Surgical Technique

smith&nephew

# R3°

## Acetabular System

INTENDED FOR NON-US USE ONLY

# Design surgeon list

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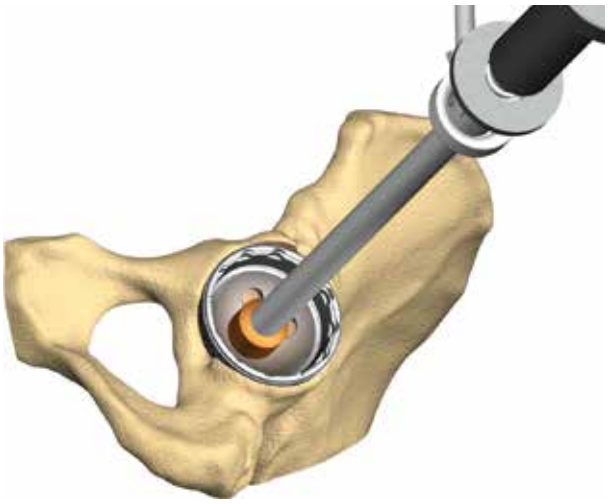
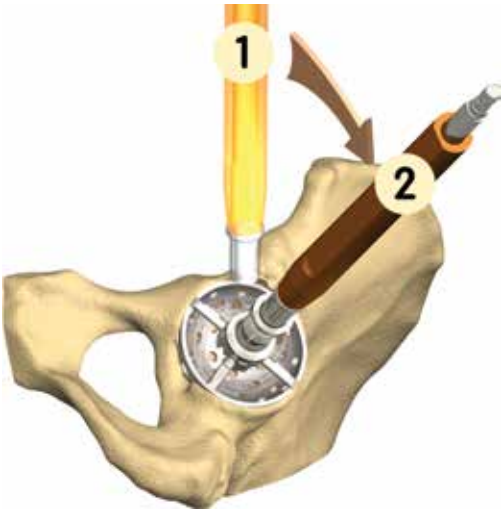
***Nota Bene:*** *The technique description herein is made available to the healthcare professional to illustrate the authors' suggested treatment for the uncomplicated procedure. In the final analysis, the preferred treatment is that which addresses the needs of the patient.*

# Short technique


1. Preoperative planning

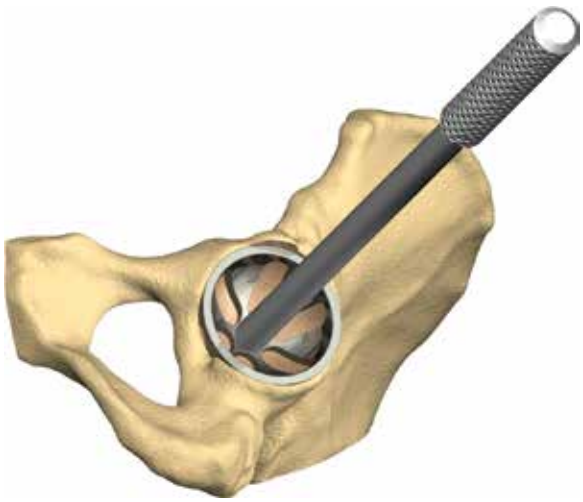


4.Shell insertion

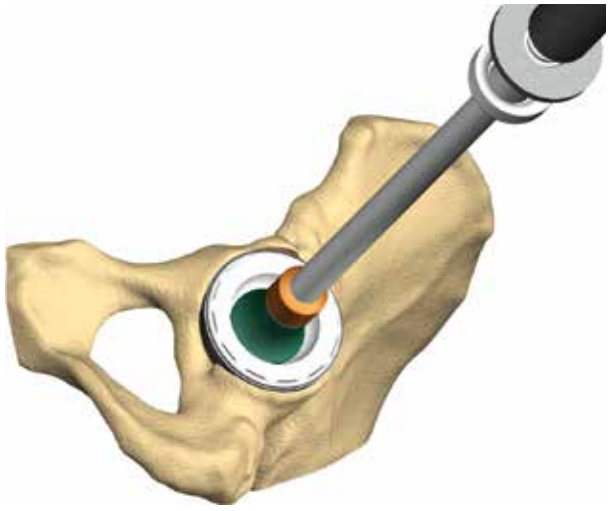



2.Acetabular reaming

5.Acetabular screw insertion



3.Acetabular trialing



6.Acetabular poly liner insertion

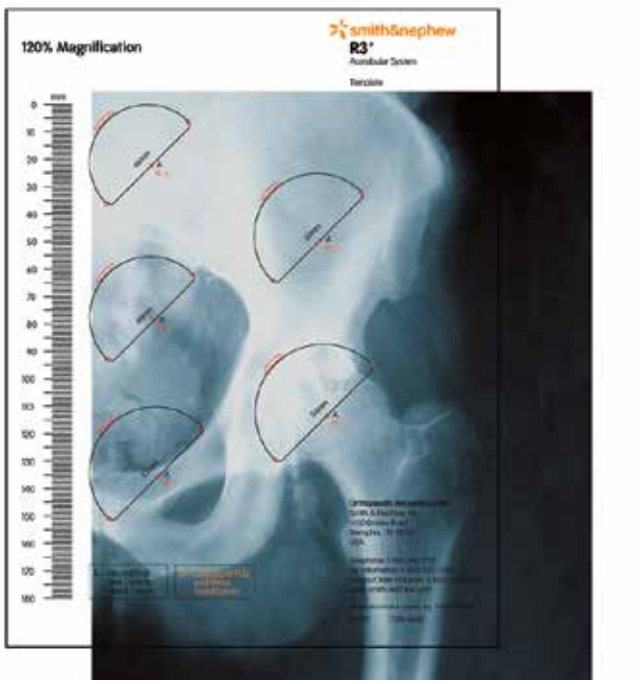
# Preoperative planning

Preoperative X-Rays should include an A/P of the pelvis centered over the symphysis and an A/P and lateral of the affected hip.

Templating can be done on the affected side, but it is important that the contralateral hip also be templated to verify the size.

To ensure a congruent fit, the acetabular component should be medialized to the medial aspect of the acetabulum, as indicated by the teardrop.

The center of rotation also should be marked for subsequent reference.




# Acetabular exposure

Complete exposure of the acetabulum is required, regardless of the type of approach. Use the approach with which you are most familiar and achieve the best surgical results.

First, resect the acetabular labrum and place a blunt retractor anteriorly.

After identifying the transverse acetabular ligament, place a blunt retractor around the inferior margin of the acetabulum.

Depending on the exposure, a third retractor can be placed posteriorly following the excision of the labrum.

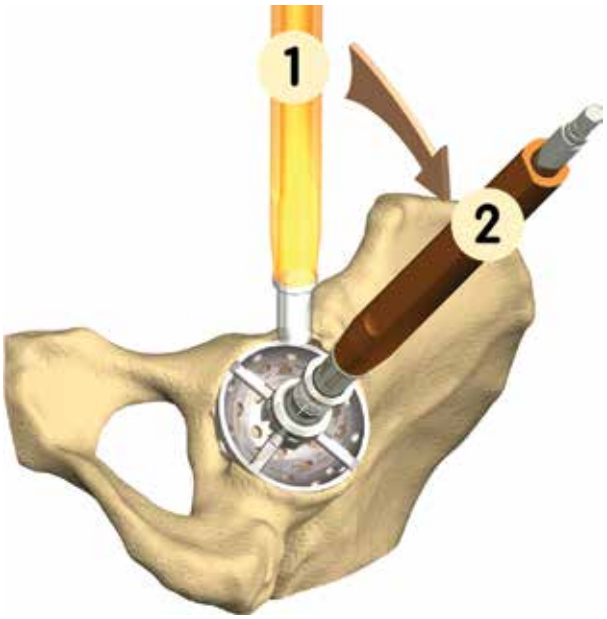
Remove all overhanging soft tissue and osteophytes in order to visualize the entire acetabular socket.

The acetabulum should be medialized to restore the normal center of hip rotation.

**Surgical tips:**

- To minimize the need of assistance, each of the acetabular retractors can be tied directly to a Charnley retractor.
- Dividing the transverse acetabular ligament will allow reaming to begin inferiorly, preventing the tendency of the reamer to migrate superiorly.
- Removal of soft tissue and overhanging osteophytes from the foveal notch aids visualization of the quadralateral plate and the depth that the acetabulum should be reamed.

# Acetabular reaming




Select an acetabular reamer that is considerably smaller than the templated size of the cup. Generally, reaming 6-8mm lower than the templated size is suitable.

Position the initial reamer in a vertical direction (1) to ensure the reamer is taken down to the medial wall.

Direct the second reamer and all subsequent reamers in approximately 45° of abduction and 20° of anteversion for final position of the acetabular component (2).

Preserve subchondral bone to provide good support for the prosthesis. This might mean the reamer will not be medialized all the way to the inner wall. One might suggest leaving some remaining subchondral bone and removing the medial bone that is osteophyte and is covering fatty tissue.

Frequently palpate the posterior and anterior walls of the acetabulum during the reaming process as these walls will determine the largest acetabular size that can be accommodated. Avoid allowing the reamer to drift posteriorly where the bone might be less dense and the path of least resistance for the reamer.

To press-fit an R3◇ acetabular shell the acetabulum can either be under-reamed by 1mm or may be reamed line-to-line depending on the bone quality and size of the acetabulum.

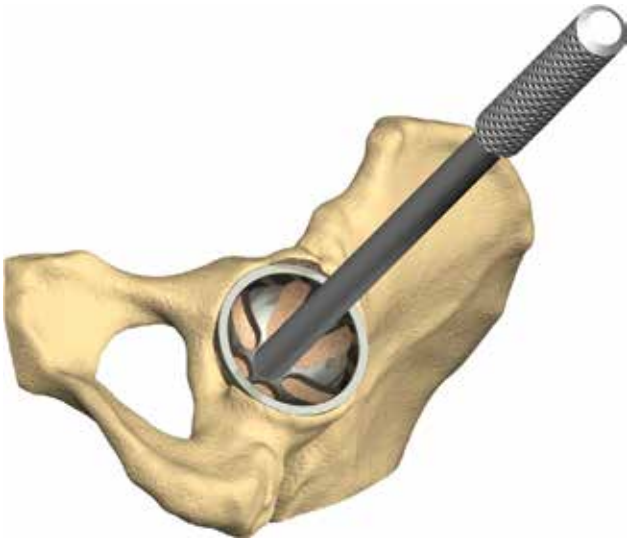
**Surgical tips:**

- Each successive reamer must be fully seated within the acetabulum. Failure to do so will result in lateralization of the trial and exposure of the porous coating. If lateralization occurs, go back to a smaller reamer and begin again, checking each size to ensure that the reamers are fully seated.
- Increasing the reamer size by 2mm is recommended, although in smaller patients 1mm increments may be preferred.
- Mark the medial wall with an electrocautery prior to using the last reamer. If the last reamer does not remove the mark, repeat reaming, dropping back a size if necessary.

**Instrument tips:**

- The acetabular reamer has an open back, which helps visualize reaming and allows easy access to bone chips. This style of reamer is hemispherical and when fully seated it should be covered by the rim of the acetabulum.
- Gently rock reamer handle back and forth approximately 5° for last size used only to ensure rim is accurate for the desired press-fit.

# Acetabular trialing



After preparing the acetabulum, the trial shell should be inserted to verify size and position of the cup. The surgeon should note the appropriate orientation of the acetabular trial to position the cup correctly.

A trial liner insert cannot be inserted into a trial shell for trial reduction.

If trial reduction using a trial insert is desired at this time, then the preparation of the femur should occur up until the trial reduction stage. The surgeon then has the option of inserting a trial acetabular liner (preferred) in the acetabular implant for subsequent leg length, offset and stability assessments or the real acetabular insert.

**Surgical tip:**

- The bone at the edge of the trial shell can be marked with an electrocautery to help in final component positioning.

**Instrument tip:**

- The trial shells are the exact size specified. They can be used to assess the accuracy of reaming or can be press-fit into the acetabulum if using a larger size than the final reamer.

# Acetabular shell insertion

Select the appropriate acetabular implant, attach the shell to the cup positioner/impactor and insert it into the acetabulum.

Rotate the X-Bar shaft so that it is in line with the liner removal slot. For the THREE HOLE cup, this positions the three holes in the superior direction. When implanting a MULTI HOLE shell, future access to the liner removal slot should be considered.

Position the X-Bar so that the vertical bar is perpendicular to the long axis of the body and the appropriate crossbar (left or right) aligns with the long axis of the body.

Firmly tap the inserter with a mallet until the cup is fully seated.

Gently toggle the impactor handle to assess the stability and contact of the shell.

Remove the X-Bar, then disengage the impactor handle and look through the impactor hole to judge the distance between the medial wall and the shell.

If the cup is firmly seated, there should be no gap between the shell and the medial wall and no apparent movement in the component.

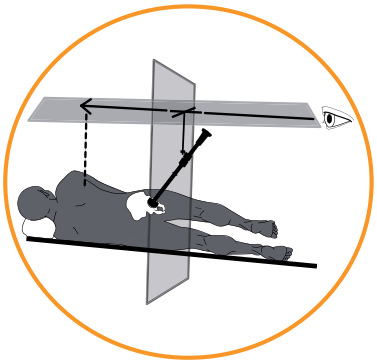
**Specific to shells for R3° acetabular ceramic liners:**
Proper range of motion is critical for implant longevity. If any repositioning of the shell is required, it should only be performed using the shell positioner. Any use of a punch, osteotome or other instrument on the shell's rim could result in damage to the taper section and compromise the integrity of the shell and ceramic liner mating and lead to liner fracture. It is important to protect the shell's rim and inner taper from any damage during implantation.

**Surgical tips:**

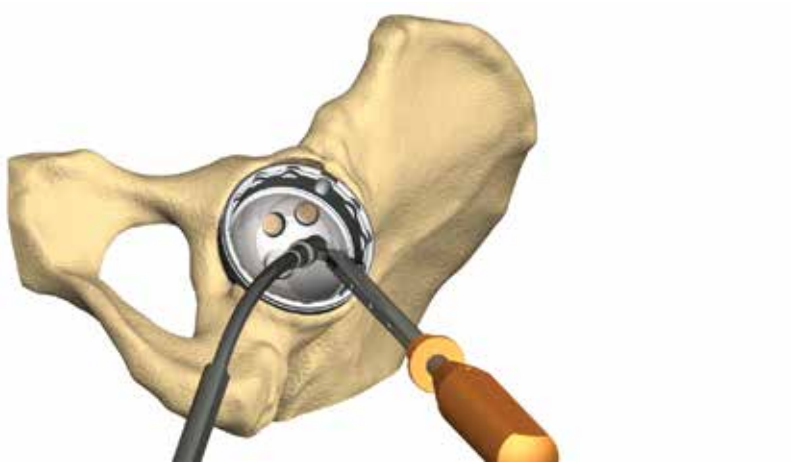
- The change in pitch that occurs as the shell is seated against the medial wall is often audible. A depth gauge can be inserted through the screw holes and apex hole to determine the adequacy of shell seating.
- Close attention should be paid to initial positioning of the R3 shell. However, the use of the slap hammer may be helpful in extracting the shell for repositioning.

**Instrument tips:**

- The plastic tip on the cup impactor is removable for cleaning, or replacement if damaged.
- The X-Bar references 45° of abduction and 20° of anteversion .



# Acetabular screw insertion



Screw fixation is simple, fast and the most common method of assuring additional fixation. Acetabular screws work in compression, which allows the shell to fully seat in the acetabular cavity.

For screw fixation, each screw hole must be predrilled. Using the variable angle drill guide, adjust the angle of the tip to align with the selected screw hole and **press firmly in the shell**. After drilling the hole, use the depth gauge to verify appropriate screw length(s).

Use the screw forceps to hold the screw. Attach the ball-joint or flexible screwdriver shaft to the end of the screw. Then introduce the screw into the hole and screw it into place using the ratcheting screwdriver handle. Make sure the screw is fully seated within the screw hole so that it will not impinge on the acetabular shell/liner.

**Surgical tip:**

- Screws have been shown to be a reliable method of assuring fixation; however, it is important to avoid neurovascular complications by proper screw placement, avoiding the anterior/superior or anterior/inferior quadrants.

# R3◇ Acetabular Liner insertion

A trial reduction should be performed with the final shell and broach in place to appropriately assess head length, stem offset, liner style and position. With XLPE liners, use of 'skirted' modular heads should be avoided when possible to maximize range of motion.

Before inserting the R3 acetabular liner, lavage any unused holes and insert the hole covers, if desired. Using the angled hole cover inserter, place screw hole covers over any remaining screw holes and then impact with the peg impactor. Cover the apex hole with the threaded hole cover. Using the straight screwdriver, screw in the hole cover until it stops and is flush with the inner diameter of the shell.

For XLPE liner insertion, screw the appropriate sized liner impactor head on the end of the cup impactor handle and ensure that the tabs on the liner are aligned with the indentions in the shell. Ensure all soft tissue and osteophytes have been removed from the periphery of the shell to avoid interference with the liner lock.

Wipe the shell ID with a lap sponge or gauze until clean and dry. **Press the liner impactor firmly** until liner is partially locked. Then use light, repetitive impacts with the mallet until the liner is fully seated.

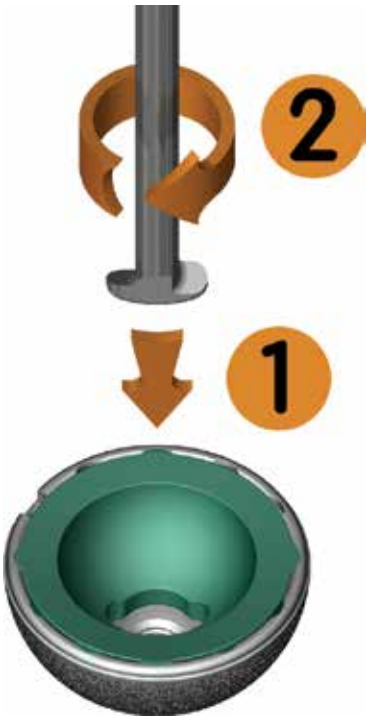
Inspect the liner/shell interface for proper seating. The liner should sit flush with the face of the shell.

**Surgical tips:**

- Running a finger around the circumference of the shell and a visual check will help determine if the liner is flush with the shell face.
- The XLPE liner requires an impaction force between 60 and 120 pounds, increasing with the diameter of the shell.
- The XLPE liner can be removed and repositioned once without compromising the locking mechanism of the liner. To remove R3 liners, insert the liner removal tool fully into the removal slot and pry or impact the liner loose.

**Instrument tips:**

- The liner trials are designed with flexible locking tabs around the periphery that is a quick-snap design. Align tabs with indentions and snap into position. **Do not force trial.** The trial liners are removed with the trial liner removal tool via the removal slot at the apex of the trial liner and a clockwise twist of the removal tool.



## R3 Hard Bearing insertion

R3 Hard Bearings come preassembled with a disposable single-use Hard Bearing Alignment Guide. The liner/alignment guide assembly is then introduced by hand and sits flush on the face of the shell. The liner must be checked for proper orientation. Verification of proper liner seating in the shell should be confirmed by both a visual check to see that the insertion ring is sitting on the shell face and a manual check with the fingers to feel that the ring does not rock on the face of the shell. Do not impact the liner if it is not oriented properly, as this can damage the shell and/or locking mechanism. Once orientation has been confirmed, impact the liner into place using the appropriate sized liner impactor head placed on the shell positioner/impactor. Once impacted, the alignment guide will disengage onto the shell positioner/impactor and should be removed at that time.*

**Surgical tip:**

- It may prove helpful to rotate the liner/guide slightly to ensure soft tissues and osteophytes are clear.

*** Cautionary Statement**
Be sure to remove the disposable Hard Bearing Alignment Guide. It is not intended for implantation.

In the event that the Hard Bearing Alignment Guide is disengaged from the liner, the alignment guide should be reassembled to the liner before implantation. This is accomplished by taking the disposable alignment guide and placing it upside down on the back table. The liner can then be placed upside down on the alignment guide such that the peripheral rim is sitting on the alignment guide. Simply push the liner onto the guide until the insertion ring locks snugly on the liner. The assembly is ready for placement in the shell.

## Specific to R3° ceramic liners

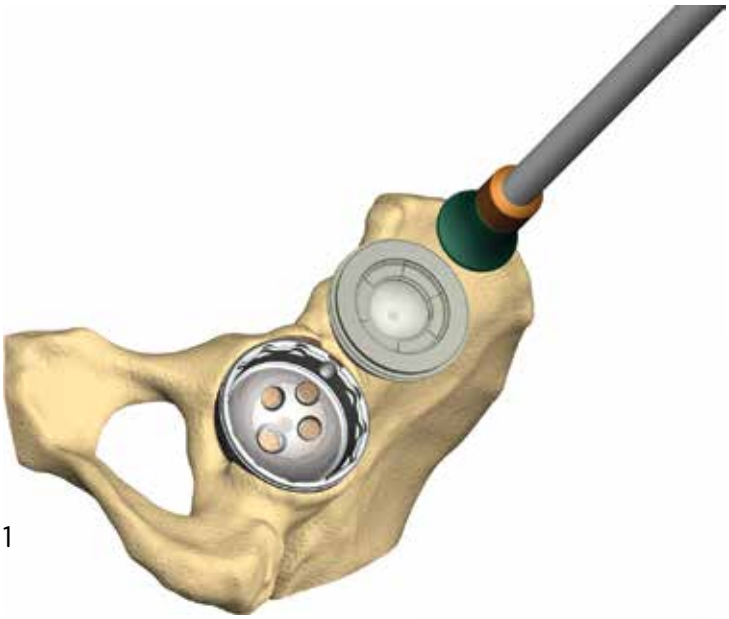
Use extreme care in handling and storage of ceramic implant components. Damage to components may induce internal stresses that are not obvious to the observer, and it may lead to premature failure of the component. Before use of ceramic implants, carefully examine each component for indications of damage that may have occurred during shipping or prior in-hospital handling. All surfaces should be smooth without pitting, scratches or other surface irregularities.

Only Smith & Nephew ceramic femoral heads can be used with the R3 ceramic acetabular liners. Do not mix the ceramic liner or ceramic head with any other manufacturer's acetabular shell or stem, respectively. Use the appropriate size head and liner only. A sizing mismatch may result in premature implant failure. Once the liner or the head are impacted, the ridges machined into the metal taper deform. If, for any reason, the ceramic femoral head is removed, the metal stem taper cannot be reused with a ceramic component. If the R3 ceramic liner is removed, a new R3 ceramic liner must be used.

**Surgical tip:**

- Should a correction or revision of a R3 ceramic liner be necessary, a new R3 ceramic insert must be used.
- The ceramic liner can be removed by placing the liner removal tool in the removal slot and prying (or impacting if necessary) the liner loose.

# Hard Bearing Liner insertion



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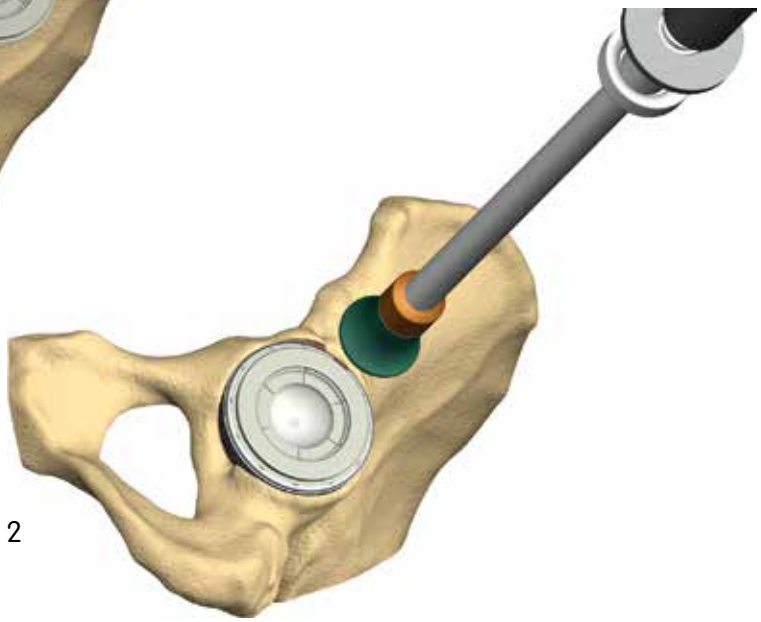

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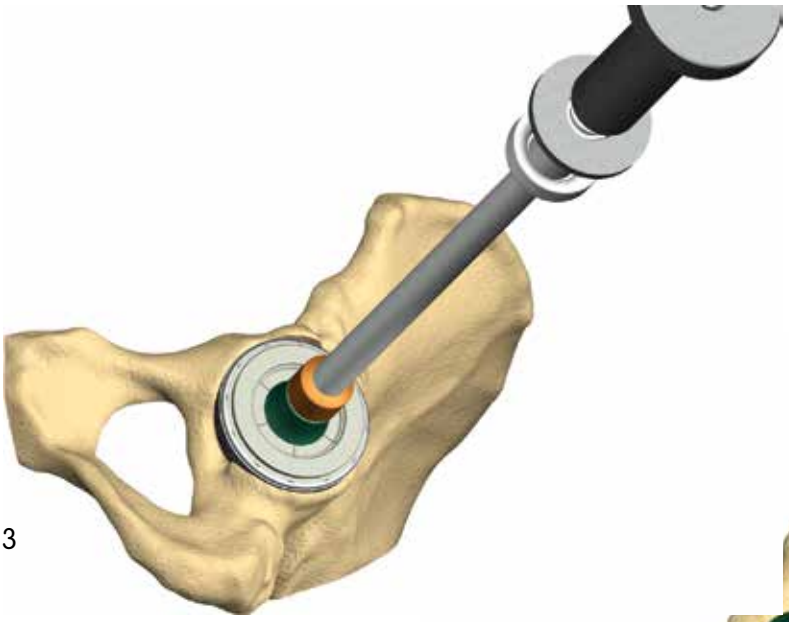

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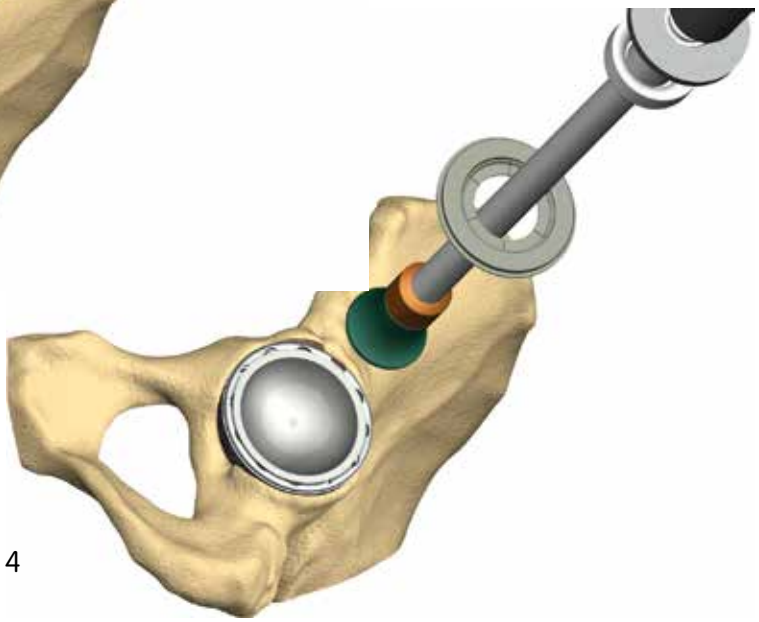


4

# Shell and liner offerings

| | XLPE | | | | | | Ceramic | |
|---|---|---|---|---|---|---|---|---|
| Cups | 22 | 28 | 32 | 36 | 40 | 44 | 32 | 36 |
| 40 | ● | | | | | | | |
| 42 | ● | | | | | | | |
| 44 | ● | | | | | | | |
| 46 | | ● | | | | | | |
| 48 | | ● | ● | | | | ● | |
| 50 | | ● | ● | | | | ● | |
| 52 | | ● | ● | ● | | | | ● |
| 54 | | ● | ● | ● | | | | ● |
| 56 | | ● | ● | ● | ● | | | ● |
| 58 | | ● | ● | ● | ● | | | ● |
| 60 | | ● | ● | ● | ● | ● | | ● |
| 62 | | | ● | ● | ● | ● | | ● |
| 64 | | | | ● | ● | ● | | ● |
| 66 | | | | ● | ● | ● | | ● |
| 68 | | | | ● | ● | ● | | ● |
| 70 | | | | ● | ● | ● | | |
| 72 | | | | ● | ● | ● | | |
| 74 | | | | ● | ● | ● | | |
| 76 | | | | ● | ● | ● | | |
| 78 | | | | ● | ● | ● | | |
| 80 | | | | ● | ● | ● | | |

# Range of motion

(SPECTRON® stem [size 3], +4 head offset)

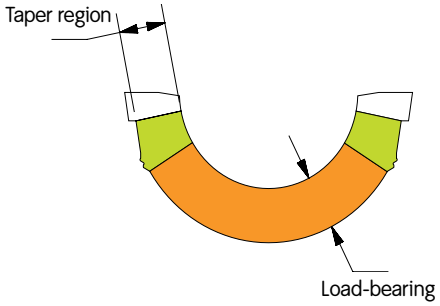
| REFLECTION® Acetabular System with XLPE liner | | | | |
|---|---|---|---|---|
| | 22mm | 28mm | 32mm | 36mm |
| 0° | 133° | 142° | 145° | 148° |
| 20° | 112° | 122° | 126° | 128° |

| R3® Acetabular System with XLPE liner | | | | | | |
|---|---|---|---|---|---|---|
| | 22mm | 28mm | 32mm | 36mm | 40mm | 44mm |
| 0° | 140° | 150° | 154° | 157° | 157° | 157° |
| 20° | 132° | 134° | 136° | 138° | 138° | 138° |

# Poly thickness chart

| Shell OD | Poly OD | Poly Thickness Taper Region mm | Poly Thickness Load-Bearing Region mm |
|---|---|---|---|
| 40 | 22 | 5.5 | 6.1 |
| 42 | 22 | 6.5 | 7.1 |
| 44 | 22 | 7.5 | 8.1 |
| 46 | 28 | 5.4 | 6.1 |
| 48 | 28 | 6.4 | 7.1 |
| 48 | 32 | 4.3 | 5.1 |
| 50 | 28 | 7.3 | 8.1 |
| 50 | 32 | 5.3 | 6.1 |
| 52 | 28 | 8.3 | 9.1 |
| 52 | 32 | 6.3 | 7.1 |
| 52 | 36 | 4.3 | 5.1 |
| 54 | 28 | 9.3 | 10.1 |
| 54 | 32 | 7.3 | 8.1 |
| 54 | 36 | 5.3 | 6.1 |
| 56 | 28 | 10.3 | 11.1 |
| 56 | 32 | 8.3 | 9.1 |
| 56 | 36 | 6.3 | 7.1 |
| 56 | 40 | 4.6 | 5.0 |
| 58 | 28 | 11.3 | 12.1 |
| 58 | 32 | 9.3 | 10.1 |
| 58 | 36 | 7.3 | 8.1 |
| 58 | 40 | 5.3 | 6.0 |
| 60 | 28 | 12.3 | 13.1 |
| 60 | 32 | 10.3 | 11.1 |
| 60 | 36 | 8.3 | 9.1 |
| 60 | 40 | 6.5 | 7.0 |
| 60 | 44 | 4.3 | 5.0 |

| Shell OD | Poly OD | Poly Thickness Taper Region mm | Poly Thickness Load-Bearing Region mm |
|---|---|---|---|
| 62 | 32 | 11.3 | 12.1 |
| 62 | 36 | 9.3 | 10.1 |
| 62 | 40 | 7.5 | 8.0 |
| 62 | 44 | 5.3 | 6.0 |
| 64 | 36 | 10.3 | 11.1 |
| 64 | 40 | 8.4 | 9.0 |
| 64 | 44 | 6.4 | 7.0 |
| 66-70 | 36 | 11.3 | 12.1 |
| 66-70 | 40 | 9.3 | 10.0 |
| 66-70 | 44 | 7.2 | 8.0 |
| 72-74 | 36 | 13.8 | 14.0 |
| 72-74 | 40 | 11.8 | 12.0 |
| 72-74 | 44 | 9.8 | 10.0 |
| 76-80 | 36 | 15.8 | 16.0 |
| 76-80 | 40 | 13.8 | 14.0 |
| 76-80 | 44 | 11.8 | 12.0 |



### R3° NO HOLE Acetabular Shells

**Standard size shells**

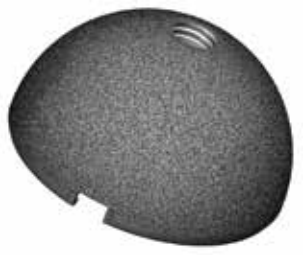
| Cat. no. | ODmm |
|---|---|
| 7133-1846 | 46 |
| 7133-1848 | 48 |
| 7133-1850 | 50 |
| 7133-1852 | 52 |
| 7133-1854 | 54 |
| 7133-1856 | 56 |
| 7133-1858 | 58 |
| 7133-1860 | 60 |
| 7133-1862 | 62 |
| 7133-1864 | 64 |

**Small size shells**

| Cat. no. | ODmm |
|---|---|
| 7133-1840 | 40 |
| 7133-1842 | 42 |
| 7133-1844 | 44 |

**Large size shells**

| Cat. no. | ODmm |
|---|---|
| 7133-1866 | 66 |
| 7133-1868 | 68 |



### R3 NO HOLE HA Acetabular Shells

**Standard size shells**

| Cat. no. | ODmm |
|---|---|
| 7133-2246 | 46 |
| 7133-2248 | 48 |
| 7133-2250 | 50 |
| 7133-2252 | 52 |
| 7133-2254 | 54 |
| 7133-2256 | 56 |
| 7133-2258 | 58 |
| 7133-2260 | 60 |
| 7133-2262 | 62 |
| 7133-2264 | 64 |

**Small size shells**

| Cat. no. | ODmm |
|---|---|
| 7133-2240 | 40 |
| 7133-2242 | 42 |
| 7133-2244 | 44 |

**Large size shells**

| Cat. no. | ODmm |
|---|---|
| 7133-2266 | 66 |
| 7133-2268 | 68 |

### R3 THREE HOLE Acetabular Shells

**Standard size shells**

| Cat. no. | ODmm |
|---|---|
| 7133-5546 | 46 |
| 7133-5548 | 48 |
| 7133-5550 | 50 |
| 7133-5552 | 52 |
| 7133-5554 | 54 |
| 7133-5556 | 56 |
| 7133-5558 | 58 |
| 7133-5560 | 60 |
| 7133-5562 | 62 |
| 7133-5564 | 64 |

**Small size shells**

| Cat. no. | ODmm |
|---|---|
| 7133-5540 | 40 |
| 7133-5542 | 42 |
| 7133-5544 | 44 |

**Large size shells**

| Cat. no. | ODmm |
|---|---|
| 7133-5566 | 66 |
| 7133-5568 | 68 |

## R3° THREE HOLE HA Acetabular Shells

**Standard size shells**

| Cat. no. | ODmm |
|---|---|
| 7133-1946 | 46 |
| 7133-1948 | 48 |
| 7133-1950 | 50 |
| 7133-1952 | 52 |
| 7133-1954 | 54 |
| 7133-1956 | 56 |
| 7133-1958 | 58 |
| 7133-1960 | 60 |
| 7133-1962 | 62 |
| 7133-1964 | 64 |

**Small size shells**

| Cat. no. | ODmm |
|---|---|
| 7133-1940 | 40 |
| 7133-1942 | 42 |
| 7133-1944 | 44 |

**Large size shells**

| Cat. no. | ODmm |
|---|---|
| 7133-1966 | 66 |
| 7133-1968 | 68 |

## R3 MULTI HOLE Acetabular Shells

**Standard size shells**

| Cat. no. | ODmm |
|---|---|
| 7133-8663 | 48 |
| 7133-8664 | 50 |
| 7133-8665 | 52 |
| 7133-8666 | 54 |
| 7133-8667 | 56 |
| 7133-8668 | 58 |
| 7133-8669 | 60 |
| 7133-8671 | 62 |
| 7133-8672 | 64 |

**Large size shells**

| Cat. no. | ODmm |
|---|---|
| 7133-8673 | 66 |
| 7133-8674 | 68 |
| 7133-8675 | 70 |

**Jumbo size shells**

| Cat. no. | ODmm |
|---|---|
| 7133-8676 | 72 |
| 7133-8677 | 74 |
| 7133-8678 | 76 |
| 7133-0009 | 78 |
| 7133-0010 | 80 |

## R3 HA MULTI HOLE Acetabular Shells

**Standard size shells**

| Cat. no. | ODmm |
|---|---|
| 7133-8733 | 48 |
| 7133-8734 | 50 |
| 7133-8735 | 52 |
| 7133-8736 | 54 |
| 7133-8737 | 56 |
| 7133-8738 | 58 |
| 7133-8739 | 60 |
| 7133-8740 | 62 |
| 7133-8741 | 64 |

**Large size shells**

| Cat. no. | ODmm |
|---|---|
| 7133-8742 | 66 |
| 7133-8743 | 68 |
| 7133-8744 | 70 |

**Jumbo size shells**

| Cat. no. | ODmm |
|---|---|
| 7133-8745 | 72 |
| 7133-8747 | 74 |
| 7133-8749 | 76 |
| 7133-1138 | 78 |
| 7133-1139 | 80 |

**R3° XLPE Acetabular Liners**

| ID | OD | 0° XLPE liner Cat. no. | 20° XLPE liner Cat. no. | 0° +4 XLPE liner Cat. no. | 20°+4 XLPE liner Cat. no. |
|---|---|---|---|---|---|
| 22 | 40 | 7133-4840 | 7133-4940 | 7133-5840 | 7133-7140 |
| 22 | 42 | 7133-4842 | 7133-4942 | 7133-5842 | 7133-7142 |
| 22 | 44 | 7133-4844 | 7133-4944 | 7133-5844 | 7133-7144 |
| 28 | 46 | 7133-7546 | 7133-4946 | 7133-5946 | 7133-7746 |
| 28 | 48 | 7133-7548 | 7133-4948 | 7133-5948 | 7133-7748 |
| 28 | 50 | 7133-7550 | 7133-4950 | 7133-5950 | 7133-7750 |
| 28 | 52 | 7133-7552 | 7133-4952 | 7133-5952 | 7133-7752 |
| 28 | 54 | 7133-7554 | 7133-4954 | 7133-5954 | 7133-7754 |
| 28 | 56 | 7133-7556 | 7133-4956 | 7133-5956 | 7133-7756 |
| 28 | 58 | 7133-7558 | 7133-4958 | 7133-5958 | 7133-7758 |
| 28 | 60 | 7133-7560 | 7133-4960 | 7133-5960 | 7133-7760 |
| 32 | 48 | 7133-9548 | 7133-7648 | 7133-6648 | 7133-7948 |
| 32 | 50 | 7133-9550 | 7133-7650 | 7133-6650 | 7133-7950 |
| 32 | 52 | 7133-9552 | 7133-7652 | 7133-6652 | 7133-7952 |
| 32 | 54 | 7133-9554 | 7133-7654 | 7133-6654 | 7133-7954 |
| 32 | 56 | 7133-9556 | 7133-7656 | 7133-6656 | 7133-7956 |
| 32 | 58 | 7133-9558 | 7133-7658 | 7133-6658 | 7133-7958 |
| 32 | 60 | 7133-9560 | 7133-7660 | 7133-6660 | 7133-7960 |
| 32 | 62 | 7133-9562 | 7133-7662 | 7133-6662 | 7133-7962 |
| 36 | 52 | 7133-2752 | 7133-5752 | 7133-6952 | 7133-8552 |
| 36 | 54 | 7133-2754 | 7133-5754 | 7133-6954 | 7133-8554 |
| 36 | 56 | 7133-2756 | 7133-5756 | 7133-6956 | 7133-8556 |
| 36 | 58 | 7133-2758 | 7133-5758 | 7133-6958 | 7133-8558 |
| 36 | 60 | 7133-2760 | 7133-5760 | 7133-6960 | 7133-8560 |
| 36 | 62 | 7133-2762 | 7133-5762 | 7133-6962 | 7133-8562 |
| 36 | 64 | 7133-2764 | 7133-5764 | 7133-6964 | 7133-8564 |
| 36 | 66-70 | 7133-0766 | 7133-1266 | 7133-1566 | 7133-2666 |
| 36 | 72-74 | 7133-8686 | 7133-8694 | 7133-8703 | 7133-8712 |
| 36 | 76-80 | 7133-1103 | 7133-1112 | 7133-1114 | 7133-8946 |

**R3° XLPE Acetabular Liners (continued)**

| ID | OD | 0° XLPE liner Cat. no. | 20° XLPE liner Cat. no. | 0° +4 XLPE liner Cat. no. | 20°+4 XLPE liner Cat. no. |
|---|---|---|---|---|---|
| 40 | 56 | 7133-8679 | 7133-8687 | 7133-8695 | 7133-8704 |
| 40 | 58 | 7133-8680 | 7133-8688 | 7133-8696 | 7133-8705 |
| 40 | 60 | 7133-8681 | 7133-8689 | 7133-8697 | 7133-8706 |
| 40 | 62 | 7133-8682 | 7133-8690 | 7133-8698 | 7133-8707 |
| 40 | 64 | 7133-8683 | 7133-8691 | 7133-8699 | 7133-8708 |
| 40 | 66-70 | 7133-8684 | 7133-8692 | 7133-8701 | 7133-8709 |
| 40 | 72-74 | 7133-8685 | 7133-8693 | 7133-8702 | 7133-8711 |
| 40 | 76-80 | 7133-1094 | 7133-1104 | 7133-1113 | 7133-1116 |
| 44 | 60 | 7133-1096 | 7133-1106 | 7133-0011 | 7133-1118 |
| 44 | 62 | 7133-1097 | 7133-1107 | 7133-0012 | 7133-1119 |
| 44 | 64 | 7133-1098 | 7133-1108 | 7133-0013 | 7133-1121 |
| 44 | 66-70 | 7133-1099 | 7133-1109 | 7133-0014 | 7133-1122 |
| 44 | 72-74 | 7133-1101 | 7133-1110 | 7133-0016 | 7133-1123 |
| 44 | 76-80 | 7133-1102 | 7133-1111 | 7133-0017 | 7133-1124 |

**R3° INTL Delta Ceramic Liners***

| ID | OD | Cat. no. |
|---|---|---|
| 32 | 48 | 7133-1748 |
| 32 | 50 | 7133-1750 |
| 36 | 52 | 7133-1752 |
| 36 | 54 | 7133-1754 |
| 36 | 56 | 7133-1756 |
| 36 | 58 | 7133-1758 |
| 36 | 60 | 7133-1760 |
| 36 | 62 | 7133-1762 |
| 36 | 64 | 7133-1764 |
| 36 | 66/68 | 7133-1766 |

*For Use with Smith & Nephew BIOLOX™ Delta and BIOLOX Forte Ceramic Heads only.

## R3° Trial Shells

### Standard size trial shells

| Cat. no. | ODmm |
|---|---|
| 7136-0745 | 45 |
| 7136-0746 | 46 |
| 7136-0747 | 47 |
| 7136-0748 | 48 |
| 7136-0749 | 49 |
| 7136-0750 | 50 |
| 7136-0751 | 51 |
| 7136-0752 | 52 |
| 7136-0753 | 53 |
| 7136-0754 | 54 |
| 7136-0755 | 55 |
| 7136-0756 | 56 |
| 7136-0757 | 57 |
| 7136-0758 | 58 |
| 7136-0759 | 59 |
| 7136-0760 | 60 |
| 7136-0761 | 61 |
| 7136-0762 | 62 |
| 7136-0763 | 63 |
| 7136-0764 | 64 |

### Small size trial shells

| Cat. no. | ODmm |
|---|---|
| 7136-0739 | 39 |
| 7136-0740 | 40 |
| 7136-0741 | 41 |
| 7136-0742 | 42 |
| 7136-0743 | 43 |
| 7136-0744 | 44 |

### Large size trial shells

| Cat. no. | ODmm |
|---|---|
| 7136-0765 | 65 |
| 7136-0766 | 66 |
| 7136-0767 | 67 |
| 7136-0768 | 68 |
| 7136-6524 | 69 |
| 7136-6525 | 70 |

### Jumbo size trial shells

| Cat. no. | ODmm |
|---|---|
| 7136-6526 | 71 |
| 7136-6527 | 72 |
| 7136-6528 | 73 |
| 7136-6529 | 74 |
| 7136-6530 | 75 |
| 7136-6531 | 76 |
| 7136-2019 | 77 |
| 7136-2020 | 78 |
| 7136-2021 | 79 |
| 7136-2022 | 80 |

**R3° Poly Trial Liners**

| ID | OD | 0° XLPE trial liner Cat. no. | 20° XLPE trial liner Cat. no. | 0° +4 XLPE trial liner Cat. no. | 20°+4 XLPE trial liner Cat. no. |
|---|---|---|---|---|---|
| 22 | 40 | 7136-0540 | 7136-5340 | 7136-6140 | 7136-8640 |
| 22 | 42 | 7136-0542 | 7136-5342 | 7136-6142 | 7136-8642 |
| 22 | 44 | 7136-0544 | 7136-5344 | 7136-6144 | 7136-8644 |
| 28 | 46 | 7136-0546 | 7136-6446 | 7136-8346 | 7136-8746 |
| 28 | 48 | 7136-0548 | 7136-6448 | 7136-8348 | 7136-8748 |
| 28 | 50 | 7136-0550 | 7136-6450 | 7136-8350 | 7136-8750 |
| 28 | 52 | 7136-0552 | 7136-6452 | 7136-8352 | 7136-8752 |
| 28 | 54 | 7136-0554 | 7136-6454 | 7136-8354 | 7136-8754 |
| 28 | 56 | 7136-0556 | 7136-6456 | 7136-8356 | 7136-8756 |
| 28 | 58 | 7136-0558 | 7136-6458 | 7136-8358 | 7136-8758 |
| 28 | 60 | 7136-0560 | 7136-6460 | 7136-8360 | 7136-8760 |
| 32 | 48 | 7136-5148 | 7136-6548 | 7136-8448 | 7136-8848 |
| 32 | 50 | 7136-5150 | 7136-6550 | 7136-8450 | 7136-8850 |
| 32 | 52 | 7136-5152 | 7136-6552 | 7136-8452 | 7136-8852 |
| 32 | 54 | 7136-5154 | 7136-6554 | 7136-8454 | 7136-8854 |
| 32 | 56 | 7136-5156 | 7136-6556 | 7136-8456 | 7136-8856 |
| 32 | 58 | 7136-5158 | 7136-6558 | 7136-8458 | 7136-8858 |
| 32 | 60 | 7136-5160 | 7136-6560 | 7136-8460 | 7136-8860 |
| 32 | 62 | 7136-5162 | 7136-6562 | 7136-8462 | 7136-8862 |
| 36 | 52 | 7136-5252 | 7136-7952 | 7136-8552 | 7136-9152 |
| 36 | 54 | 7136-5254 | 7136-7954 | 7136-8554 | 7136-9154 |
| 36 | 56 | 7136-5256 | 7136-7956 | 7136-8556 | 7136-9156 |
| 36 | 58 | 7136-5258 | 7136-7958 | 7136-8558 | 7136-9158 |
| 36 | 60 | 7136-5260 | 7136-7960 | 7136-8560 | 7136-9160 |
| 36 | 62 | 7136-5262 | 7136-7962 | 7136-8562 | 7136-9162 |
| 36 | 64 | 7136-5264 | 7136-7964 | 7136-8564 | 7136-9164 |
| 36 | 66-70 | 7136-5266 | 7136-7966 | 7136-8566 | 7136-9166 |
| 36 | 72-74 | 7136-6571 | 7136-6574 | 7136-6577 | 7136-6580 |
| 36 | 76-80 | 7136-2312 | 7136-2314 | 7136-2316 | 7136-2318 |

**R3° Poly Trial Liners**

| ID | OD | 0° XLPE trial liner Cat. no. | 20° XLPE trial liner Cat. no. | 0° +4 XLPE trial liner Cat. no. | 20°+4 XLPE trial liner Cat. no. |
|---|---|---|---|---|---|
| 40 | 56 | 7136-3420 | 7136-3422 | 7136-2030 | 7136-2035 |
| 40 | 58 | 7136-2023 | 7136-2026 | 7136-2031 | 7136-2036 |
| 40 | 60 | 7136-2024 | 7136-2027 | 7136-2032 | 7136-2037 |
| 40 | 62 | 7136-3421 | 7136-2028 | 7136-2033 | 7136-2038 |
| 40 | 64 | 7136-2025 | 7136-2029 | 7136-2034 | 7136-2039 |
| 40 | 66-70 | 7136-6569 | 7136-6572 | 7136-6575 | 7136-6578 |
| 40 | 72-74 | 7136-6570 | 7136-6573 | 7136-6576 | 7136-6579 |
| 40 | 76-80 | 7136-2311 | 7136-2313 | 7136-2315 | 7136-2317 |
| | | | | | |
| 44 | 60 | 7136-6081 | 7136-6094 | 7136-6087 | 7136-6101 |
| 44 | 62 | 7136-6082 | 7136-6095 | 7136-6088 | 7136-6102 |
| 44 | 64 | 7136-6083 | 7136-6096 | 7136-6089 | 7136-6103 |
| 44 | 66-70 | 7136-6084 | 7136-6097 | 7136-6091 | 7136-6104 |
| 44 | 72-74 | 7136-6085 | 7136-6098 | 7136-6092 | 7136-6105 |
| 44 | 76-80 | 7136-6086 | 7136-6099 | 7136-6093 | 7136-6106 |

### R3° Ceramic Snap in Trial Liners

| ID | OD | Cat. no. |
|---|---|---|
| 32 | 48 | 7136-9748 |
| 32 | 50 | 7136-9758 |
| 36 | 52 | 7136-9752 |
| 36 | 54 | 7136-9754 |
| 36 | 56 | 7136-9756 |
| 36 | 58 | 7136-9758 |
| 36 | 60 | 7136-9760 |
| 36 | 62 | 7136-9762 |
| 36 | 64 | 7136-9764 |
| 36 | 66/68 | 7136-9766 |

### R3 Liner Impactor Heads

| Cat. no. | Size mm |
|---|---|
| 7136-6428* | 28 |
| 7136-6432* | 32 |
| 7136-6436* | 36 |
| 7136-6438* | 38-42 |
| 7136-6444* | 44-48 |
| 7136-6451* | 50-54 |

*Exclusively for liner impaction

**Note:** When using a 22mm Liner, you will need to order a Reflection 22mm Impactor Head (7136-2222) separately.

### R3 MIS Instruments

| Cat. no. | Description |
|---|---|
| 7136-8569 | Offset Shell Impactor |
| 7136-6052 | Offset X-Bar |
| 7136-3077 | Offset Impactor Tip |
| 7136-4073 | Offset Reamer Handle |

# Catalog

| | |
|---|---|
| R3° Straight Shell Impactor<br>**Cat. no.** 7136-4450 |  |
| R3 Impactor Replacement Tip<br>**Cat. no.** 7136-8570 |  |
| R3 Depth Gauge<br>**Cat. no.** 7136-4451 |  |
| X-Bar<br>**Cat. no.** MT-2201 |  |
| Screw Forceps<br>**Cat. no.** 7136-2298 |  |
| Ball Joint Screwdriver<br>**Cat. no.** 7136-2295 |  |
| R3 Variable Angle Drill Guide<br>**Cat. no.** 7136-4477 |  |
| Reamer Handle<br>**Cat. no.** 7136-2279 |  |
| Flexible Screw Drills<br>**Cat. no.** **Length mm**<br>7136-2915 15<br>7136-2925 25<br>7136-2935 35<br>7136-2950 50 |  |
| Captured Flexible<br>Screwdriver Shaft<br>**Cat. no.** 7136-2291 |  |
| Captured U-Joint<br>Screwdriver Shaft<br>**Cat. no.** 7136-2292 |  |
| R3 Surgical Templates<br>sizes 40-68 (not shown)<br>**Cat. no.** 7138-0666 | |
| R3 Surgical Templates<br>sizes 70-80 (not shown)<br>**Cat. no.** 7138-1508 | |

| | |
|---|---|
| R3° Trial Liner Removal Tool<br>**Cat. no.** 7136-4455 |  |
| R3 Liner Removal Tool<br>**Cat. no.** 7136-6021 |  |
| Hole Cover Impactor<br>**Cat. no.** 73-2117 |  |
| Trial Shell Handle<br>**Cat. no.** 7136-2297 |  |
| Flexible Screwdriver<br>**Cat. no.** 7136-2290 |  |
| Ratchet Handle<br>**Cat. no.** 7136-2294 |  |
| Small Slap Hammer<br>**Cat. no.** 7136-7541 |  |
| REFLECTION° Mallet<br>**Cat. no.** 7136-2106 |  |
| Hole Cover Inserter<br>**Cat. no.** 73-2133 |  |
| Straight Screwdriver Shaft<br>**Cat. no.** 7136-2293 |  |
| Power Adaptors (not shown)<br>**Cat. no.** 7136-2781 Synthes<br>7136-2782 Asculap<br>7136-2783 Hudson | |

**Reamer Domes**

| Standard size | | Small size | |
|---|---|---|---|
| **Cat. no.** | **Size mm** | **Cat. no.** | **Size mm** |
| 7136-2742 | 42 | 7136-2738 | 38 |
| 7136-2743 | 43 | 7136-2739 | 39 |
| 7136-2744 | 44 | 7136-2740 | 40 |
| 7136-2745 | 45 | 7136-2741 | 41 |
| 7136-2746 | 46 | | |
| 7136-2747 | 47 | **Large size** | |
| 7136-2748 | 48 | **Cat. no.** | **Size mm** |
| 7136-2749 | 49 | 7136-2765 | 65 |
| 7136-2750 | 50 | 7136-2766 | 66 |
| 7136-2751 | 51 | 7136-2767 | 67 |
| 7136-2752 | 52 | 7136-2768 | 68 |
| 7136-2753 | 53 | 7136-2769 | 69 |
| 7136-2754 | 54 | 7136-2770 | 70 |
| 7136-2755 | 55 | 7136-2771 | 71 |
| 7136-2756 | 56 | 7136-2772 | 72 |
| 7136-2757 | 57 | 7136-2773 | 73 |
| 7136-2758 | 58 | 7136-2774 | 74 |
| 7136-2759 | 59 | 7136-2775 | 75 |
| 7136-2760 | 60 | 7136-2776 | 76 |
| 7136-2761 | 61 | 7136-2777 | 77 |
| 7136-2762 | 62 | 7136-2778 | 78 |
| 7136-2763 | 63 | 7136-2779 | 79 |
| 7136-2764 | 64 | 7136-2780 | 80 |

| | |
|---|---|
| R3°/REFLECTION° Threaded Hole Cover<br>**Cat. no.** 7133-6500 |  |
| Spherical Head Screws<br>**Cat. no.** / **Length mm**<br>7133-2515 / 15<br>7133-2520 / 20<br>7133-2525 / 25<br>7133-2530 / 30<br>7133-2535 / 35<br>7133-2540 / 40<br>7133-2545 / 45<br>7133-2550 / 50<br>7133-2555 / 55<br>7133-2560 / 60<br>7133-2565 / 65<br>7133-2570 / 70 |  |
| R3 Screw Hole Cover<br>**Cat. no.** 7136-9894 |  |
| Small Outer Case<br>**Cat. no.** 7112-9401 (not shown) | |
| Lid for Outer Case<br>**Cat. no.** 7112-9402 (not shown) | |
| R3 Trial Shell Tray<br>**Cat. no.** 7136-2213 (not shown) | |
| R3 Main Instrument Tray<br>**Cat. no.** 7136-2211 (not shown) | |
| R3 MIS Instrument Tray<br>**Cat. no.** 7136-2219 (not shown) | |
| R3 Primary Reamer Dome Tray<br>**Cat. no.** 7136-2212 (not shown) | |
| R3 CDH Trial Tray<br>**Cat. no.** 7136-1077 (not shown) | |

# Catalog

| |
|---|
| R3◇ Jumbo Trial Shell & Reamer Set<br>**Cat. no.** 71362230 |
| R3 XL Revision Reamer Set<br>**Cat. no.** 71362160 |
| R3 XL Revision Trial Shell Set<br>**Cat. no.** 71362170 |
| R3 Jumbo Trial Liner Set 66-70mm<br>**Cat. no.** 71362090 |
| R3 XL 0 Deg. Trial Liner Set 71-80mm<br>**Cat. no.** 71362180 |
| R3 XL 20 Deg. Trial Liner Set 71-80mm<br>**Cat. no.** 71362190 |
| R3 0 Deg. Multi ID Trial Liner Set 46-64mm<br>Cat. no. 71360675 |
| R3 20 Deg. Multi ID Trial Liner Set 46-64mm<br>**Cat. no.** 71360681 |
| R3 0 Deg. +4 Multi ID Trial Liner Set 46-64mm<br>**Cat. no.** 71360676 |
| R3 20 Deg. +4 Multi ID Trial Liner Set 46-64mm<br>**Cat. no.** 71360683 |
| R3 Ceramic Trial Liner Set 48-64mm<br>**Cat. no.** 71360685 |
| R3◇ 0° 40mm Trial Liner Tray<br>**Cat. no.** 7136-0782 |
| R3 20° 40mm Trial Liner Tray<br>**Cat. no.** 7136-0783 |
| R3 0° +4 40mm Trial Liner Tray<br>**Cat. no.** 7136-0784 |
| R3 20° +4 40mm Trial Liner Tray<br>**Cat. no.** 7136-0786 |
| R3 0° and 20° 44mm Permanent Trial Liner Tray 60-70mm<br>**Cat. no.** 7136-6981 |
| R3 0° and 20° +4 44mm Permanent Trial Liner Tray 60-70mm<br>**Cat. no.** 7136-6982 |
| R3 0° and 20° +4 44mm Permanent Trial Liner Tray 72-80mm<br>**Cat. no.** 7136-6983 |

# Indications

Hip components are indicated for individuals undergoing primary and revision surgery where other treatments or devices have failed in rehabilitating hips damaged as a result of trauma or noninflammatory degenerative joint disease (NIDJD) or any of its composite diagnoses of osteoarthritis, avascular necrosis, traumatic arthritis, slipped capital epiphysis, fused hip, fracture of the pelvis and diastrophic variant.

Hip components are also indicated for inflammatory degenerative joint disease including rheumatoid arthritis, arthritis secondary to a variety of diseases and anomalies, and congenital dysplasia; treatments of nonunion, femoral neck fracture and trochanteric fractures of the proximal femur with head involvement that are unmanageable using other techniques; endoprosthesis, femoral osteotomy, or Girdlestone resection; fracture-dislocation of the hip; and correction of deformity.

The R3° Acetabular System is for single use only and is intended for cementless use.

# Notes

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