (LTC) are measured and compared with the contralateral hip. The leg length discrepancy (LLD) is estimated as the difference in the distance between the inter-teardrop line and the center of the lesser trochanter. X-Ray templates (120% magnification) are superimposed on the radiograph and aligned with the axis of the medullary canal and the center of the neck of the femur (Figure 1B). The offset of the patient's diseased (right) hip and the contralateral hip are measured. The goal is to reproduce correct leg length, offset and center of rotation.

Note: The assessment should be performed on both hips as external rotation contracture of the contralateral hip can reduce the neck angle and offset.

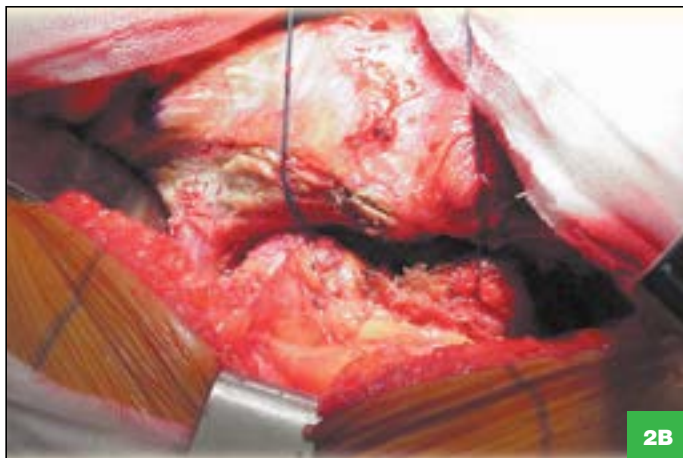
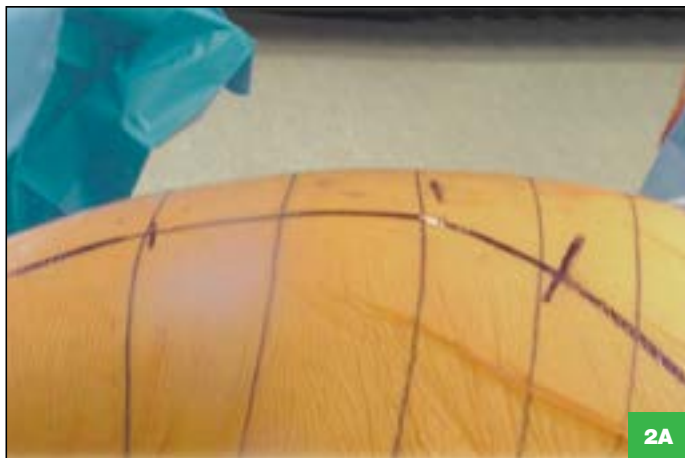
The implant with the appropriate neck angle (127° or 132°) that matches the hip anatomy (center of rotation and offset) is selected. The level of neck resection can be determined from the X-Ray template in relation to the top of the lesser trochanter. The leg length is re-evaluated on the post-operative X-Ray (Figure 1C).



Step 2

Surgical Approach and Exposure Patient Position: Lateral

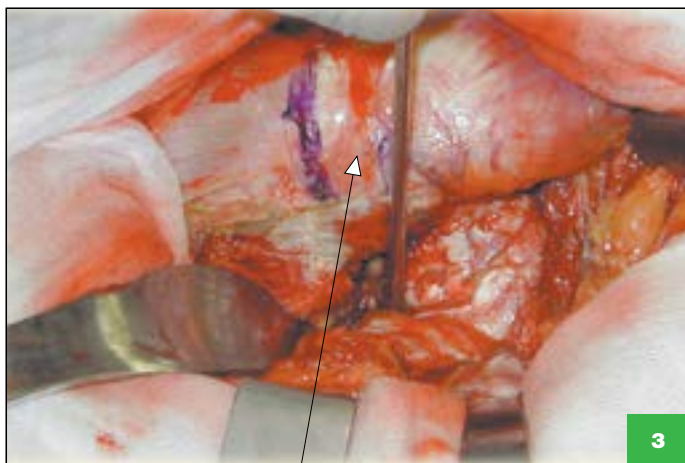
Posterolateral Exposure: Skin incision is a gentle curve centered over the greater trochanter (Figure 2A). The ilio-tibial band is incised in line with the incision and the gluteus maximus muscle is split proximally. The tendon of the gluteus maximus is detached from its insertion on the femur at the distal portion of the wound partially or completely depending on the presence of external rotation contracture. A trapezoidal posterior myocapsular flap, consisting of the piriformis and part of the gluteus minimus, the short external rotators and quadratus (Figure 2B), is developed and detached from the femur to expose the proximal posterior portion of the femur.



Step 3

Limb Length Measurement

A Steinman Pin is inserted into the infra-cotyloid groove of the acetabulum and held vertically against the femur (Figure 3). A locator mark is made on the posterior portion of the greater trochanter. The position of the limbs in slight adduction, flexion and external rotation is identified and recorded on the drapes.



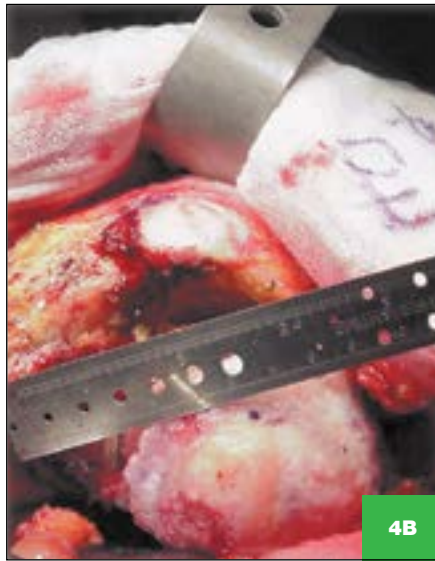
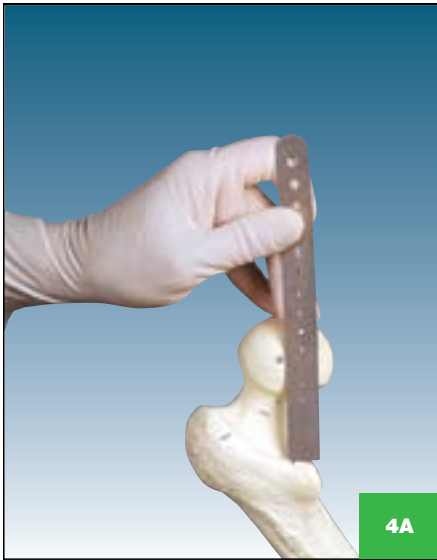
Locator mark

Accolade C Cemented Surgical Technique

Step 4

Neck Length and Offset Measurement

The hip is dislocated and the center of the femoral head is located. The offset and the lesser trochanter-center (LTC) of femoral head distance are measured (Figures 4A through 4D).



Step 5**Neck Resection**

The Neck Resection Guide is utilized for proper head-neck resection based on the pre-operative templating (Figures 5A and 5B). An appropriate neck resection allows restoration of the offset and leg length.

Alternate Neck Resection Method

1. The neck resection level can also be determined by measuring 30mm from the femoral head center as shown in Figure 5B.

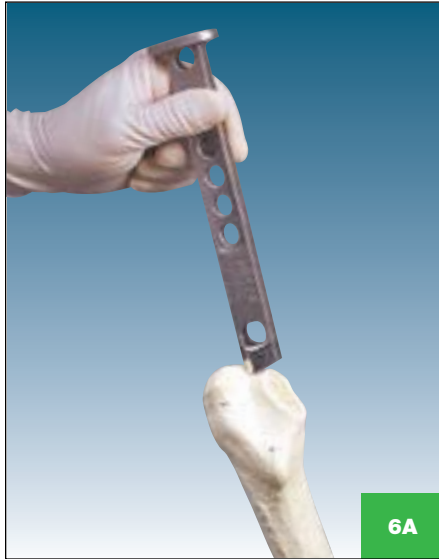


Accolade C Cemented Surgical Technique

Step 6

Box Chisel

The Small Box Chisel removes bone from the proximal lateral portion of the resected neck of the femur to permit location of the femoral medullary canal (Figures 6A and 6B).



Step 7

Starter Reamer

The Starter Reamer is used to enter the femoral medullary canal through the postero-lateral portion of the resected neck (Figures 7A and 7B). Introduce the Starter Reamer until the first marking groove proximal to the cutting edge is even with the medial neck resection level.

Note: In order to preserve metaphyseal cancellous bone, axial reaming is not routinely recommended.

When faced with a tight medullary canal or when preparing for a Universal Distal Spacer, reaming may be needed though care should be taken to avoid over-reaming.



Step 8

Alignment Rod

The ring style Distal Sizer (1020-2100) or Propeller Sizer (1020-2104) is inserted beyond the isthmus to gauge the center of the intramedullary canal (neutral axis) of the femur (Figures 8A and 8B). An 8mm bullet tip assembled to the Distal Sizer can be used as an alignment rod (Figure 8A).



Step 9

Trochanteric Reamer

The Trochanteric Reamer (available in 2 sizes) is used to remove the lateral portion of the resected neck and overhanging bone of the greater trochanter, thus facilitating broaching along the neutral axis of the femur (Figures 9A through 9C).

The Small Trochanteric Reamer is recommended for sizes 2 through 5 and the Large Trochanteric Reamer for sizes 6 and 7. The reamer is introduced until the top of the cutting edge is in line with the tip of the greater trochanter.



Accolade C Cemented Surgical Technique

Step 10

Broaching

The Broach Handle is assembled with the femoral broach corresponding to one size smaller than the templated stem size (Figures 10A and 10B). Progress broaching with increasing sized broaches until a stable, snug fit is attained.



Step 11

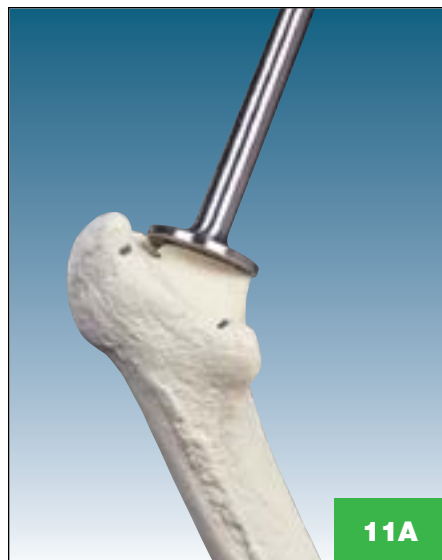
Calcar Planing

The Calcar Planer creates a final neck resection level to optimize collar contact on the resected neck (Figures 11A and 11B).

Leaving the final broach seated in the femoral canal, gently guide the Calcar Planer over the broach post (see note below) and initiate power prior to contacting the femur. Slowly advance the Calcar Planer toward the broach to plane the femur. Planing will continue until the positive stop on the Planer contacts the broach face.

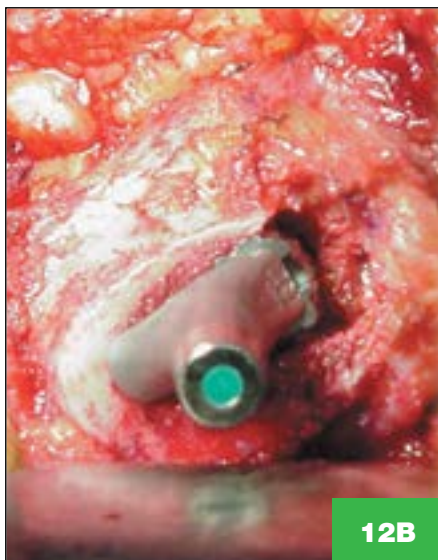
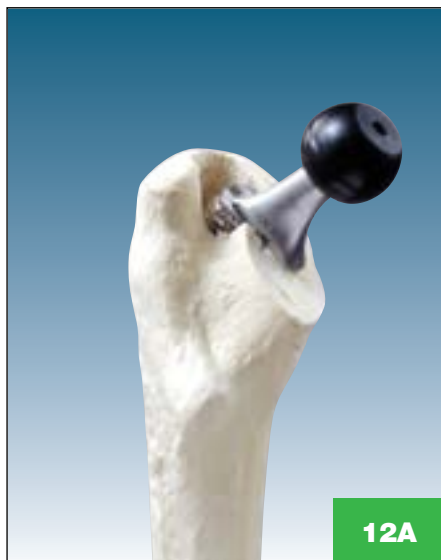
Note: In the event that the broach post is seated completely below the resection plane (thus preventing engagement with the Calcar Planer), the broach should be removed and the resection re-cut at a slightly lower level. The surgeon should then re-insert the final broach ensuring a stable and snug fit.

Caution: Failure to operate the Calcar Planer in accordance with the instructions above may result in damage to the femur.



Step 12**Trial Reduction**

The trial assembly, consisting of the broach, trial neck and trial head, allows evaluation of offset and leg length (lesser trochanter to center of the trial femoral head distance). This should match the LTC distance measured from the X-Ray prior to head and neck resection (Figures 12A through 12D).



Step 12

(continued)

The hip is reduced and a Steinmann Pin is re-inserted into the infra-cotyloid groove and held vertically against the femur (Figure 12E). The alteration in leg length is determined with reference to the previous locator mark on the posterior greater trochanter. Leg length discrepancy and soft tissue tensions can be adjusted using the V40 Trial Heads available in -4mm, 0mm, +4mm, +8mm, and +12mm neck lengths to create the desired neck length of the prosthesis.*

Increasing the offset by 2 to 5mm, without altering leg length, significantly improves the hip stability. In addition, a 127° neck angle implant can be employed to achieve the desired offset.

*36mm V40 Trial Heads are available in -5, +0, +5 and +10mm offsets.

Assessment of Trial Reduction

1. Soft Tissue Tension

- Full passive extension of the hip should be achieved.
- With the hip in full extension and passive external rotation, the posterior edge of the greater trochanter should lie within one finger's breadth of the ischial tuberosity. If the trochanter hits the ischial tuberosity, the anterior soft tissues are too lax. If the distance is greater than one finger's breadth, the anterior soft tissues are excessively tight. Either condition may require alteration of the offset, leg length or anteversion or an anterior capsular release.

2. Ober's Test

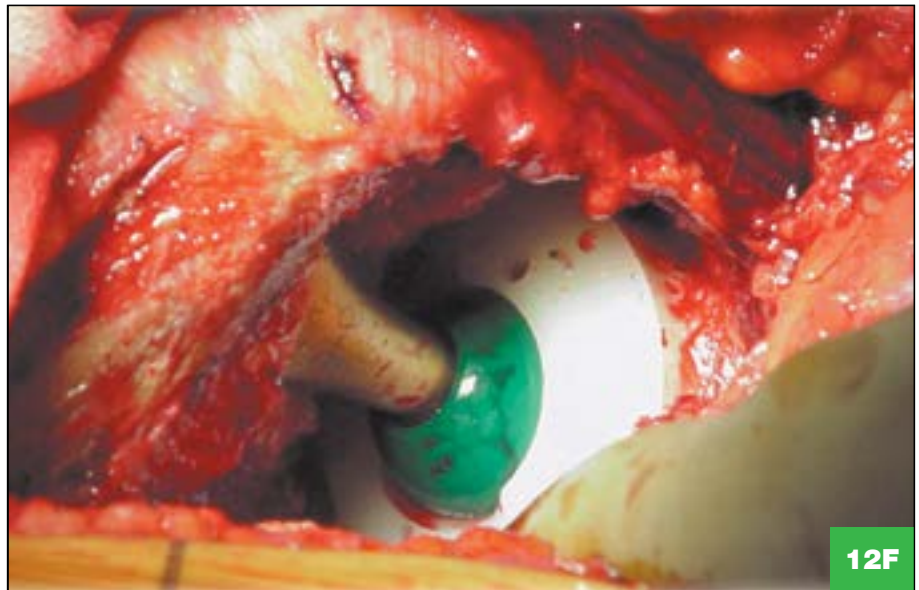
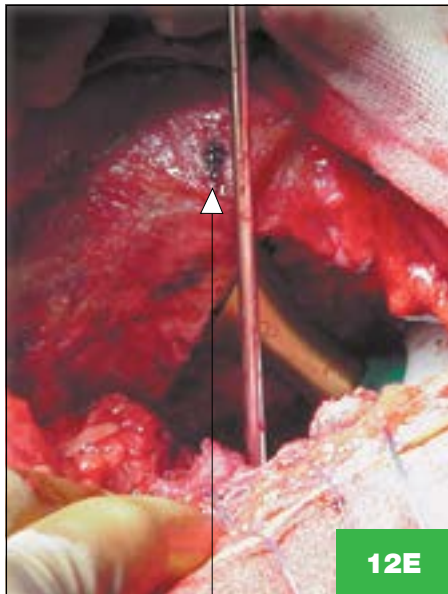
- With the hip in extension and neutral abduction/adduction, passive knee flexion to 90° without undue tension on the ilio-tibial band should be achieved.

3. Test for Combined Anteversion

- With the hip in neutral abduction/adduction and 15° of flexion, the femoral head should be co-planar with the face of the acetabular component at 40-45° of internal rotation. The 40-45° thus represents the combined anteversion of the acetabular and femoral components (Figure 12F).

4. Tests for Impingement and Hip Stability

- The hip should be stable at 90° of flexion with neutral internal/external rotation. There should be no soft tissue or bony impingement at this position.



Locator mark

Step 13**Sizing of the Distal Canal**

Trial distal tips are used to size the inner diameter of the prepared femoral canal and determine the size of the centralizer.

If Using an Accolade Distal Spacer (1059-XXXX):

Use the silver ring style Distal Sizer (1020-2100) and the selected trial distal tip to measure distal canal diameter. A ring style spacer that is the same size or 1mm larger than the chosen trial distal tip may be used and will encounter significant resistance at stem introduction depending on the consistency of the cement. Sink the Distal Sizer to align the appropriate groove to the medial resection (Figures 13A and 13B).

If Using a Universal Distal Spacer (1067-00XX)

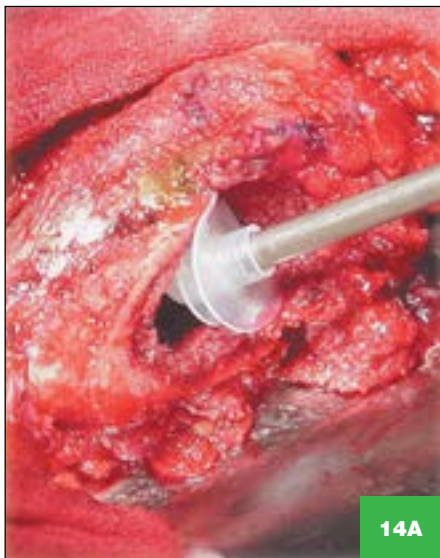
Use the gold Propeller Sizer (1020-2104) and the selected trial distal tip to measure distal canal diameter. The Universal Distal Spacer (propeller style) is designed to be inserted into the hole at the distal end of the stem. Sink the Distal Sizer to align the appropriate groove to the medial resection (Figure 13C).

**13A****13B****13C****Step 14****Cleaning the Canal and Cement-Plug Insertion**

Meticulous preparation of the intramedullary canal is essential for optimal cement pressurization and interlock into host bone interstices. A Sized Cement-Plug™ or the Universal Cement-Plug™ (Stryker B00X-XXXX) is employed to seal the femoral canal at the desired depth at least 1.5cm – 2cm below the tip of the femoral component.

Note: If using a Universal Distal Spacer (1067-00XX), place the cement plug at least 2cm below the tip of the femoral component (Figure 14A).

Free-hand broaching with the size 2 broach will remove soft, loose cancellous bone (Figure 14B). Pulsatile lavage provides an effective method for cleansing the canal of loose cancellous bone and marrow debris (Figure 14C).

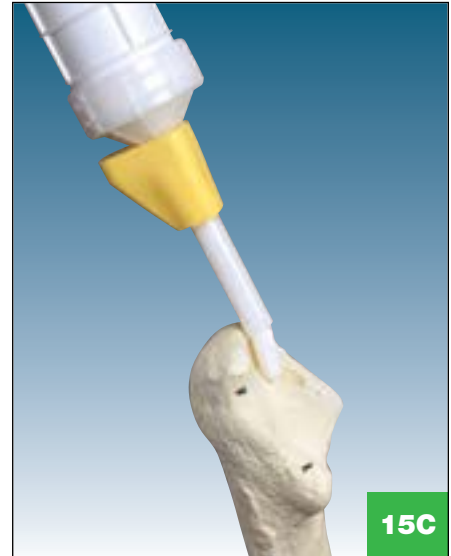
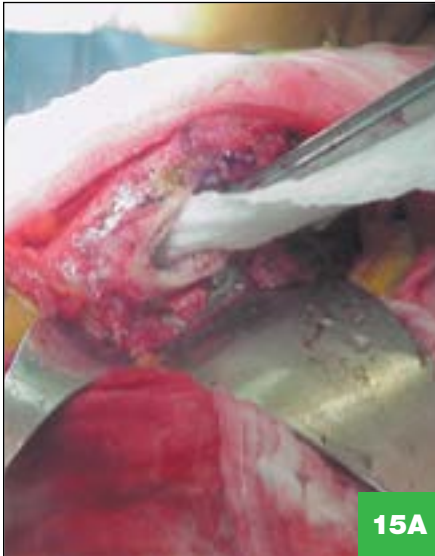
**14A****14B****14C**

Accolade C Cemented Surgical Technique

Step 15

Final Canal Preparation and Cement Delivery

The medullary canal is thoroughly lavaged and dried with a lap pad prior to cement delivery (Figure 15A). A cement gun is employed to introduce doughy cement in a retrograde manner (Figures 15B and 15C). The distal portion of the nozzle is broken away below the conical pressurizer and the cement is pressurized with the cement gun and pressurizer over the nozzle (Figures 15D and 15E).



Step 16

Stem Preparation and Head Selection

The appropriate stem, femoral head and distal spacer (ring style or propeller type) are assembled based on the final broach, trial neck, trial femoral head and distal canal bullet tip.

The head is placed on the dry trunnion, twisted and impacted with the head impactor and a light mallet tap. When utilizing an alumina ceramic head, a Titanium V40 Adapter Sleeve (17-0000E) must be placed on the trunnion prior to C-Taper head assembly. Verify the head is secure on the trunnion after head impaction.

NOTE: When selecting a BIOLOX *delta* Universal Taper Ceramic Femoral Head for implantation, use of a Universal Adaptor Sleeve is necessary.

Universal Adaptor Sleeve Part Number	Taper	Stem Material Compatibility
6519-T-XXX	V40	TMZF, Ti64, CoCr, SS

After completing the trialing process, intraoperatively assemble the Adaptor Sleeve to the femoral stem manually. The Universal Adaptor Sleeve must be fully seated on the stem taper before the head is assembled.

NOTE: In no instance should any attempt be made to pre-assemble the Adaptor Sleeve inside the BIOLOX *delta* Universal Ceramic head.

Intraoperatively assemble the BIOLOX *delta* Universal Taper Ceramic head onto the sleeved femoral stem and set with two moderate blows using the Stem Head Impactor (6266-0-140). Care must be taken to avoid excessive impact forces when assembling the Ceramic Head to the sleeved femoral component.

The distal spacer is then assembled onto the femoral component (Figure 16A). Twisting of the spacer during assembly may cause it to score and should be avoided.

When using the Accolade Distal Spacer (ring style) or no centralizer at all, it is recommended that the distal hole be plugged with a small amount of unpolymerized bone cement or a Universal style Distal Plug (1067-0002) prior to insertion.



16A

Step 17

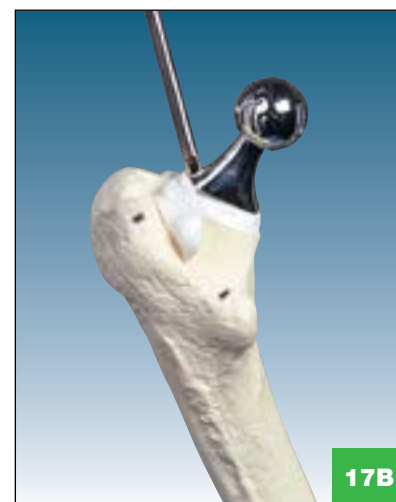
Femoral Stem Insertion

To keep blood and fat from coming into contact with the stem, coat the proximal portion with doughy cement (Figure 17A).

To assist in aligning and seating the stem, the Accolade C stem inserter/pusher should be used. The assembled stem is introduced into the femoral canal with an axial force, while the surgeon provides a laterally directed force (Figure 17B). The goal is to introduce the stem in neutral position with an adequate cement mantle. Excess cement is removed. At final seating, the collar of the prosthesis should rest in intimate contact with the resected neck.



17A



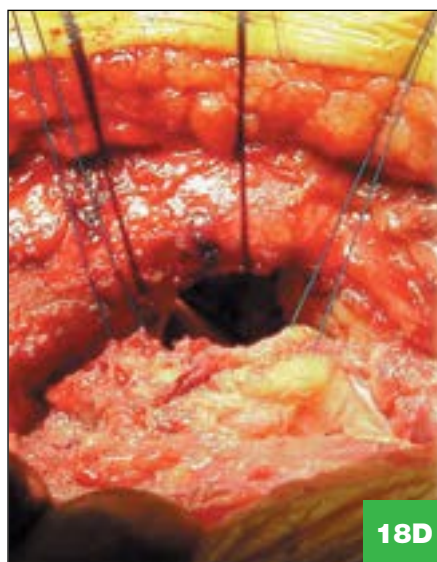
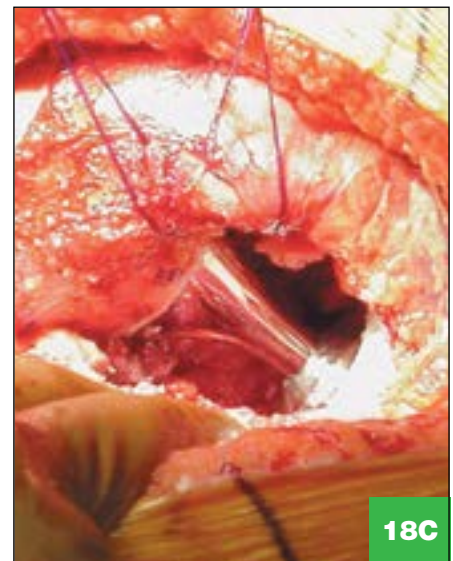
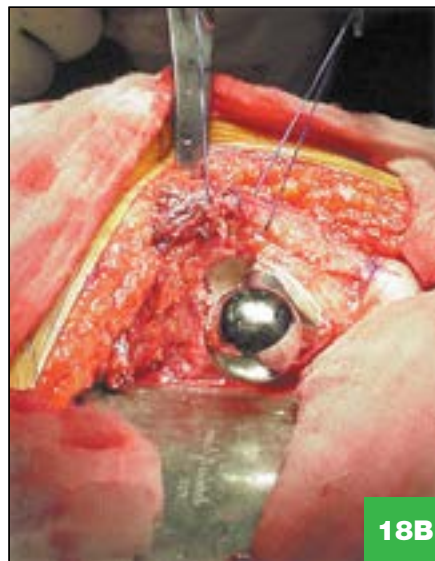
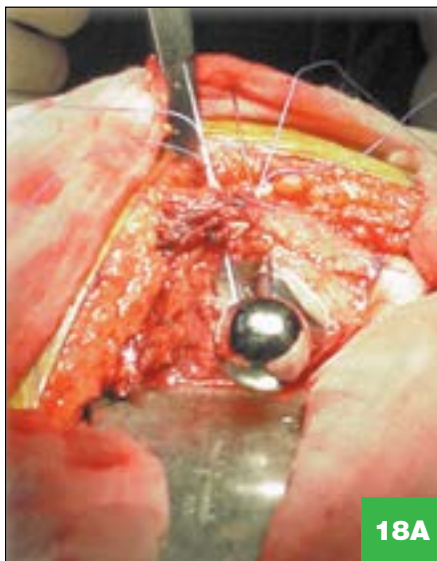
17B

Step 18

Closure

Loop sutures are placed through 2 drill holes in the greater trochanter (Figures 18A and 18B). After the cement has cured, a thorough lavage is performed to ensure that the acetabulum is devoid of debris. The hip is reduced (Figure 18C) and No. 1 Ethibond sutures are placed at the corners of the posterior myocapsular flap (Figure 18D). The gluteus maximus tendon and the quadratus are reattached to the posterior edge of the vastus lateralis muscle. The Ethibond sutures at the corners of the posterior myocapsular flap are passed through the drill holes in the greater trochanter and tied. A previously placed No. 1 Ethibond suture is utilized to approximate the gluteus medius tendon and superior edge of the posterior myocapsular flap to enhance capsular closure (Figure 18E).

The fascia lata is closed over a suction drain with interrupted and continuous vicryl sutures. The subcutaneous tissues and skin are approximated in a standard fashion.



Suture used to approximate the gluteus medius tendon and superior edge of the posterior myocapsular flap.

Accolade Cementless Surgical Technique

Accolade TMZF and Accolade HFx

Step 2

Neck Resection

A proper neck resection level directly affects stem fit and placement. By using anatomic landmarks identified during templating, the Neck Resection Guide should be utilized for proper resection determination. The Neck Resection Guide is identical in size to a size 2 implant body, thus providing a means of simulating stem orientation and placement. After careful pre-operative templating, the guide is placed on the anterior/posterior aspect of the exposed proximal femur (by aligning the tip of the guide with the piriformis fossa) and the planned femoral neck cut is marked using the coagulation current. Care should be taken to align the body of the guide with the axis of the femoral canal (Figures 2A and 2B).



Surgeon's Note:

Poor exposure can often result in an anteverted neck resection. Don't hesitate to re-cut an incorrect cut. Careful orientation of the flexed knee perpendicular to the floor helps to reduce the likelihood of this error. Caution should also be used so as not to extend laterally into the greater trochanter. The axial resection is made at the medial border of the greater trochanter to connect it with the neck resection.

An initial neck resection level can be planned by making a measurement from the greater trochanter to the Neck Resection Guide based on the pre-operative analysis.

After this mark is inscribed, two blunt tipped Hohmann® Retractors are placed about the femoral neck to protect the soft tissues. The head and neck are then resected using a power saw. Ideally, the cut is made in neutral version.

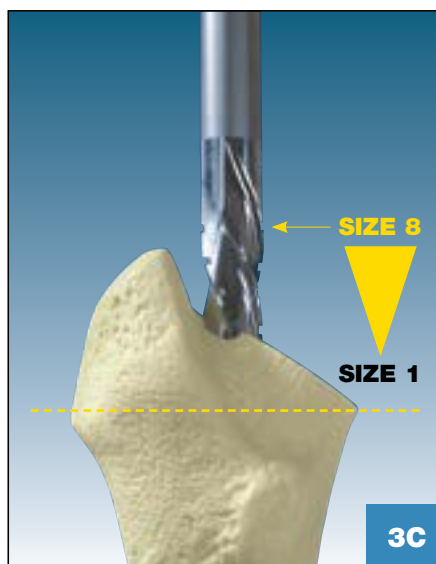
Richard H. Rothman, M.D.
William J. Hozack, M.D.

Step 3

Opening the Femoral Canal: Axial Starter Reamer

The Axial Starter Reamer is circumferentially graduated along the flutes indicating both the depth (length) and the width of the implant body. The fitting allows use with either power equipment or with the use of the T-handle. The Axial Starter Reamer is used to enter the femoral canal. The Starter Reamer has a sharpened point to facilitate entry and should be inserted to the depth of the final rasp (Figures 3A and 3B). The proper depth of the Starter Reamer can be determined by aligning the designated engraved grooves on the reamer shaft (for the size templated) with the medial calcar (Figure 3C). Lateral pressure on the reamer will help to provide for a neutral orientation of the implant (Figure 3D).

Note: The proximal-most groove on the Starter Reamer represents the depth for the size 8 implant. The distal-most groove represents the depth for the size 1 implant (and should also be used to prepare for a size 0 implant). When utilizing a half size implant ream to the whole size below what you intend to use.



Accolade Cementless Surgical Technique

Accolade TMZF and Accolade HFX

Step 4

Rasping the Femur

There are 13 rasp bodies that correspond to the 13 proximal body geometries of the Accolade TMZF System.*

There are 8 rasp bodies that correspond to the 8 proximal body geometries of the Accolade HFX System.

*The size 0 implant and rasp are available upon request only for the Accolade TMZF System.

Step 5

Seating Levels

Proper insertion depth of the rasp in the canal is achieved when it seats tightly within the canal based on visual and auditory clues. The surgeon's clues to firm implant fixation include increased pitch of sound with blows on rasp handle and increased resistance to forward advancement. Reliance only on the neck cut may lead to improper sizing and inadequate component fixation.

Starting with the smallest rasp, advance sequentially upward in size until the rasp matches that of the planned stem size and application (Figures 5A through 5D). The final rasp should seat firmly against medial and lateral cortical bone (Figures 5E and 5F). For proper alignment of the implant, it is imperative that axial alignment of the rasp be maintained at all times in the canal. If torsional stability is not achieved during rasping, while preparing for an Accolade HFX Stem, it may be necessary to use a cemented fracture femoral stem. The decision to use a cemented fracture stem, and the stem chosen, should be made at the surgeon's discretion.

Generally, if a rasp sinks below the level of the neck cut, advance to the next larger rasp. If, on the other hand, the surgeon feels that the neck cut may have been slightly high, remove the rasp and re-cut the neck at a slightly lower level. Once the rasp sinks below the level of the neck cut, the surgeon typically loses the visual and auditory clues that tell him that the rasp is properly seated.

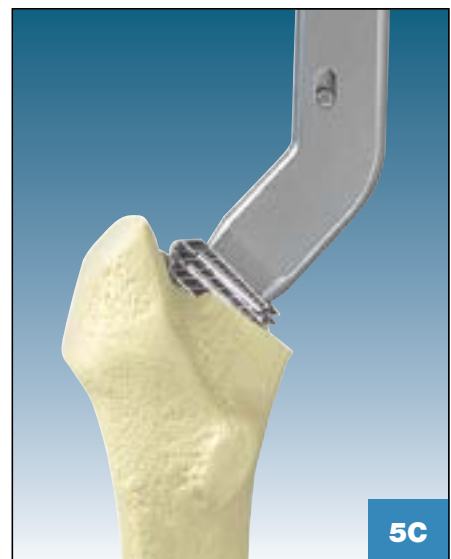
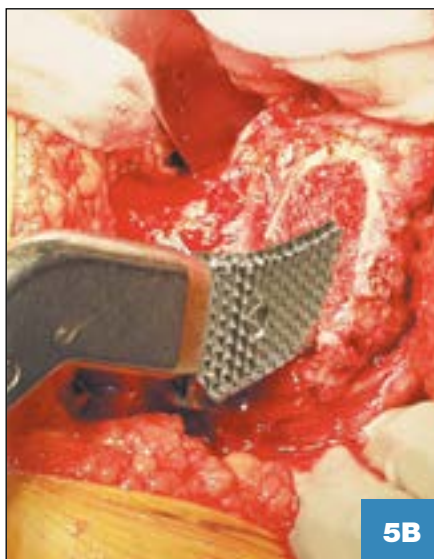
Note: The rasps incorporate two grooves on the A/P surface (Figure 5G). These grooves serve only to assist in visually evaluating the progression of the rasp within the canal.

Upon reaching the proper size and depth of the rasp, leave the final rasp fully seated in the canal and detach the rasp handle to allow for trial reduction. The rasp handle can be disengaged by simply compressing the trigger located on the rasp handle body (Figure 5H).

Optional Calcar Planing Step. Leaving the final rasp seated in the femoral canal, gently guide the Calcar Planer over the rasp post (see note below) and initiate power prior to contacting the femur. Slowly advance the Calcar Planer toward the rasp to plane the femur. Planing will continue until the positive stop on the Planer contacts the rasp face.

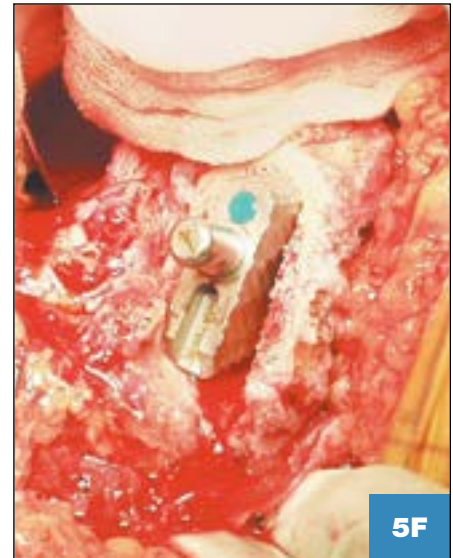
Note: In the event that the rasp post is seated completely below the resection plane (thus preventing engagement with the Calcar Planer), the rasp should be removed and the resection re-cut at a slightly lower level. The surgeon should then re-insert the final rasp ensuring a stable and snug fit.

Caution: Failure to operate the Calcar Planer in accordance with the instructions above may result in damage to the femur.



Step 5

(continued)



Surgeon's Note:

Remember that the templated size may not exactly match the rasp that fits properly within the femoral canal. Again, tactile, auditory, and visual clues in this regard are more important than the templated size. It is the authors' personal preference that the rasp seats at a level slightly above the neck level. Only then can one be certain that the femoral canal has been properly sized.

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Step 6

Trial Reduction

The trial assembly, which consists of the rasp, trial neck and trial head, is used to provide a thorough evaluation of the hip mechanics during trial reduction. Before the selection and implantation of the final component, modifications to the pre-operative plan in terms of neck length and/or head diameter can be made.

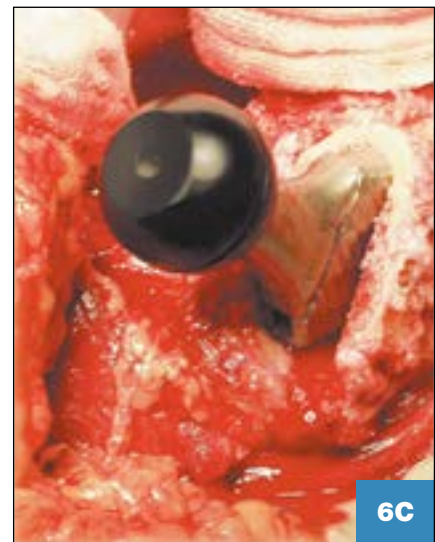
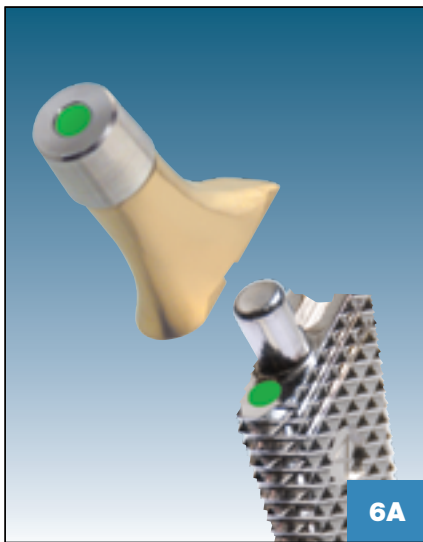
Select an Accolade Trial Neck which has the same base neck length as the planned implant size. This can easily be confirmed by matching the color indicator located on top of the neck trial taper to the color indicator on top of the rasp (Figure 6A). Firmly place the Accolade Trial Neck over the post of the rasp by positioning it into the slot located in the rasp and pressing. Next, select a V40 Trial Head and place it onto the Accolade Trial Neck (Figures 6B and 6C). The V40 Trial Heads are available in -4mm, 0mm, +4mm, +8mm, and +12mm neck lengths to create the desired neck length of the prosthesis.*

*36mm V40 Trial Heads are available in -5, +0, +5 and +10mm offsets.

Perform a trial reduction of the hip. Upon confirmation of the selected components, remove the trial head and trial neck, and reassemble the rasp handle. Remove the rasp with the help of the slotted mallet to preserve the integrity of the handle and locking mechanism.

Surgeon's Note: Neck length is adjusted until leg lengths are equal and stability can be checked by telescoping the leg and performing a full range of motion. If the hip is unstable, (i.e., excessive telescoping >2mm) or dislocates, then the extended offset design 127° neck angle should be considered as an option (Figures 6D and 6E).

-Richard H. Rothman, M.D. and William J. Hozack, M.D.



Step 7

Femoral Stem Insertion

Thread the Accolade Femoral Stem Impactor/Extractor (1020-1600) into the recess on the proximal face of the stem (Figures 7A and 7B). To help prevent damaging the threads on the implant or the instrument, be certain that the Accolade Femoral Stem Impactor/Extractor is fully seated against the proximal face of the stem. A mallet is then used to seat the stem into the canal (Figures 7C and 7D).

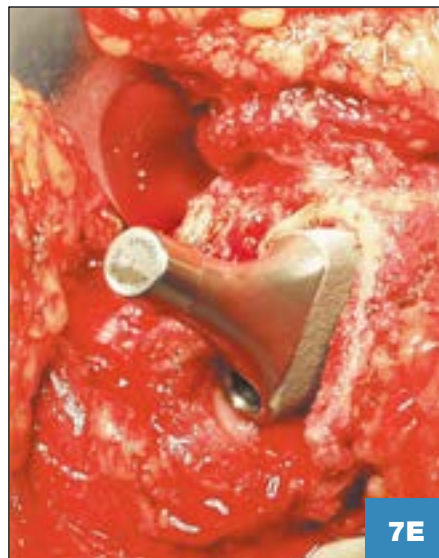
The surgeon should NOT attempt to continue impacting the femoral component if visual and auditory clues indicate that the resting position of the femoral component has been reached (Figure 7E). This is true even if the femoral component is not yet down to the level of the rasp.

Caution: Continued aggressive impaction may lead to femoral fracture.

In the event that dense bone is encountered intra-operatively and compounding anatomical factors (such as a “champagne flute” intramedullary canal) are present, the seating of the implant may not be consistent with the level of the rasp due to the viscoelastic nature of the femoral bone²; although the rasp may seat flush with the resection plane or the desired height as determined through pre-operative planning. The impact of bone density on implant seating has been confirmed through *in-vitro* analysis, yielding a direct correlation between increased bone density and increased seating height relative to the level of the rasp.³ If seating of the implant is difficult, continued aggressive impaction may lead to femoral fracture. To achieve implant seating that is more consistent with the level of the final rasp, the surgeon can consider removing the prosthesis and performing additional rasping (with the rasp that matches the final implant size). Repetitive and controlled mallet strikes can be used to advance and extract the rasp to adequately prepare the distal femur to accept the final implant.

2. Fung, Y.C. (1993). *Biomechanics: Mechanical Properties of Living Tissues* (2nd ed.). New York: Springer-Verlag. pp. 500-519.

3. Stryker Report: RD-09-029, MT 09028.



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Step 8

Femoral Stem Insertion Option

An alternative method for inserting the Accolade TMZF Femoral Stem is with the Accolade Stem Inserter (Quick Connect) (1020-1500).^{*} Place the bullet tipped end of the Stem Inserter into the drive hole of the stem and press the two components together, taking care to align the version tab on the inserter with the slot on the stem (Figure 8). The split collet design provides the inserter with a stable spring connection, but it does not provide a mechanical lock. Therefore, this assembly should be handled with care, as excessive shaking or motion may disassociate the stem from the inserter. Accolade TMZF Size 0, 1 and 2 stems have not been designed with the version tab and thus cannot be implanted using the Accolade Stem Inserter (Quick Connect). The surgeon must use the Threaded Impactor/Extractor for size 0, 1 and 2 stems.



^{*}The Quick Connect Inserter (1020-1500) is not for use with the Accolade HFX stem.

Step 9

Head Assembly

Prior to head assembly, neck length selection may be re-evaluated using a Stryker V40 Trial Head. Place the Trial Head onto the stem neck taper and reduce the hip to verify that the mechanics have not been altered due to implant seating. Remove the Trial Head and dry the implant trunnion with a laparotomy sponge or sterile towel. Select the appropriate corresponding V40 Femoral Head size and place it onto the dry trunnion of the femoral stem with a slight twist. When using an alumina ceramic head with the Accolade HFX stem, a titanium V40 adaptor sleeve (17-0000E) must be placed on the trunnion prior to C-taper head assembly. Care must be taken to avoid excessive impaction forces when assembling the ceramic head to the sleeve component. Verify the head is secure on the trunnion after head impaction. If necessary, the head can be removed utilizing the head disassembly instrument.^{**} Impact the head with two moderate blows using the Stem Head Impactor (6266-0-140).

^{**}If a ceramic head is placed on the trunnion and then removed, it must be replaced with a V40 cobalt chrome head or a V40 Titanium Adaptor Sleeve (17-0000E) and a C-Taper ceramic head.

Optional Step

NOTE: When selecting a BIOLOX *delta* Universal Taper Ceramic Femoral Head for implantation, use of a Universal Adaptor Sleeve is necessary.

Universal Adaptor Sleeve Part Number	Taper	Stem Material Compatibility
6519-T-XXX	V40	TMZF, Ti64, CoCr, SS

After completing the trialing process, intraoperatively assemble the Adaptor Sleeve to the femoral stem manually. The Universal Adaptor Sleeve must be fully seated on the stem taper before the head is assembled.

NOTE: In no instance should any attempt be made to pre-assemble the Adaptor Sleeve inside the BIOLOX *delta* Universal Ceramic head.

Intraoperatively assemble the BIOLOX *delta* Universal Taper Ceramic head onto the sleeved femoral stem and set with two moderate blows using the Stem Head Impactor (6266-0-140). Care must be taken to avoid excessive impact forces when assembling the Ceramic Head to the sleeved femoral component.

Step 10

Closure

Relocate the femoral head into the acetabular cup and re-check the laxity and range of motion. The surgical site is then closed according to surgeon preference.

Instrument Ordering Information

Accolade System Instrumentation

Basic Procedure Tray	
Catalog Number	Instrument
1020-1100	Neck Resection Guide
1101-2100	T-Handle
1120-1000	Mallet
1020-1400	2 x Offset Rasp Handles
1020-2730	127 deg, 30mm Neck Trial
1020-2735	127 deg, 35mm Neck Trial
1020-2737	127 deg, 37mm Neck Trial
1020-2740	127 deg, 40mm Neck Trial
1020-3230	132 deg, 30mm Neck Trial
1020-3235	132 deg, 35mm Neck Trial
1020-3237	132 deg, 37mm Neck Trial
1020-3240	132 deg, 40mm Neck Trial
6264-8-026R	26mm -3mm V40 Trial Head
6264-8-126R	26mm STND V40 Trial Head
6264-7-226R	26mm +4mm V40 Trial Head
6264-8-326R	26mm +8mm V40 Trial Head
6264-8-426R	26mm +12mm V40 Trial Head
6264-8-028R	28mm -4mm V40 Trial Head
6264-8-128R	28mm STND V40 Trial Head
6264-8-228R	28mm +4mm V40 Trial Head
6264-8-328R	28mm +8mm V40 Trial Head
6264-8-428R	28mm +12mm V40 Trial Head
6264-8-928R	28mm -2.7mm V40 Trial Head
6264-8-032R	32mm -4mm V40 Trial Head
6264-8-132R	32mm STND V40 Trial Head
6264-8-232R	32mm +4mm V40 Trial Head
6264-8-332R	32mm +8mm V40 Trial Head
6264-8-432R	32mm +12mm V40 Trial Head
1020-2700	Calcar Planar
6266-0-140	Head Impactor
1113-1001	Box Chisel
6266-5-005	
1020-6000	Basic Procedure Tray
8000-0100	Outer Case

36mm, 40mm, and 44mm head trials available, refer to Trident Acetabular Protocols



Accolade
Basic Procedure Tray

Cemented Procedure Tray	
Catalog Number	Instrument
1101-0304	Starter Reamer
1020-2200	Trochanteric Reamer - Small
1020-2201	Trochanteric Reamer - Large
1020-2100	Distal Sizer
1020-2104	Propeller Sizer
1212-0008	Trial Distal Tip - 8mm
1212-0009	Trial Distal Tip - 9mm
1212-0010	Trial Distal Tip - 10mm
1212-0011	Trial Distal Tip - 11mm
1212-0012	Trial Distal Tip - 12mm
1212-0013	Trial Distal Tip - 13mm
1212-0014	Trial Distal Tip - 14mm
1212-0015	Trial Distal Tip - 15mm
1212-0016	Trial Distal Tip - 16mm
1212-0017	Trial Distal Tip - 17mm
1212-0018	Trial Distal Tip - 18mm
1020-2002	Size 2 Broach
1020-2003	Size 3 Broach
1020-2004	Size 4 Broach
1020-2005	Size 5 Broach
1020-2006	Size 6 Broach
1020-2007	Size 7 Broach
1020-2500	Stem Inserter
1020-7000	Cemented Procedure Tray



Accolade C
Cemented Procedure Tray

Cementless Procedure Tray	
Catalog Number	Instrument
1020-000L 1020-5100	Size 0 Rasp
1020-1001L 1020-5101	Size 1 Rasp
1020-1002L 1020-5102	Size 2 Rasp
1020-1025L 1020-5125	Size 2.5 Rasp
1020-1003L 1020-5103	Size 3 Rasp
1020-1035L 1020-5135	Size 3.5 Rasp
1020-1004L 1020-5104	Size 4 Rasp
1020-1045L 1020-5145	Size 4.5 Rasp
1020-1005L 1020-5105	Size 5 Rasp
1020-1055L 1020-5155	Size 5.5 Rasp
1020-1006L 1020-5106	Size 6 Rasp
1020-1007L 1020-5107	Size 7 Rasp
1020-1008L 1020-5108	Size 8 Rasp
1020-1200	Axial Starter Reamer
1020-1500*	Stem Insertor
1020-1600	Accolade Stem Insertor/Extractor
1020-8500	Cementless Procedure Tray

*Compatible with Accolade TMZF implants sizes 2.5 to 8 only.

NOTE: Broach family 1020-10XX and broach family 1020-51XX are not to be used interchangeably.



Accolade
Cementless Procedure Tray

(Optional) Accolade HFX Broach Tray	
1020-5101	Size 1 Rasp
1020-5102	Size 2 Rasp
1020-5103	Size 3 Rasp
1020-5104	Size 4 Rasp
1020-5105	Size 5 Rasp
1020-5106	Size 6 Rasp
1020-5107	Size 7 Rasp
1020-5108	Size 8 Rasp
1020-9003	Accolade HFX Broach Tray

(Optional) Minimally Invasive Instrumentation	
5900-0050	T-Handle
1440-1040	Quick Connect Handle
1440-1050	Alignment Rod
1440-1700	Neck Trial Forceps
1440-1010	Femoral Head Extractor
1440-1400	Straight Accolade Rasp Handle
1440-1000	Neck Resection Guide
1440-1070	Femoral Head Impactor
1440-0040	Tray

Implant Ordering Information



Accolade C Femoral Stems

Accolade C Cemented Femoral Stem (127° Neck Angle)				
Catalog Number	Stem Size	Stem Length (from Drive Hole)	Neck Length	Offset (+0mm)
6057-0230D	2	124mm	30mm	39mm
6057-0335D	3	131mm	35mm	43mm
6057-0435D	4	137mm	35mm	46mm
6057-0537D	5	145mm	37mm	48mm
6057-0637D	6	158mm	37mm	49mm
6057-0740D	7	158mm	40mm	52mm

Accolade C Cemented Femoral Stem (132° Neck Angle)				
Catalog Number	Stem Size	Stem Length (from Drive Hole)	Neck Length	Offset (+0mm)
6058-0230D	2	124mm	30mm	35mm
6058-0335D	3	131mm	35mm	39mm
6058-0435D	4	137mm	35mm	42mm
6058-0537D	5	145mm	37mm	44mm
6058-0637D	6	158mm	37mm	45mm
6058-0740D	7	158mm	40mm	48mm

Accolade C Distal Spacers (Ring Style)		
Catalog Number	Spacer Type	Outer Diameter
1059-2310	Small (Use with stem sizes 2 and 3)	10mm
1059-2311	Small (Use with stem sizes 2 and 3)	11mm
1059-2312	Small (Use with stem sizes 2 and 3)	12mm
1059-2313	Small (Use with stem sizes 2 and 3)	13mm
1059-2314	Small (Use with stem sizes 2 and 3)	14mm
1059-2315	Small (Use with stem sizes 2 and 3)	15mm
1059-4512	Medium (Use with stem sizes 4 and 5)	12mm
1059-4513	Medium (Use with stem sizes 4 and 5)	13mm
1059-4514	Medium (Use with stem sizes 4 and 5)	14mm
1059-4515	Medium (Use with stem sizes 4 and 5)	15mm
1059-4516	Medium (Use with stem sizes 4 and 5)	16mm
1059-4517	Medium (Use with stem sizes 4 and 5)	17mm
1059-6713	Large (Use with stem sizes 6 and 7)	13mm
1059-6714	Large (Use with stem sizes 6 and 7)	14mm
1059-6715	Large (Use with stem sizes 6 and 7)	15mm
1059-6716	Large (Use with stem sizes 6 and 7)	16mm
1059-6717	Large (Use with stem sizes 6 and 7)	17mm
1059-6718	Large (Use with stem sizes 6 and 7)	18mm

Stryker Universal Distal Hole Plug*	
Catalog Number	
1067-0002	

*Optional for use with ring style spacers

Stryker Universal Distal Cement Spacer			
Catalog Number	Outer Diameter	Catalog Number	Outer Diameter
1067-0008	8mm	1067-0014	14mm
1067-0009	9mm	1067-0015	15mm
1067-0010	10mm	1067-0016	16mm
1067-0011	11mm	1067-0017	17mm
1067-0012	12mm	1067-0018	18mm
1067-0013	13mm		

Simplex P Bone Cement	
Catalog Number	
6191-1-001	Full-Dose-Individual Pack
6191-1-010	Full-Dose-10 Pack
6188-1-001	Half-Dose-Individual Pack
6188-1-010	Half-Dose-10 Pack

Simplex SpeedSet Bone Cement	
Catalog Number	
6192-001	Simplex P SpeedSet Full Dose 1 Pack
6192-010	Simplex P SpeedSet Full Dose 10 Pack



Accolade TMZF Femoral Stems

Accolade TMZF Cementless Femoral Stem (127° Neck Angle)				
Catalog Number	Stem Size	Stem Length (from Medial Calcar)	Neck Length	Offset (+0mm)
6021-0030*	0	86mm	30mm	37mm
6021-0130	1	110mm	30mm	38mm
6021-0230	2	115mm	30mm	39mm
6021-2530	2.5	118mm	30mm	40mm
6021-0335	3	120mm	35mm	43mm
6021-3535	3.5	124mm	35mm	43mm
6021-0435	4	125mm	35mm	44mm
6021-4535	4.5	129mm	35mm	45mm
6021-0537	5	130mm	37mm	48mm
6021-5537	5.5	133mm	37mm	49mm
6021-0637	6	135mm	37mm	49mm
6021-0740	7	140mm	40mm	53mm
6021-0840	8	145mm	40mm	54mm

Accolade TMZF Cementless Femoral Stem (132° Neck Angle)				
Catalog Number	Stem Size	Stem Length (from Medial Calcar)	Neck Length	Offset (+0mm)
6020-0030*	0	86mm	30mm	33mm
6020-0130	1	110mm	30mm	34mm
6020-0230	2	115mm	30mm	35mm
6020-2530	2.5	118mm	30mm	36mm
6020-0335	3	120mm	35mm	39mm
6020-3535	3.5	124mm	35mm	39mm
6020-0435	4	125mm	35mm	40mm
6020-4535	4.5	129mm	35mm	41mm
6020-0537	5	130mm	37mm	44mm
6020-5537	5.5	133mm	37mm	45mm
6020-0637	6	135mm	37mm	45mm
6020-0740	7	140mm	40mm	48mm
6020-0840	8	145mm	40mm	49mm

*Available by request.



Accolade HFX Femoral Stems

Accolade HFX Cementless Femoral Stems (127° Neck Angle)				
Catalog Number	Stem Size	Stem Length (from Medial Calcar)	Neck Length	Offset (+0mm)
6077-0130	1	110mm	30mm	38mm
6077-0230	2	115mm	30mm	39mm
6077-0335	3	120mm	35mm	43mm
6077-0435	4	125mm	35mm	44mm
6077-0537	5	130mm	37mm	48mm
6077-0637	6	135mm	37mm	49mm
6077-0740	7	140mm	40mm	53mm
6077-0840	8	145mm	40mm	54mm



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