

# Conserve<sup>®</sup> Plus

Total Resurfacing Hip System

Surgical Technique



## ***Conserve® Plus Resurfacing Hip System***

Proper surgical procedures and techniques are the responsibility of the medical professional. The following guidelines are furnished for information purposes only. Each surgeon must evaluate the appropriateness of the procedures based on his or her personal medical training, experience and patient condition. Prior to use of the system, the surgeon should refer to the product package insert for additional warnings, precautions, indications, contraindications and adverse effects. Instructions for Use Package inserts are also available by contacting the manufacturer. Contact information can be found on the back of this surgical technique and the package insert is available on the website listed.

Package inserts can be found under:  
Prescribing on [ortho.microport.com](http://ortho.microport.com)



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## Ordering Information

**Templates** 38SFXR15

**Surgical Technique** 011580

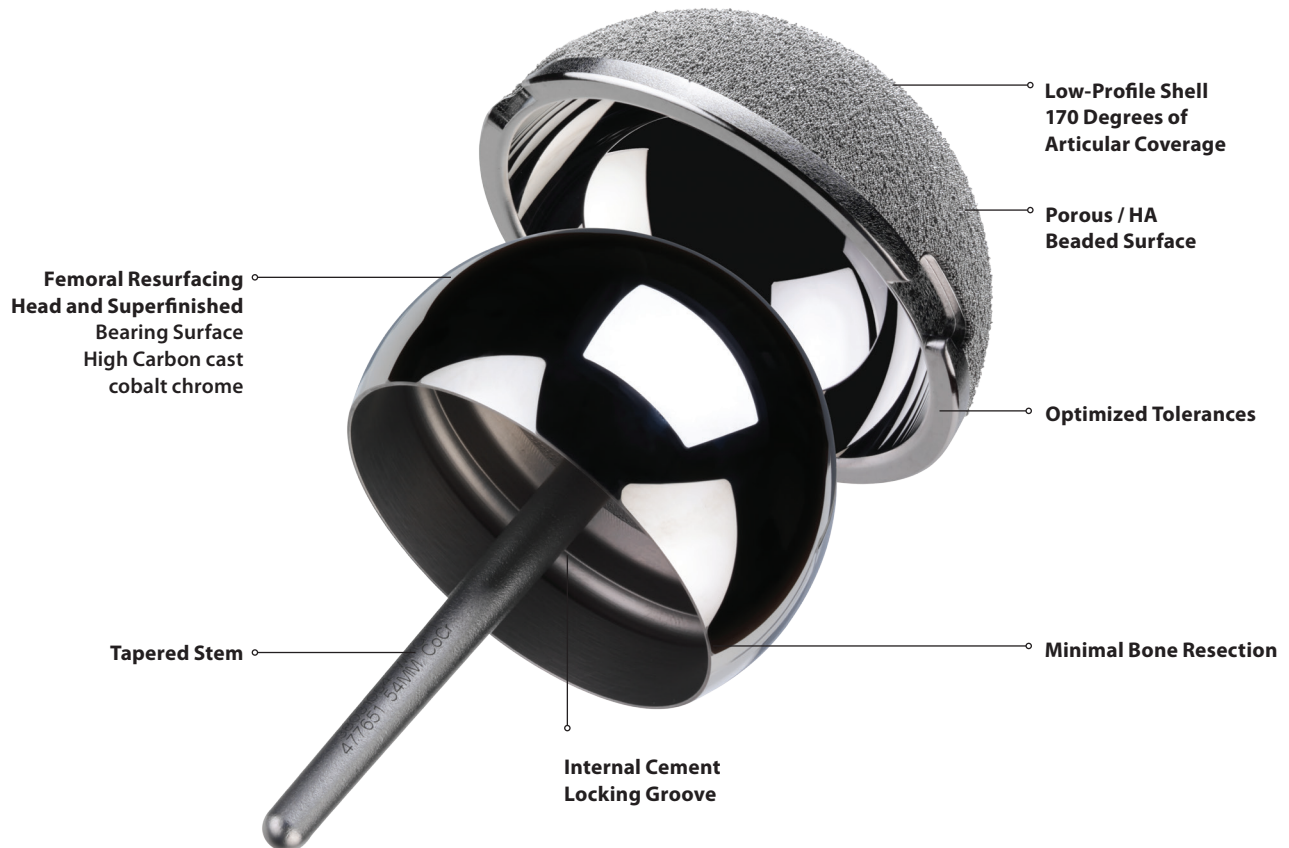
### Instruments

APH04200 Basic Instruments  
APH04210 Cylindrical and chamfer reamers/cut-off rings/Trial Heads  
APH04211 Centering rings "lollipops"  
APH04220 Cylindrical and chamfer reamers/cut-off rings/Trial Heads.  
Outlier sizes  
APH04221 Centering rings "lollipops". Outlier sizes  
APH04230 Cup Insertion Instruments  
APH04240 Cup Insertion instruments / cup trials  
5803KIT5 Conserve® Plus cementless

### Implants

38HAKITA Conserve® Plus HA Coated shells  
CNSVKITB Conserve® Plus shells  
3803KITA Conserve® Plus cemented femoral heads  
5803KITA Conserve® Plus cementless femoral heads

*For additional risk information, please consult the Instructions for Use package insert.*



## General Product Information

### Acetabular Component

- High carbon cast cobalt chrome acetabular component
- Super-finished metal-on-metal bearing surface
- Low-profile hemispherical shell 170° inside and out
- Porous-beaded surface for biological fixation
- Tolerances optimized for femoral components
- 12 sizes

### Femoral Component

- High carbon cast cobalt chrome femoral component
- Super-finished metal-on-metal bearing surface
- Cemented or cementless Femoral Component
- Minimal bone resection
- Tapered stem and internal cement locking groove
- Tolerances optimized for acetabular components
- 11 sizes

### History

The young and active patient wants to achieve Full Function, Faster which requires implants and techniques that are stable and long lasting. Younger patients are more active, they have a higher level of physical activity, higher expectations after surgery, but also face an increased risk of implant failure, in light of longer life expectancy<sup>1</sup>. The challenges that current THA products on the market have to face to address this younger population include the preservation of the proximal femoral bone.

The Conserve® Plus Total Resurfacing Hip System was designed to be a conservative prosthetic solution for hip arthritis. It is anatomical, replicating the normal hip and limb length, while preserving proximal femoral bone.

The intended initial patient population is young and / or active patients who may require total hip replacement (THR) later in life.

### References

1. Swedish Hip Arthroplasty Register: Annual Report. <http://www.shpr.se>



# Chapter 1

## PRE-OPERATIVE PLANNING

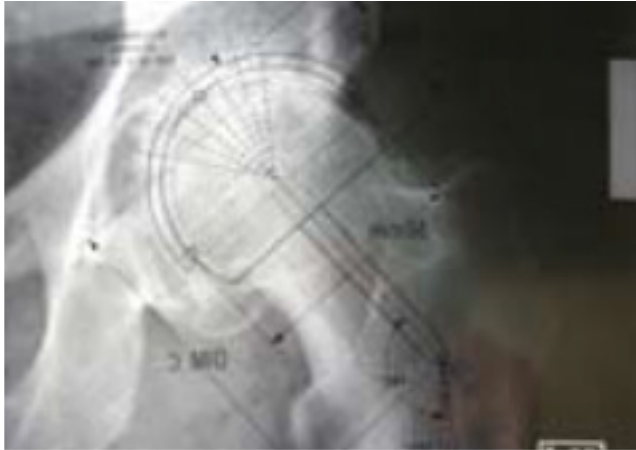
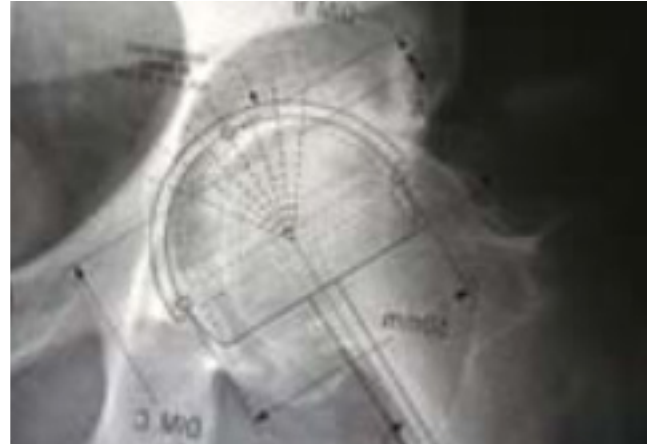


Figure 1



**Caution:** Preoperative templating is intended for estimation purposes only. Final component size and position should be determined intraoperatively.

Accurate preoperative templating requires good quality standardized radiographs of the pelvis and operative hip. To determine limb length discrepancy, draw a line across the bottom of the ischium on the A/P view. The distance from this horizontal reference line to each lesser trochanter should then be measured. The difference between each measured side is the leg length discrepancy. If there is any asymmetry of the pelvis or if landmarks are not clear, other means to determine discrepancy should be used.

The anatomical diameter of the femoral head is measured. This gives the first indication for the size to be used.

That size is templated on the femoral neck to preview notching of the femoral neck.

Finally, the varus-valgus positioning is templated with the 135°-140°-145° angle, where the normal anatomical varus-valgus angle on the x-ray is important. Varus positioning must be avoided and neutral or slight valgus alignment is aimed for.

The acetabulum is mainly templated to assess if the pelvis can accept the cup. The acetabular shell has a low profile of 170°, so less bone is removed. The cup will not reach the true floor of the acetabulum.

# Chapter 2

## SURGICAL TECHNIQUE

### Patient Positioning

The patient is positioned in the lateral decubitus position with the pelvis stabilized by a padded support on the pubis, the sacrum, the anterior and the posterior thorax. The pelvis is at a right angle to the table. The leg must allow at least 90° of flexion and be adducted for the femoral head to be delivered through the gluteus maximus split.

### Approach

There is a need to incise large enough to view your surgical site properly in order to optimize bone preparation and component position. The following technique describes the posterolateral approach to the hip.

The hip is flexed to 30°-40°. A straight incision is made, centered in the middle of the greater trochanter and in line with the femur. The exposure of the hip depends on the length of the skin incision and should never compromise the placement of the components.

In the same straight direction, the fascia lata is divided and the fibres of the gluteus maximus are split with the finger making blunt dissection in line with the fibres.

A Charnley retractor is inserted, taking care not to pick up the sciatic nerve posteriorly. The frame is put distally to allow the retractors to be tightened on the frame. Dissect the bursa at a small distance from the bone.

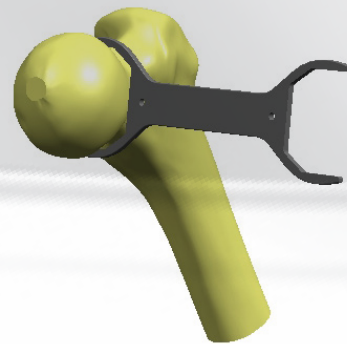
The insertion of the gluteus maximus is divided completely onto the bone. When the patients are more lax this can be disregarded. If the vastus lateralis is overlying, avoid going through it, but retract and divide it from the tendon to prevent bleeding. Take the tendon off of the bone, taking care not to damage the ischial nerve. Take care not to cut too deep to prevent cutting the performant vessels.

Dissect the quadratus femoris, leaving a part of the muscle and soft tissue on the bone (1-2cm) for vascularity reasons. Underneath or just above the quadratus femoris, the circumflex vessels are dissected and coagulated.

The posterior edge of the gluteus medius is retracted forwards to reveal the piriformis tendon and the posterior edge of the gluteus minimus fibres are separated from the superior border of the piriformis tendon.

Insert a capsular scissor into the ilium above the acetabulum for good exposure of the piriformis tendon and avoiding damage to the abductor muscle. The piriformis tendon is divided as close as possible to its insertion on the greater trochanter. The cut is not made through the capsule, the piriformis is pulled off the capsule.

All other external rotators are divided with electrocautery, leaving a cuff of muscle on the bone to support vascularisation. In this way the gemelli and obturator muscle are released.



**Figure 2**

### Capsule incision & femoral head dislocation

Incise the capsule, about 0.5 to 0.8 cm away from the posterior rim of the acetabulum, making sure not to cut into the femoral neck and its soft tissues.

Make one or two radial cuts in the posterior capsule allowing the insertion of a Tissue retractor pin (48032008) into the ischial bone, retracting the posterior hip capsule and other posterior structures.

The hip is dislocated by flexion, adduction and internal rotation. In order to mobilize the head, the inferior and anterior capsule must be released. Using capsular scissors, a circumferential cut of the inferior capsule is made from inferior to superior. With the leg turned in further flexion, a superior to inferior cut is made. In this way, the psoas tendon is always protected.

With the circumferential release, without resection of the capsule, the femoral head can be nicely turned out of the wound.

### Femoral head sizing

A further estimation of the final femoral size may be determined by utilizing the inside dimensions of the Sizing Ring gauges (48031026).

Place the Sizing Ring over the head. Generally, the final femoral head and component size is 3-5mm smaller.

The size is checked again with the Head-Neck template (48033638-58). Place the head-neck template around the femoral neck without notching. You should be able to get securely around the neck. Often the anterior osteophytes prevent an easy turning around the femoral neck. The inner diameter of the template is the same as the final cut of the femur with the cylindrical reamer. This delivers the smallest possible head size without notching. (Figure 2)

The real head size can also be checked with the outer diameter of the Head-Neck template, which is the same diameter as the final implant. This gives the largest size that could be used. The definitive size depends on the anatomy and correlation between femur and acetabulum.

If the exposure seems insufficient, a release of the reflected head of the rectus femoris can be made at the edge of the acetabulum. Excise the labrum before the head is relocated in an anterosuperior position. No pouch is made to accept the femoral head. If there is some damage of the gluteus minimus muscle, this should be accepted.



Tissue Retractor Pin  
48032008



Sizing Ring Gauges  
48031026



Head-Neck Template  
48033638-58



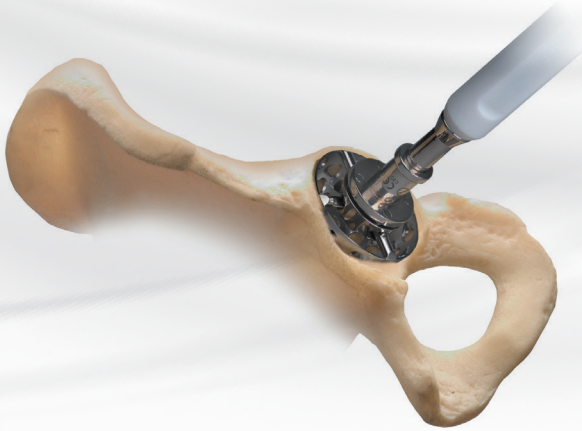


Figure 3



Figure 4

### Preparation of the Acetabulum

A Hohmann retractor is put above the acetabulum. For a left hip at 11 o'clock and for a right hip at 1 o'clock. The femoral head is now pulled in an anterosuperior position with the Hohmann-retractor, putting the leg back on the table in a neutral extended position. Place a straight Hohmann retractor posterior-inferiorly and a third curved Hohmann retractor inferior to the teardrop.

Excise the labrum and ligamentum Teres to obtain a good view of the acetabulum. Leave the soft tissue in the fossa and the transverse ligament intact.

Start reaming with a small diameter reamer that conforms to the acetabular cavity. Gradually enlarge the acetabulum by reaming until an appropriate hemispherical bony bed is achieved. Ream to the size of the component to be implanted. This will provide a 1 mm press fit. Reaming to the true floor of the acetabulum is not required. (Figure 3)

**NOTE:** Conserve® Shells come in 2mm increments, ranging from 42-64 mm.

**NOTE:** Reamers are not included in the Conserve® Plus instrument set.

### Acetabular Component Trial

Reaming depth, acetabular shape and size can be confirmed by using a trial cup. Screw the trial cup (48032842-64) onto the Trial Cup Handle (PPR68030) and perform a trial to check that the trial cup is properly seated on the bottom of the reamed acetabulum. Use the trial cup to determine the exact position of the final implant. Preferred position is at 20° of anteversion and 40° of abduction. Take the anatomical landmarks into account. Check to ensure if the cup is fully covered anteriorly. (Figure 4) Remove large osteophytes at this stage.

**NOTE:** The trial shells are equal in dimension to the corresponding final implant but without the press-fit.



Trial Cup  
48032842-64



Trial Cup Handle  
PPR68030



Figure 5



Figure 6

### Acetabular Component Insertion

Connect the Impactor/Extractor Handle (PPW38094) to the correct Cup Inserter (48LP36ID – 48LP56ID) by pulling the sleeve of the Impactor/Extractor Handle backwards (Figure 5). The Cup Inserter corresponds to the internal diameter of the shell.

Attach the final cup implant onto the Cup Inserter by pulling the sleeve of the Cup Inserter backwards. The 3 dedicated openings in the cup must match the 3 wings of the Cup Inserter (Figure 6). Position the cup into the cavity, turn clockwise to remove possible soft tissue and turn until the 3 arms of the Cup inserter reach the position of 2, 6 and 10 o'clock.

Seat the shell with a series of firm mallet blows on the end of the Impactor, using a heavy mallet. Once seated, disengage the Cup Inserter from the implant by drawing back on the sleeve, rotate anti-clockwise and elevate the arm.

Use the Secondary Impactor Adaptor (48031020) and attach it to the Impactor/Extractor handle. Perform a secondary impaction with the trial head (41103600-41105600) that corresponds to the internal diameter of the shell.

To avoid the risk of impingement, remove all remaining osteophytes.



Impactor / Extractor Handle  
PPW38094



Cup Inserter  
48LP36ID-48LP56ID



Secondary Impactor Adaptor  
48031020



Trial Head  
41103600-41105600

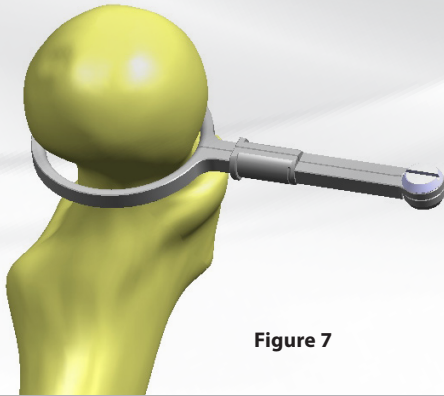


Figure 7

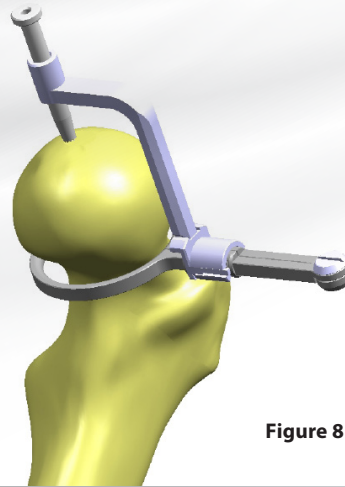


Figure 8

### Central Pin Positioning

Hold the leg in a 90° internal rotation position with the knee flexed. Place the Goniometer (48031001) in line with the femoral shaft. Place the correct Head-Neck template (48033638-58) around the femoral neck and place a 3.2mm Guide wire (48032002) through the hole. Align this Guide wire with the goniometer according the predetermined angulations (135°, 140° and 145°) and make a mark with the electro-cautery.

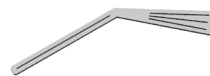
Place the same Head-Neck template on the femoral head to check the amount of bone will be removed from the proximal femoral head. Place a 3.2mm Guide wire pin through the hole. Orient the Head-Neck template in a way that the pin is parallel with the tibia and make a mark with the electro-cautery. This second line gives an indication on the height were the second cut should be made. This line will help preserve the leg length.

**NOTE:** The outer diameter of the Head-Neck template is the same size as the final femoral implant.

Place the Lollipop (48032934-56) around the femoral neck. (Figure 7). Connect the Bushing arm (48032910) with the Lollipop.

Drill a 3.2mm Guide wire in the piriformis fossa (along the greater trochanter) and drill it towards the middle of the knee, deep enough to obtain a stable fixation. (Figure 8)

**NOTE:** The Lollipop should be as tight as possible to locate the exact middle of the femoral neck and does not necessarily correspond to the size of the Head-Neck template.



Goniometer  
48031001



Lollipop  
48032934-56



Head-Neck Template  
48033638-58



Guide-Wire  
3.2mm 48032002



Bushing Arm  
48032910

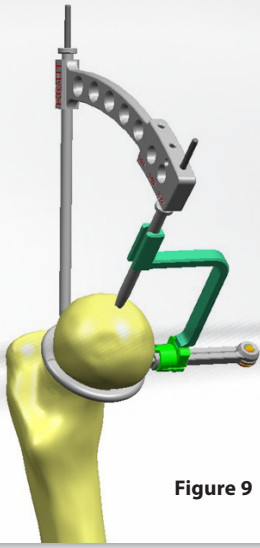


Figure 9

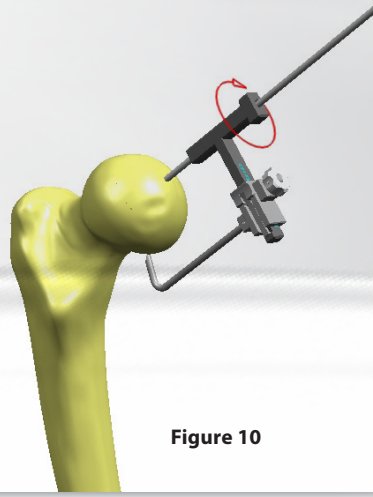


Figure 10

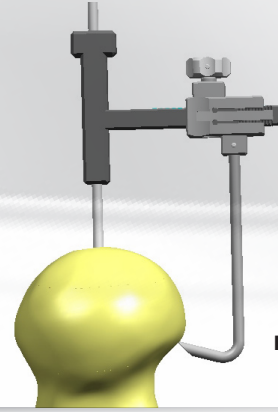


Figure 11

Place the De Smet Goniometer (48032912) over the inserted 3.2mm Guide wire at the predetermined angulations (135°, 140°, 145°). Introduce the Bushing (48032911) through the other end of the De Smet Goniometer and link through the Bushing arm of the Lollipop. This should align with the marking on the femoral head. (Figure 9)

Drill a 3.2mm Guide Wire through the bushing into the femoral head. Irrigate with syringe while drilling to cool down the temperature. The pin should be centered approximately in the middle of the femoral neck in the frontal plane and anterior to the neck center. It should be directed slightly posterior to anterior in the coronal plane to avoid reaming into the anterior osteophyte. The Guide wire is inserted to a depth of 3 to 5cm.

**CAUTION:** care should be taken to ensure that the Guide wire is drilled in to avoid bending during insertion. It is also important to place the Guide wire in a neutral or slightly valgus position. A varus position could potentially lead to a fracture of the femoral neck.

Remove the Guide Wire in the fossa piriformis with the Pin Puller (18770140)

### Central Pin Positioning Check

Use the Notch Checker (48032100) to check the position of the central pin. Slide the Notch Checker over the central pin and adjust the arm of the Notch Checker until the correct size can be read and tighten the screw. The Notch Checker should be able to rotate freely with sufficient clearance circumferentially around the neck to ensure that cylindrical reaming will not result in notching of the femoral neck. (Figure 10 – 11)

If the Notch Checker catches the neck at any time, the central pin can be replaced by using the Pin Relocator (48031003). Leave the pin inside, slide the Pin Relocator over it and drill the second pin. It is especially important to protect the lateral cortex, which is thinner than the medial cortex and undergoes tensile loads, to decrease the risk of femoral neck fracture. It is recommended increasing the offset laterally so that while reaming, the cylindrical reamer will exit closer to the medial neck.

**NOTE:** If significant osteophytes are present on the femoral neck, then these should be removed with rongeurs to ensure an accurate assessment. Extra care should be taken to avoid damage to the soft tissue and blood supply during osteophyte removal.



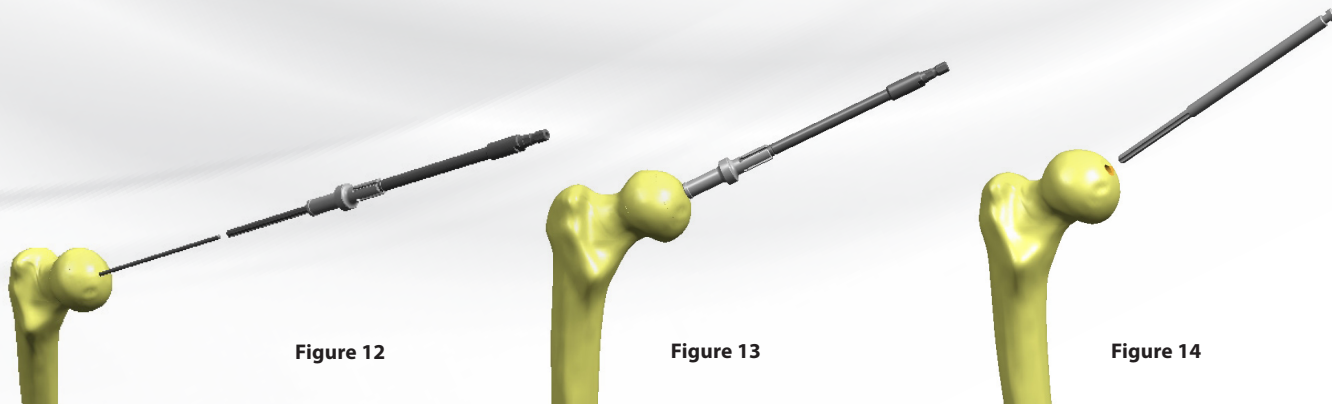


Figure 12

Figure 13

Figure 14

### Suction Tip Placement

Drill a hole in the lesser trochanter with the Lesser Trochanter Suction Tip-Starter drill (48032015). Place the Lesser Trochanter Suction Tip (48032901) over the Lesser Trochanter Suction Tip Insert (48032900) and engage the screw thread into the cortical bone of the lesser trochanter. Connect with the suction device.

### Spigot Placement

**NOTE:** Place wet swabs around the femoral neck to prevent bone debris entering the peri-articular soft tissues, a potential risk for future heterotrophic ossification.

The depth of drilling with the Cannulated Drill (48032016) will depend on the size of the implant. The drill is marked in 2mm increments. Position the sleeve of the Cannulated Drill onto the final implant size in the window. Hold the sleeve in position and lock by pulling it distally. Slide the Cannulated Drill over the 3.2 Guide wire and drill the hole for the Spigot (48032006) while irrigating. (Figure 12) Drilling to the desired depth is achieved when the sleeve hits the bone. (Figure 13) Place the spigot in the femoral head. (Figure 14).

### Cementless Conserve® Plus Femoral Component

In case a cementless Conserve® Plus implant is used, the Stem Reamer (48PF1016) is used to drill the hole for the Tapered Spigot (48PF1308).

**WARNING:** The Tapered spigot (48PF1308) is different than the one used with the cemented Conserve® Plus femoral head option.



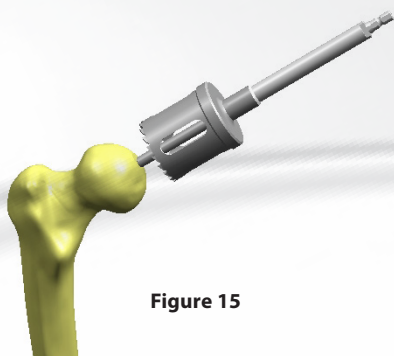


Figure 15

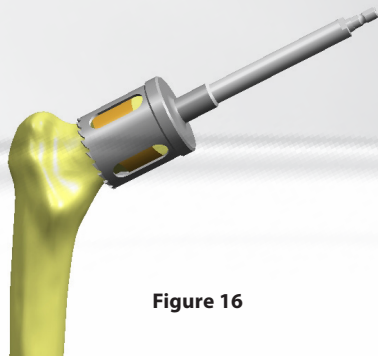


Figure 16

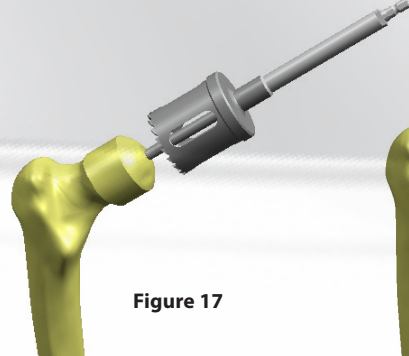


Figure 17

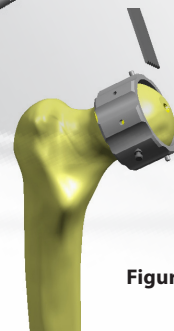


Figure 18

### Cylindrical Reaming

Connect the Cylindrical Reamer (48032136-48032156), with the Reamer Shaft (48032310). Start with the size that is one size bigger than the anticipated size. Place the Cylindrical Reamer over the Spigot and start reaming. Do not ream all the way with the first reamer (Figure 15 – 16).

**NOTE:** Determine the head neck junction with a rongeur. This junction can often be higher than the osteophytes show. This is important to preserve the soft tissue vascularity around the neck and avoid notching. Proceed with the reamer with the same size as the femoral component (Figure 17).

Remove the Spigot with the T-Handle Spigot Extractor (48032007). Remove any remaining osteophytes. If the osteophytes are attached to the soft tissue, do not tear them off but cut them off with a knife to protect vascularity of the tissues.

### Proximal Femoral Head Resection

Place the Cut-off Ring (48032244-48032256) over the femoral head at the level of the head neck junction so that its inferior margin covers all the reamed bone. If the resection ring is left to proud, there is a higher risk of fractures occurring. Use the Threaded Pin Driver (K0001205) to fixate the Cut-off Ring with by placing two Resection Guide pins (48032017) in the guide holes (Figure 18).

After the cut, remove the Resection Guide pins with the Pin Puller (18770140) and remove the Cut-off Ring.

**NOTE:** Typically, 3-8mm of bone is resected from the superior head. Because of the slight valgus orientation, more bone will be removed inferiorly. This cut determines leg length and offset.

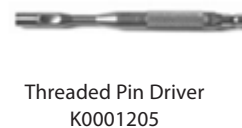




Figure 19

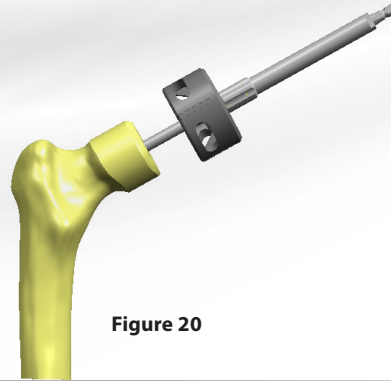


Figure 20

### Chamfer Cut

Place wet swabs around the femoral head and the wound.

Reinsert the Spigot (48032006). Connect the Reamer Shaft (48032310) with the Chamfer Angle Reamer (48032536-48032556) place it over the Spigot and start reaming (Figure 19-20).

**CAUTION:** High speed should be used by setting the power driver on “drill” rather than “ream”. Make sure that the drill is already turning when it makes contact with the bone as this produces less stress on the femoral head.

Remove the Spigot with the T-Handle Spigot Extractor (48032007).

### Cementless Conserve® Plus Femoral Component

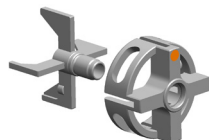
In case a cementless Conserve® Plus implant is used, replace the Tapered Spigot (48PF1308). Connect the reamer Shaft (48032310) with the Tapered Reamer Gauge (48PF1336-48PF1360). Place it over the Tapered Spigot and start reaming.



Spigot  
48032006



Reamer Shaft  
48032310



Chamfer Angle Reamer  
48032536-48032556



T-Handle  
Spigot Extractor  
48032007



Tapered Spigot  
48PF1308



Tapered Reamer Gauge  
48PF1336-48PF1360

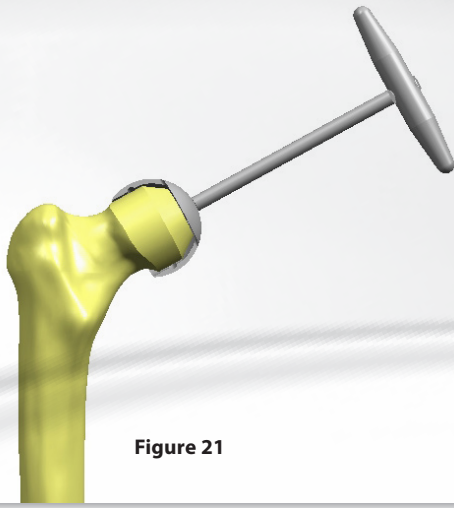


Figure 21

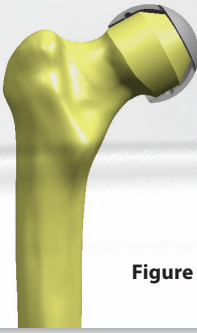


Figure 22

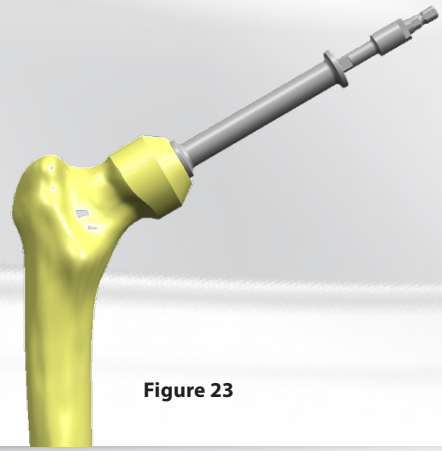


Figure 23

### Femoral Finishing

All cystic material and soft tissue should be removed from the prepared femoral head. If there is any remaining avascular bone or cartilage on the femoral head, remove this with a curette to obtain better integration of the cement. Use the Stem Starter Drill (48031018) to drill additional fixation holes in both the dome and the non-porous chamfered areas. Use extensive pulse lavage and suction to clean the femoral head properly.

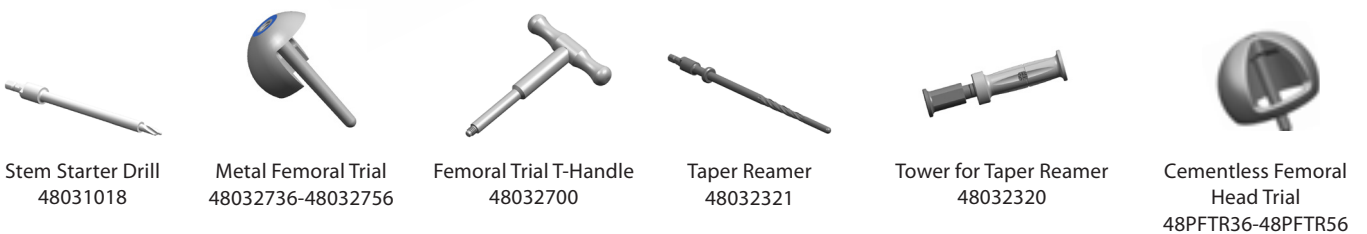
### Femoral Trial

Connect the Metal Femoral Trial (48032736-48032756) with the Femoral Trial T-Handle (48032700) and fit the trial head. The Femoral Trial should rotate freely around the femoral head (Figure 21-22). Mark the bottom edge with a surgical marker as a guide for terminal seating of the implant.

If the trial head is too tight to seat properly, use the Taper Reamer (48032321) to enlarge the drill hole slightly. This will prevent the need for extensive force to impact the definitive implant, which can lead to microfractures. The Tower for Taper Reamer (48032320) is placed over the Taper Reamer. The Tower is marked in 2mm increments. It is recommended to ream to the depth of the component. Drilling is achieved when the bone is flush with the top of the Tower (Figure 23).

### Cementless Conserve® Plus Femoral Component

In case a cementless Conserve® Plus implant is used, use the Cementless Femoral Head trial (48PFTR36-48PFTR56). No drill holes are made into the femoral head.



Stem Starter Drill  
48031018

Metal Femoral Trial  
48032736-48032756

Femoral Trial T-Handle  
48032700

Taper Reamer  
48032321

Tower for Taper Reamer  
48032320

Cementless Femoral  
Head Trial  
48PFTR36-48PFTR56



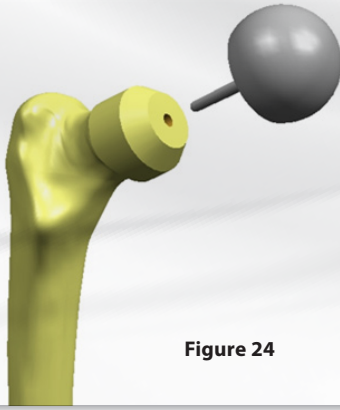


Figure 24

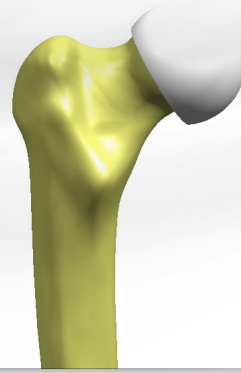


Figure 25

### Femoral Component Insertion

Place a swab around the head to avoid cement from entering the periarticular soft tissues. Prepare the low viscosity cement according to manufacturer's recommendation and fill the femoral component with cement just below the recessed groove and smoothed around all of the metallic surface. Use hand-pressurization to place the femoral component over the femoral head (Figure 24). Pressurize more vigorously where the bone is dense and less where it is osteopenic. Use the Femoral Head Impactor (4802BFHI) and hammer blows with light to medium force may be used to ensure that the femoral component is fully seated (Figure 25). Remove all excess cement.

**CAUTION:** Do not place an excess cement into the implant. This can result in too much pressure in the femoral head. While the cement is curing, use pulse lavage to cool down the temperature inside the femoral head.

### Cementless Conserve® Plus Femoral Component

Use hand-pressurization to place the femoral component over the femoral head. Use the Femoral Head Impactor (4802BFHI) and hammer blows with light to medium force may be used to ensure that the femoral component is fully seated.

### Hip Reduction and Closure

Clean the head and make sure all cement is properly removed. Check for any remaining osteophytes around the femoral neck that may be a cause for impingement, wear and early failure. Use extensive pulse lavage to wash out all debris.

Use the Lesser Trochanter Suction Tip Insert (48032900) to remove the Lesser Trochanter Suction Tip (48032901). Aim to reduce the hip before complete cement curing. This will help reduce the temperature in the femoral head and prevent thermal damage to the bone. Reduce the hip and perform a complete range of motion. Make a check for anterior impingement by bringing the leg in internal rotation and flexed in 90°.

Repair the piriformis and close the capsule. Proceed with wound closure.



Lesser Troch. Suction Tip  
48032901



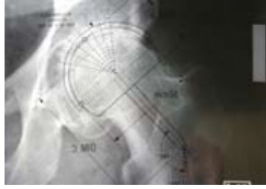
Femoral Head Impactor  
4802BFHI



Lesser Troch. Suction Tip Insert  
48032900

# Chapter 3

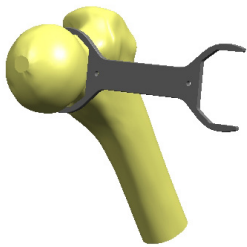
## TECHNIQUE OVERVIEW



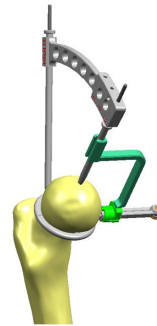
1. Templating and Exposure



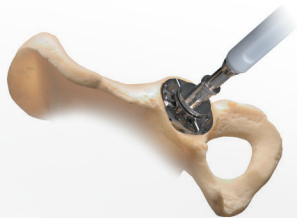
5. Acetabular Component Insertion



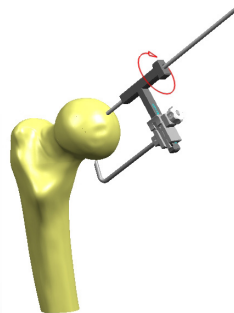
2. Femoral Head Sizing



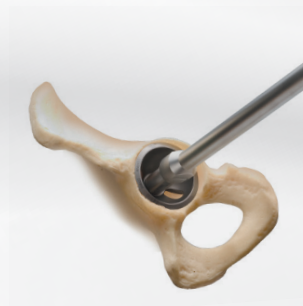
6. Central Pin Positioning



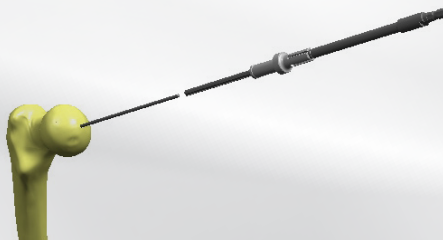
3. Acetabulum Preparation



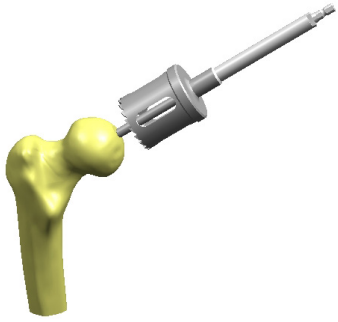
7. Central Pin Positioning Check



4. Acetabulum Component Trial



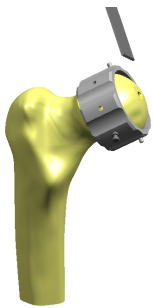
8. Spigot Placement



9. Cylindrical Reaming



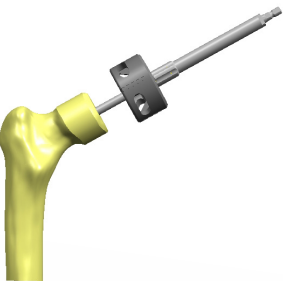
12. Femoral Trial



10. Proximal Femoral Head Resection



13. Femoral Component Insertion



11. Chamfer Cut

14. Hip Reduction and Closure

# Chapter 4

## ORDERING INFORMATION

### A - Implants

Conserve® Plus HA Coated Shells  
**38HAKITA**

| Catalog# | Description                                  |
|----------|--|
| 38HA3642 | CONSERVE® PLUS CUP 36mm ID 42mm OD HA COATED |
| 38HA3844 | CONSERVE® PLUS CUP 38mm ID 44mm OD HA COATED |
| 38HA4046 | CONSERVE® PLUS CUP 40mm ID 46mm OD HA COATED |
| 38HA4248 | CONSERVE® PLUS CUP 42mm ID 48mm OD HA COATED |
| 38HA4450 | CONSERVE® PLUS CUP 44mm ID 50mm OD HA COATED |
| 38HA4652 | CONSERVE® PLUS CUP 46mm ID 52mm OD HA COATED |
| 38HA4854 | CONSERVE® PLUS CUP 48mm ID 54mm OD HA COATED |
| 38HA5056 | CONSERVE® PLUS CUP 50mm ID 56mm OD HA COATED |
| 38HA5258 | CONSERVE® PLUS CUP 52mm ID 58mm OD HA COATED |
| 38HA5460 | CONSERVE® PLUS CUP 54mm ID 60mm OD HA COATED |
| 38HA5662 | CONSERVE® PLUS CUP 56mm ID 62mm OD HA COATED |
| 38HA5664 | CONSERVE® PLUS CUP 56mm ID 64mm OD HA COATED |

Conserve® Plus Shells  
**CNSVKITB**

| Catalog# | Description                               |
|----------|---|
| 38023642 | CONSERVE® PLUS CUP 36mm ID 42mm OD BEADED |
| 38023844 | CONSERVE® PLUS CUP 38mm ID 44mm OD BEADED |
| 38024046 | CONSERVE® PLUS CUP 40mm ID 46mm OD BEADED |
| 38024248 | CONSERVE® PLUS CUP 42mm ID 48mm OD BEADED |
| 38024450 | CONSERVE® PLUS CUP 44mm ID 50mm OD BEADED |
| 38024652 | CONSERVE® PLUS CUP 46mm ID 52mm OD BEADED |
| 38024854 | CONSERVE® PLUS CUP 48mm ID 54mm OD BEADED |
| 38025056 | CONSERVE® PLUS CUP 50mm ID 56mm OD BEADED |
| 38025258 | CONSERVE® PLUS CUP 52mm ID 58mm OD BEADED |
| 38025460 | CONSERVE® PLUS CUP 54mm ID 60mm OD BEADED |
| 38025662 | CONSERVE® PLUS CUP 56mm ID 62mm OD BEADED |
| 38025664 | CONSERVE® PLUS CUP 56mm ID 64mm OD BEADED |

## ORDERING INFORMATION

Conserve® Plus Femoral Heads

### 3803KITA

| Catalog# | Description                          | Diameter                 |
|----------|--------------------------------------|--------------------------|
| 38031036 | CONSERVE® PLUS CEMENTED FEMORAL HEAD | 36                       |
| 38031038 | CONSERVE® PLUS CEMENTED FEMORAL HEAD | 38                       |
| 38031040 | CONSERVE® PLUS CEMENTED FEMORAL HEAD | 40                       |
| 38031042 | CONSERVE® PLUS CEMENTED FEMORAL HEAD | 42                       |
| 38031044 | CONSERVE® PLUS CEMENTED FEMORAL HEAD | 44                       |
| 38031046 | CONSERVE® PLUS CEMENTED FEMORAL HEAD | 46                       |
| 38031048 | CONSERVE® PLUS CEMENTED FEMORAL HEAD | 48                       |
| 38031050 | CONSERVE® PLUS CEMENTED FEMORAL HEAD | 50                       |
| 38031052 | CONSERVE® PLUS CEMENTED FEMORAL HEAD | 52                       |
| 38031054 | CONSERVE® PLUS CEMENTED FEMORAL HEAD | 54                       |
| 38031056 | CONSERVE® PLUS CEMENTED FEMORAL HEAD | 56                       |
| 51561814 | STEINMANN PINS STYLE 4               | PLAIN SHANK TROCAR POINT |

Conserve® Plus Cementless Femoral Implant

### 5803KITA

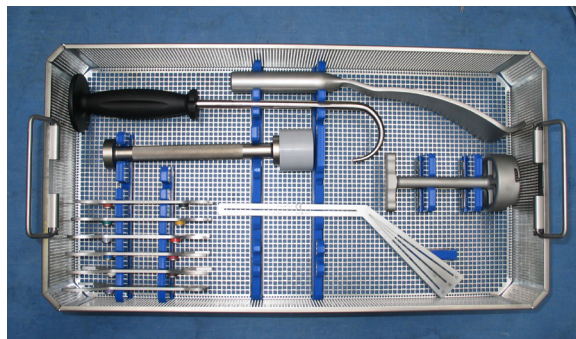
| Catalog# | Description                            | Diameter |
|----------|--|----------|
| 38PF1036 | CONSERVE® PLUS CEMENTLESS FEMORAL HEAD | 36       |
| 38PF1038 | CONSERVE® PLUS CEMENTLESS FEMORAL HEAD | 38       |
| 38PF1040 | CONSERVE® PLUS CEMENTLESS FEMORAL HEAD | 40       |
| 38PF1042 | CONSERVE® PLUS CEMENTLESS FEMORAL HEAD | 42       |
| 38PF1044 | CONSERVE® PLUS CEMENTLESS FEMORAL HEAD | 44       |
| 38PF1046 | CONSERVE® PLUS CEMENTLESS FEMORAL HEAD | 46       |
| 38PF1048 | CONSERVE® PLUS CEMENTLESS FEMORAL HEAD | 48       |
| 38PF1050 | CONSERVE® PLUS CEMENTLESS FEMORAL HEAD | 50       |
| 38PF1052 | CONSERVE® PLUS CEMENTLESS FEMORAL HEAD | 52       |
| 38PF1054 | CONSERVE® PLUS CEMENTLESS FEMORAL HEAD | 54       |
| 38PF1056 | CONSERVE® PLUS CEMENTLESS FEMORAL HEAD | 56       |

# ORDERING INFORMATION

## B - Instruments

Conserve® Plus Cementless Instrument Kit  
**APH04200**

| Catalog # | Description                                     | Quantity |
|-----------|---|----------|
| FNA00351  | CONTAINER 1 CONSERVE® PLUS BASIC INSTRUMENT     | 1        |
| 4802BH50  | CONSERVE® PLUS BONE HOOK 50MM                   | 1        |
| 48021012  | CONSERVE® FEMORAL NECK ELEVATOR                 | 1        |
| 48033638  | CONSERVE® PLUS SIZE 36/38 HEAD/NECK TEMPLATE    | 1        |
| 48034042  | CONSERVE® PLUS SIZE 40/42 HEAD/NECK TEMPLATE    | 1        |
| 48034446  | CONSERVE® PLUS SIZE 44/46 HEAD/NECK TEMPLATE    | 1        |
| 48034850  | CONSERVE® PLUS SIZE 48/50 HEAD/NECK TEMPLATE    | 1        |
| 48035254  | CONSERVE® PLUS SIZE 52/54 HEAD/NECK TEMPLATE    | 1        |
| 48035658  | CONSERVE® PLUS SIZE 56 HEAD/NECK TEMPLATE       | 1        |
| 48031001  | CONSERVE® PLUS GONIOMETER                       | 1        |
| 48032200  | CONSERVE® PLUS HANDLE RESECTION GUIDE STOP      | 1        |
| 4802BFHI  | FEMORAL HEAD IMPACTOR CONSERVE® TOTAL BFH       | 1        |
| 48032912  | CONSERVE® PLUS DESMET GONIOMETER                | 1        |
| 48032913  | CONSERVE® PLUS DESMET GONIOMETER BUSHING        | 1        |
| 48032320  | CONSERVE® PLUS TAPER REAMER GUIDE               | 1        |
| 48032321  | CONSERVE® PLUS TAPER REAMER                     | 1        |
| 48031026  | CONSERVE® PLUS SIZING RING GAUGE 2 LONGER SHAFT | 1        |



**Figure 26**

# ORDERING INFORMATION

| Catalog # | Description  | Quantity |
|-----------|--|----------|
| 48032016  | CONSERVE® PLUS 6.5MM CANNULATED REAMER                   | 1        |
| 48032100  | CONSERVE® PLUS NOTCH CHECKER                             | 1        |
| 18770140  | ORTHOLOC® PIN PULLER                                     | 1        |
| 48031003  | CONSERVE® PLUS PIN RELOCATOR                             | 1        |
| 48032006  | CONSERVE® 6.5MM SPIGOT                                   | 1        |
| 48032007  | CONSERVE® PLUS SPIGOT EXTRACTOR                          | 1        |
| 48032900  | CONSERVE® PLUS LESSER TROCH SUCTION TIP INSERTER         | 1        |
| 48032901  | CONSERVE® PLUS LESSER TROCH SUCTION TIP                  | 1        |
| 48032700  | CONSERVE® PLUS FEMORAL SIZING TRIAL EXTRACTOR            | 1        |
| 48032301  | CONSERVE® PLUS THREADED MODULAR REAMER SHAFT             | 1        |
| 48032017  | CONSERVE® PLUS ANTI-VIBRATION FIXATION PIN               | 3        |
| FNA00372  | CONSERVE® PLUS LID WITH 2 HANDLES FOR TRAY 1             | 1        |
| 48032008  | CONSERVE® PLUS TISSUE RETRACTOR PIN                      | 3        |
| 48032015  | CONSERVE® PLUS STARTER DRILL                             | 1        |
| 48032310  | CONSERVE® MODULAR LOCKING REAMER SHAFT                   | 2        |
| K0001205  | ODDYSEY® THREADED PIN DRIVER                             | 1        |
| 48031018  | CONSERVE® PLUS STEM STARTER DRILL                        | 1        |
| FNA00352  | TRAY 1 INLAY CONSERVE® PLUS SIZE 40/42 BASIC INSTRUMENTS | 1        |
| 48032002  | CONSERVE® PLUS GUIDE WIRE 3.2 X 260 MM                   | 4        |
| 18410213  | CALIPER  | OPTIONAL |
| 48031000  | PIN CENTERING DEVICE                                     | OPTIONAL |

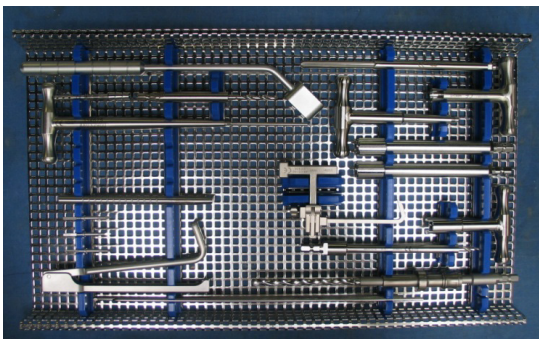


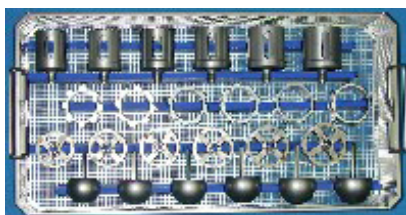
Figure 27

# ORDERING INFORMATION

## B - Instruments

Conserve® Plus Cementless Instrument Kit  
**APH04210**

| Catalog # | Description  | Quantity |
|-----------|--|----------|
| 48032144  | CONSERVE® PLUS CYLINDRICAL REAMER 1/2 MANTLE 44MM      | 1        |
| 48032146  | CONSERVE® PLUS CYLINDRICAL REAMER 1/2 MANTLE 46MM      | 1        |
| 48032148  | CONSERVE® PLUS CYLINDRICAL REAMER 1/2 MANTLE 48MM      | 1        |
| 48032150  | CONSERVE® PLUS CYLINDRICAL REAMER 1/2 MANTLE 50MM      | 1        |
| 48032152  | CONSERVE® PLUS CYLINDRICAL REAMER 1/2 MANTLE 52MM      | 1        |
| 48032154  | CONSERVE® PLUS CYLINDRICAL REAMER 1/2 MANTLE 54MM      | 1        |
| 48032244  | CONSERVE® PLUS 1/2 MANTLE 44MM FEMORAL RESECTION GUIDE | 1        |
| 48032246  | CONSERVE® PLUS 1/2 MANTLE 46MM FEMORAL RESECTION GUIDE | 1        |
| 48032248  | CONSERVE® PLUS 1/2 MANTLE 48MM FEMORAL RESECTION GUIDE | 1        |
| 48032250  | CONSERVE® PLUS 1/2 MANTLE 50MM FEMORAL RESECTION GUIDE | 1        |
| 48032252  | CONSERVE® PLUS 1/2 MANTLE 52MM FEMORAL RESECTION GUIDE | 1        |
| 48032254  | CONSERVE® PLUS 1/2 MANTLE 54MM FEMORAL RESECTION GUIDE | 1        |
| 48032544  | CONSERVE® PLUS CHAMFER REAMER HOUSING 44MM             | 1        |
| 48032546  | CONSERVE® PLUS CHAMFER REAMER HOUSING 46MM             | 1        |
| 48032548  | CONSERVE® PLUS CHAMFER REAMER HOUSING 48MM             | 1        |
| 48032550  | CONSERVE® PLUS CHAMFER REAMER HOUSING 50MM             | 1        |
| 48032552  | CONSERVE® PLUS CHAMFER REAMER HOUSING 52MM             | 1        |
| 48032554  | CONSERVE® PLUS CHAMFER REAMER HOUSING 54MM             | 1        |
| 48032744  | CONSERVE® PLUS THREADED 44MM FEMORAL SIZING TRIAL      | 1        |
| 48032746  | CONSERVE® PLUS THREADED 46MM FEMORAL SIZING TRIAL      | 1        |
| 48032748  | CONSERVE® PLUS THREADED 48MM FEMORAL SIZING TRIAL      | 1        |
| 48032750  | CONSERVE® PLUS THREADED 50MM FEMORAL SIZING TRIAL      | 1        |
| 48032752  | CONSERVE® PLUS THREADED 52MM FEMORAL SIZING TRIAL      | 1        |
| 48032754  | CONSERVE® PLUS THREADED 54MM FEMORAL SIZING TRIAL      | 1        |
| FNA00353  | CONTAINER 2 CONSERVE® PLUS CYLIND REAMER / TRIAL HEAD  | 1        |
| FNA00373  | LID WITH 2 HANDLES FOR TRAY 2 CONSERVE® PLUS           | 1        |



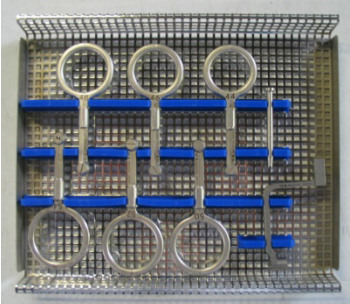
**Figure 28**



# ORDERING INFORMATION

Conserve® Plus Cementless Instrument Kit  
**APH04211**

| Catalog # | Description                                   | Quantity |
|-----------|---|----------|
| 48032944  | CONSERVE® PLUS CENTERING SIZE RING 44MM       | 1        |
| 48032946  | CONSERVE® PLUS CENTERING RING SIZE 46MM       | 1        |
| 48032910  | CONSERVE® PLUS CENTERING RING BUSHING SUPPORT | 1        |
| 48032911  | CONSERVE® PLUS CENTERING RING BUSHING         | 1        |
| FNA00354  | TRAY 2 INLAY CONSERVE® PLUS                   | 1        |
| 48032948  | CONSERVE® PLUS CENTERING RING SIZE 48MM       | 1        |
| 48032950  | CONSERVE® PLUS CENTERING RING SIZE 50MM       | 1        |
| 48032952  | CONSERVE® PLUS CENTERING RING SIZE 52MM       | 1        |
| 48032954  | CONSERVE® PLUS CENTERING RING SIZE 54MM       | 1        |



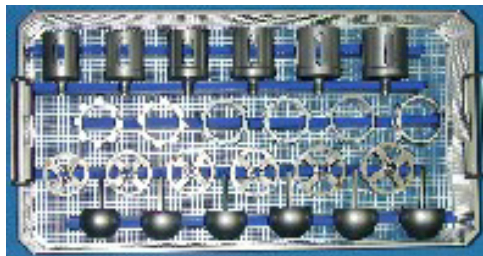
**Figure 29**

# ORDERING INFORMATION

## B - Instruments

Conserve® Plus Cementless Instrument Kit  
**APH04220**

| Catalog # | Description  | Quantity |
|-----------|--|----------|
| 48032136  | CONSERVE® PLUS CYLINDRICAL REAMER 1/2 MANTLE 36MM      | 1        |
| 48032138  | CONSERVE® PLUS CYLINDRICAL REAMER 1/2 MANTLE 38MM      | 1        |
| 48032140  | CONSERVE® PLUS CYLINDRICAL REAMER 1/2 MANTLE 40MM      | 1        |
| 48032142  | CONSERVE® PLUS CYLINDRICAL REAMER 1/2 MANTLE 42MM      | 1        |
| 48032156  | CONSERVE® PLUS CYLINDRICAL REAMER 1/2 MANTLE 56MM      | 1        |
| 48032158  | CONSERVE® PLUS CYLINDRICAL REAMER 1/2 MANTLE 58MM      | 1        |
| 48032236  | CONSERVE® PLUS 1/2 MANTLE 36MM FEMORAL RESECTION GUIDE | 1        |
| 48032238  | CONSERVE® PLUS 1/2 MANTLE 38MM FEMORAL RESECTION GUIDE | 1        |
| 48032240  | CONSERVE® PLUS 1/2 MANTLE 40MM FEMORAL RESECTION GUIDE | 1        |
| 48032242  | CONSERVE® PLUS 1/2 MANTLE 42MM FEMORAL RESECTION GUIDE | 1        |
| 48032256  | CONSERVE® PLUS 1/2 MANTLE 56MM FEMORAL RESECTION GUIDE | 1        |
| 48032536  | CONSERVE® PLUS CHAMFER REAMER HOUSING 36MM             | 1        |
| 48032538  | CONSERVE® PLUS CHAMFER REAMER HOUSING 38MM             | 1        |
| 48032540  | CONSERVE® PLUS CHAMFER REAMER HOUSING 40MM             | 1        |
| 48032542  | CONSERVE® PLUS CHAMFER REAMER HOUSING 42MM             | 1        |
| 48032556  | CONSERVE® PLUS CHAMFER REAMER HOUSING 56MM             | 1        |
| 48032736  | CONSERVE® PLUS THREADED 36MM FEMORAL SIZING TRIAL      | 1        |
| 48032738  | CONSERVE® PLUS THREADED 38MM FEMORAL SIZING TRIAL      | 1        |
| 48032740  | CONSERVE® PLUS THREADED 40MM FEMORAL SIZING TRIAL      | 1        |
| 48032742  | CONSERVE® PLUS THREADED 42MM FEMORAL SIZING TRIAL      | 1        |
| 48032756  | CONSERVE® PLUS THREADED 56MM FEMORAL SIZING TRIAL      | 1        |
| FNA00355  | CONTAINER 3 CONSERVE® PLUS                             | 1        |
| FNA00374  | LID WITH 2 HANDLES FOR TRAY 3 CONSERVE® PLUS           | 1        |

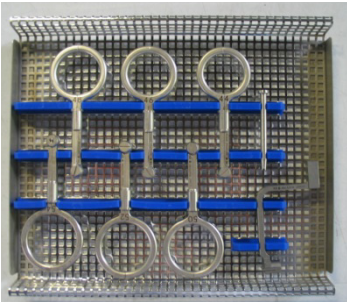


**Figure 30**

# ORDERING INFORMATION

Conserve® Plus Cementless Instrument Kit  
**APH04221**

| Catalog # | Description  | Quantity |
|-----------|--|----------|
| 48032934  | CONSERVE® PLUS CENTERING SIZE RING 34MM                | 1        |
| 48032936  | CONSERVE® PLUS CENTERING RING SIZE 36MM                | 1        |
| 48032938  | CONSERVE® PLUS CENTERING RING SIZE 38MM                | 1        |
| 48032940  | CONSERVE® PLUS CENTERING RING SIZE 40MM                | 1        |
| 48032942  | CONSERVE® PLUS CENTERING RING SIZE 42MM                | 1        |
| 48032956  | CONSERVE® PLUS CENTERING RING SIZE 56MM                | 1        |
| 48032910  | CONSERVE® PLUS CENTERING RING BUSHING SUPPORT          | 1        |
| 48032911  | CONSERVE® PLUS CENTERING RING BUSHING                  | 1        |
| FNA00356  | TRAY 3 INLAY CONSERVE® PLUS CENTERING RING "LOLLIPOPS" | 1        |



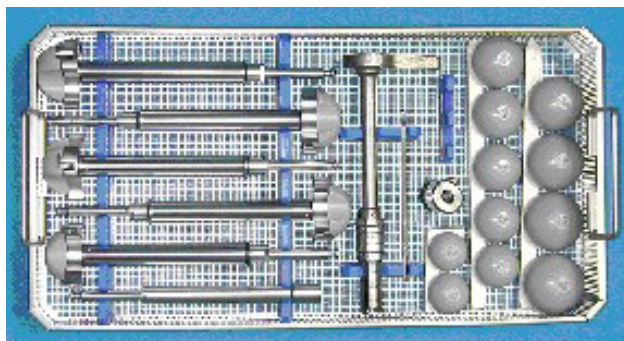
**Figure 31**

# ORDERING INFORMATION

## B - Instruments

Conserve® Plus Cementless Instrument Kit  
**APH04230**

| Catalog # | Description  | Quantity |
|-----------|--|----------|
| PPW38094  | PROFEMUR® DISTAL BROACH HANDLE NEW DESIGN + 20MM           | 1        |
| 4802AG00  | CONSERVE® PLUS 15 DEGREE FIXED ALIGNMENT GUIDE             | 1        |
| 41103600  | CONSERVE® TOTAL HEAD TRIAL 36MM                            | 1        |
| 41103800  | CONSERVE® TOTAL HEAD TRIAL 38MM                            | 1        |
| 41104000  | CONSERVE® TOTAL HEAD TRIAL 40MM                            | 1        |
| 41104200  | CONSERVE® TOTAL HEAD TRIAL 42MM                            | 1        |
| 41104400  | CONSERVE® TOTAL HEAD TRIAL 44MM                            | 1        |
| 41104600  | CONSERVE® TOTAL HEAD TRIAL 46MM                            | 1        |
| 41104800  | CONSERVE® TOTAL HEAD TRIAL 48MM                            | 1        |
| 41105000  | CONSERVE® TOTAL HEAD TRIAL 50MM                            | 1        |
| 41105200  | CONSERVE® TOTAL HEAD TRIAL 52MM                            | 1        |
| 41105400  | CONSERVE® TOTAL HEAD TRIAL 54MM                            | 1        |
| 41105600  | CONSERVE® TOTAL HEAD TRIAL 56MM                            | 1        |
| 48031020  | CONSERVE® PLUS SECONDARY IMPACTOR ADAPTOR                  | 1        |
| 48LP48ID  | CONSERVE® LOW PROFILE IMPACTOR / EXTRACTOR 48ID            | 1        |
| 48LP50ID  | CONSERVE® LOW PROFILE IMPACTOR / EXTRACTOR 50ID            | 1        |
| 48LP52ID  | CONSERVE® LOW PROFILE IMPACTOR / EXTRACTOR 52ID            | 1        |
| 48LP54ID  | CONSERVE® LOW PROFILE IMPACTOR / EXTRACTOR 54ID            | 1        |
| 48LP56ID  | CONSERVE® LOW PROFILE IMPACTOR / EXTRACTOR 56ID            | 1        |
| FNA00375  | LID WITH 2 HANDLES FOR TRAY 4 CONSERVE® PLUS               | 1        |
| FNA00357  | CONTAINERS 5 CONSERVE® PLUS CUP INSERTION INST + CUP TRIAL | 1        |

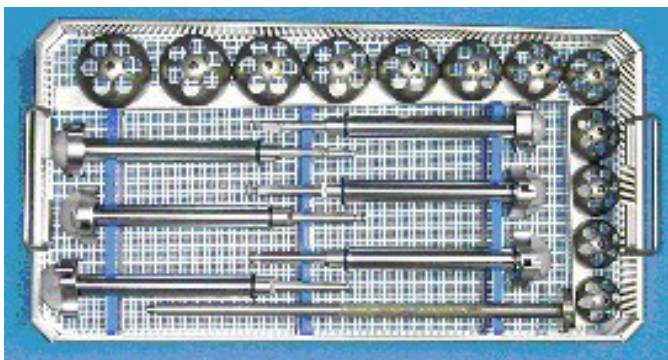


**Figure 32**

# ORDERING INFORMATION

Conserve® Plus Cementless Instrument Kit  
**APH04240**

| Catalog # | Description   | Quantity |
|-----------|---|----------|
| PPR68030  | TRIAL CUP HANDLE  | 1        |
| 48032842  | CONSERVE® PLUS 42MM OD TRIAL CUP W/HOLES                  | 1        |
| 48032844  | CONSERVE® PLUS 44MM OD TRIAL CUP W/HOLES                  | 1        |
| 48032846  | CONSERVE® PLUS 46MM OD TRIAL CUP W/HOLES                  | 1        |
| 48032848  | CONSERVE® PLUS 48MM OD TRIAL CUP W/HOLES                  | 1        |
| 48032850  | CONSERVE® PLUS 50MM OD TRIAL CUP W/HOLES                  | 1        |
| 48032852  | CONSERVE® PLUS 52MM OD TRIAL CUP W/HOLES                  | 1        |
| 48032854  | CONSERVE® PLUS 54MM OD TRIAL CUP W/HOLES                  | 1        |
| 48032856  | CONSERVE® PLUS 56MM OD TRIAL CUP W/HOLES                  | 1        |
| 48032858  | CONSERVE® PLUS 58MM OD TRIAL CUP W/HOLES                  | 1        |
| 48032860  | CONSERVE® PLUS 60MM OD TRIAL CUP W/HOLES                  | 1        |
| 48032862  | CONSERVE® PLUS 62MM OD TRIAL CUP W/HOLES                  | 1        |
| 48032864  | CONSERVE® PLUS 64MM OD TRIAL CUP W/HOLES                  | 1        |
| 48LP36ID  | CONSERVE® LOW PROFILE IMPACTOR / EXTRACTOR 36ID           | 1        |
| 48LP38ID  | CONSERVE® LOW PROFILE IMPACTOR / EXTRACTOR 38ID           | 1        |
| 48LP40ID  | CONSERVE® LOW PROFILE IMPACTOR / EXTRACTOR 40ID           | 1        |
| 48LP42ID  | CONSERVE® LOW PROFILE IMPACTOR / EXTRACTOR 42ID           | 1        |
| 48LP44ID  | CONSERVE® LOW PROFILE IMPACTOR / EXTRACTOR 44ID           | 1        |
| 48LP46ID  | CONSERVE® LOW PROFILE IMPACTOR / EXTRACTOR 46ID           | 1        |
| FNA00358  | CONTAINERS 4 CONSERVE® PLUS CUP INSERTION INST + BFH® TRL | 1        |
| FNA00376  | LID WITH 2 HANDLES FOR TRAY 5 CONSERVE® PLUS              | 1        |



**Figure 33**

# ORDERING INFORMATION

## B - Instruments

Conserve® Plus Cementless Instrument Kit  
**5803KIT5**

| Catalog# | Description                                     | Quantity |
|----------|---|----------|
| 48PF1200 | CONSERVE® CEMENTLESS STEM REAMER GUIDE          | 1        |
| 48PF1016 | CONSERVE® CEMENTLESS STEM REAMER                | 1        |
| 48PF1308 | CONSERVE® CEMENTLESS TAPER SPIGOT               | 1        |
| 48PF1208 | CONSERVE® CEMENTLESS PLANER                     | 1        |
| 48PF1336 | CONSERVE® CEMENTLESS 36MM TAPERED REAMER        | 1        |
| 48PF1338 | CONSERVE® CEMENTLESS 38 MM TAPERED REAMER       | 1        |
| 48PF1340 | CONSERVE® CEMENTLESS 40MM TAPERED REAMER        | 1        |
| 48PF1342 | CONSERVE® CEMENTLESS 42MM TAPERED REAMER        | 1        |
| 48PF1344 | CONSERVE® CEMENTLESS 44MM TAPERED REAMER        | 1        |
| 48PF1348 | CONSERVE® CEMENTLESS 48MM TAPERED REAMER        | 1        |
| 48PF1350 | CONSERVE® CEMENTLESS 50MM TAPERED REAMER        | 1        |
| 48PF1352 | CONSERVE® CEMENTLESS 52MM TAPERED REAMER        | 1        |
| 48PF1354 | CONSERVE® CEMENTLESS 54MM TAPERED REAMER        | 1        |
| 48PF1356 | CONSERVE® CEMENTLESS 56MM TAPERED REAMER        | 1        |
| 48PF1358 | CONSERVE® CEMENTLESS 58MM TAPERED REAMER        | 1        |
| 48PF1360 | CONSERVE® CEMENTLESS 60MM TAPERED REAMER        | 1        |
| 48032310 | CONSERVE® MODULAR LOCKING REAMER SHAFT          | 1        |
| 3802TRA1 | CONSERVE® CEMENTLESS TRAY                       | 1        |
| 51561814 | STEINMANN PINS STYLE 4 PLAIN SHANK TROCAR POINT | 2        |
| 48PF1346 | CONSERVE® CEMENTLESS 46MM TAPERED REAMER        | 1        |
| 48032007 | CONSERVE® SPIGOT EXTRACTOR                      | 1        |
| 150802   | PKG INSRT MPO INSTRUMENT CLEANING/HANDLING      | 1        |

## ORDERING INFORMATION

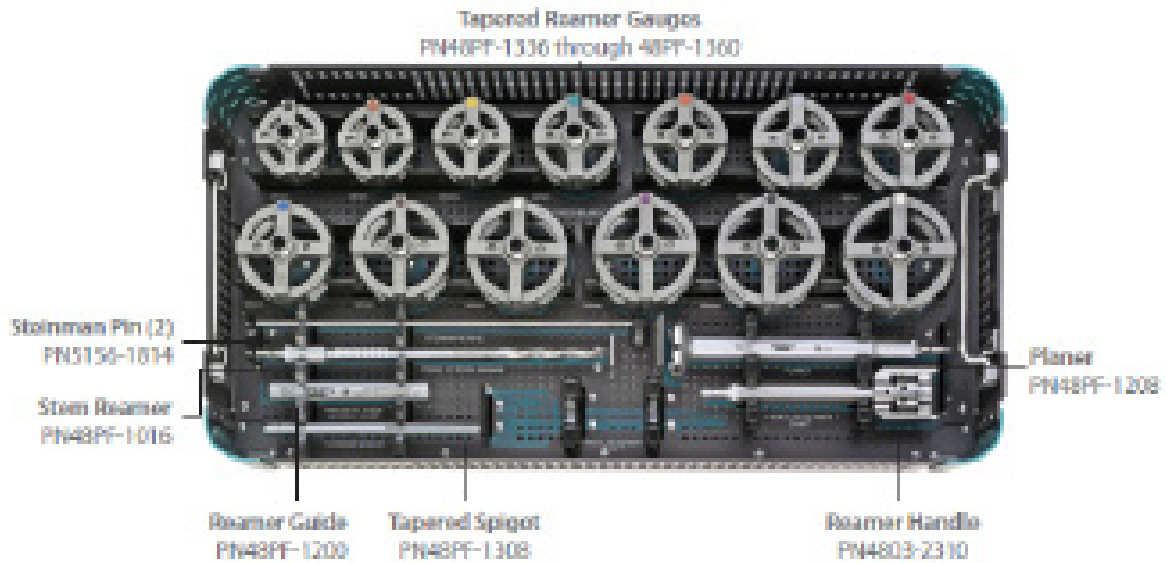


Figure 34



# Chapter 5

## INDICATIONS AND WARNINGS

### Indications for Use

CONSERVE® Femoral Resurfacing Component/Head is indicated for use in resurfacing of the femoral head for reduction or relief of pain and/or improved hip function in skeletally mature patients with non-inflammatory degenerative joint disease such as osteoarthritis, avascular necrosis, ankylosis, protrusion acetabuli, and painful hip dysplasia.

Titanium plasma spray coatings applied to implant surfaces are intended for uncemented arthroplasty.

CONSERVE® acetabular shells are intended for use in total hip arthroplasty for reduction or relief of pain and/or improved hip function in skeletally mature patients with the following indications.

- 1) non-inflammatory degenerative joint disease such as osteoarthritis, avascular necrosis, ankylosis, protrusion acetabuli, and painful hip dysplasia;
- 2) inflammatory degenerative joint disease such as rheumatoid arthritis;
- 3) correction of functional deformity; and,
- 4) revision procedures where other treatments or devices have failed

CONSERVE® shells are intended only for uncemented arthroplasty, with the exception of those shells possessing screw holes for additional screw fixation, which may be used in either cemented or uncemented arthroplasty.

### (Canada Only)

CONSERVE® Plus and CONSERVE® A-CLASS Total Resurfacing Systems are technically demanding surgeries. Therefore, they should only be performed by surgeons having previous experience with more than 50 total hip resurfacing surgeries.

### Contraindications

Patients should be warned of these contraindications.

Contraindications include:

- 1) overt infection;
- 2) distant foci of infections (which may cause hematogenous spread to the implant site);
- 3) rapid disease progression as manifested by joint destruction or bone absorption apparent on roentgenogram;
- 4) skeletally immature patients (patient is less than 21 years of age at the time of surgery);
- 5) cases where there is inadequate neuromuscular status (e.g., prior paralysis, fusion and/or inadequate abductor strength), poor bone stock, poor skin coverage around the joint which would make the procedure unjustifiable;
- 6) neuropathic joints;
- 7) hepatitis or HIV infection;
- 8) neurological or musculoskeletal disease that may adversely affect gait or weight-bearing.

Additional contraindications for the “CONSERVE® Femoral Resurfacing Component/Head” include:

- 1) inflammatory degenerative joint disease;
- 2) severe osteopenia.

Additional contraindications for a metal-on-metal bearing include:

- 1) Patients with known moderate to severe renal insufficiency;
- 2) Females of childbearing age are contraindicated due to the unknown effects of elevated levels of metal ions on the foetus.



### **Product-specific warnings and Precautions**

Conditions presenting increased risk of failure for the CONSERVE® and CONSERVE® A-CLASS® Femoral Resurfacing Component/Head include:

- 1) significant leg length discrepancy; and,
- 2) presence of multiple cysts in the femoral head.

The potential long-term biological effects of metal wear debris and metal ion production are not known. Questions regarding carcinogenicity have been raised in literature; no studies have conclusive evidence that metal wear debris or metal ions are carcinogenic.

**NEVER** combine modular or hard bearing components made by different manufacturers. Metal/metal articulating combinations should only combine bearing components from a single manufacturer to ensure the two components possess compatible manufacturing tolerances. Acetabular Fixation Screws. Perforation of the pelvis with dome fixation screws or rim screws is to be completely avoided. Care is to be used when determining and selecting the proper length of screws to be used to prevent perforation of the pelvis.

#### **(Canada Only)**

CONSERVE® Metal-on-Metal Hip Replacement. Proper positioning of the acetabular component is imperative. Care is to be used to ensure that the acetabular cup is placed so that the anteversion angle is within  $\pm 10^\circ$  of  $15^\circ$ .

#### **(Canada Only)**

Suboptimal conditions for a CONSERVE® and CONSERVE® A-CLASS® Femoral Resurfacing Component/Head bearing include:

- 1) Males  $\geq 60$  years of age;
- 2) Femoral Head size  $< 48\text{mm}$ ;
- 3) ASA grade  $> 2$ .

### **Important**

Prior to use of the system, the surgeon should refer to the product package insert for additional warnings, precautions, indications, contraindications and adverse effects. Instructions For Use package inserts are also available by contacting the manufacturer. Contact information can be found on the back of this Surgical Technique and the Instructions For Use package inserts are available under Prescribing on the website listed.



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