Surgical Technique

smith&nephew

R3◇

Acetabular System

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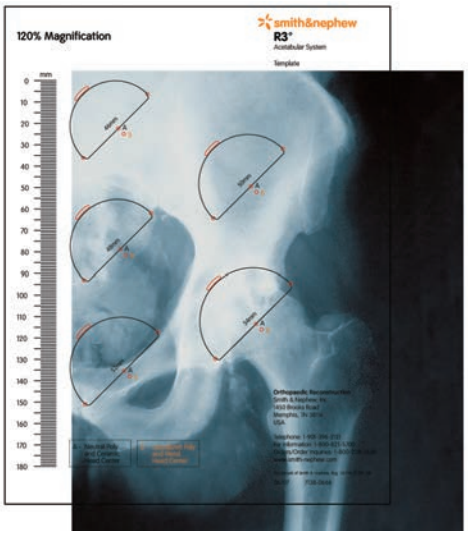
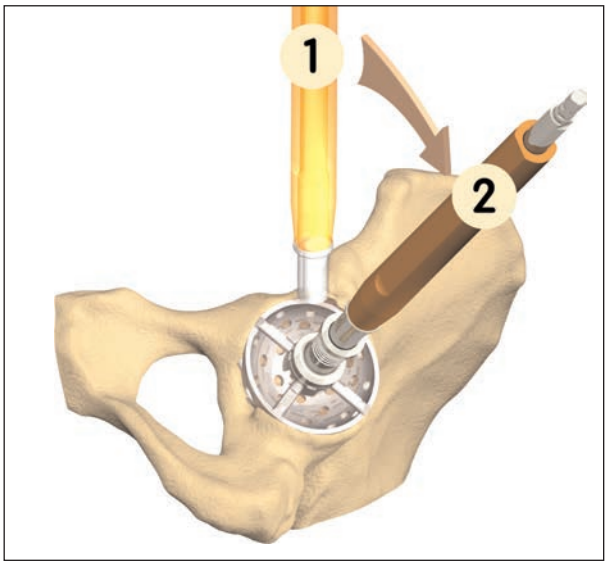
Nota Bene: This technique description herein is made available to the healthcare professional to illustrate the author's suggested treatment for the uncomplicated procedure. In the final analysis, the preferred treatment is that which addresses the needs of the patient.

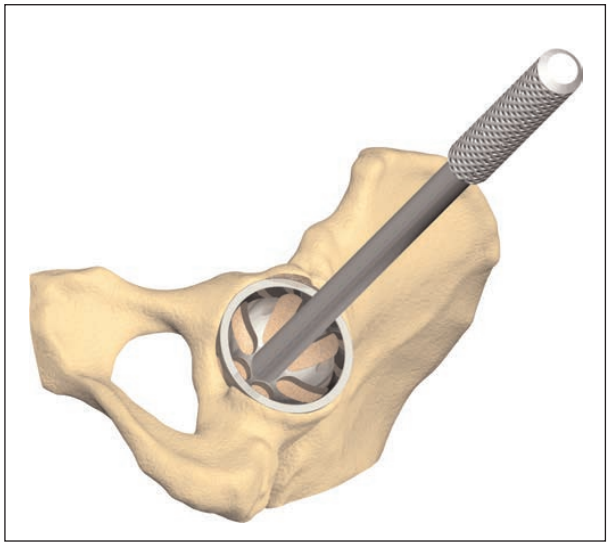
Short technique



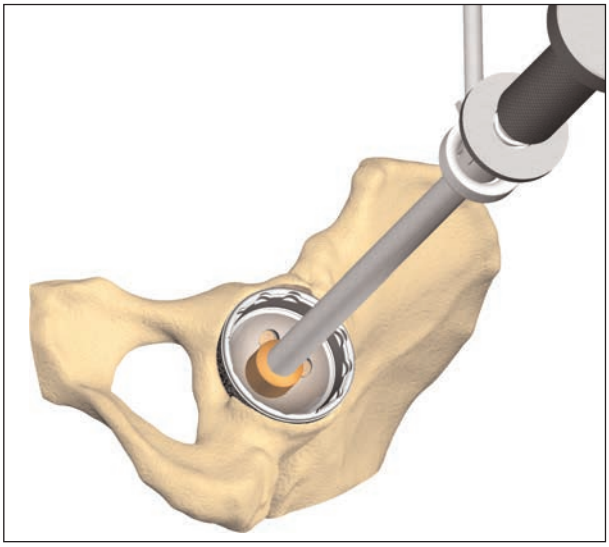
Preoperative Planning



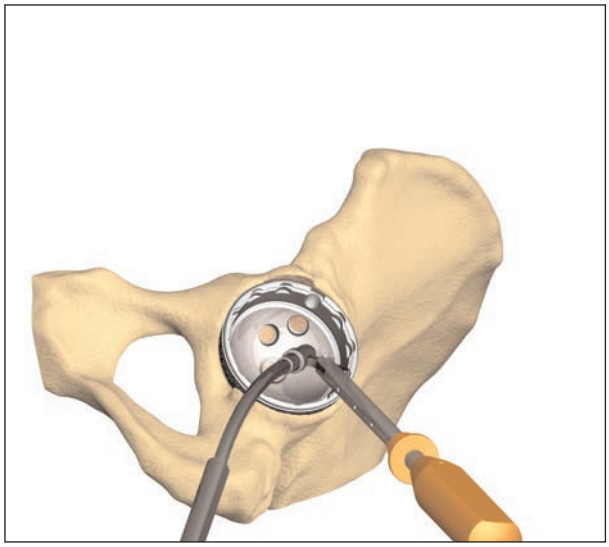
Acetabular Reaming



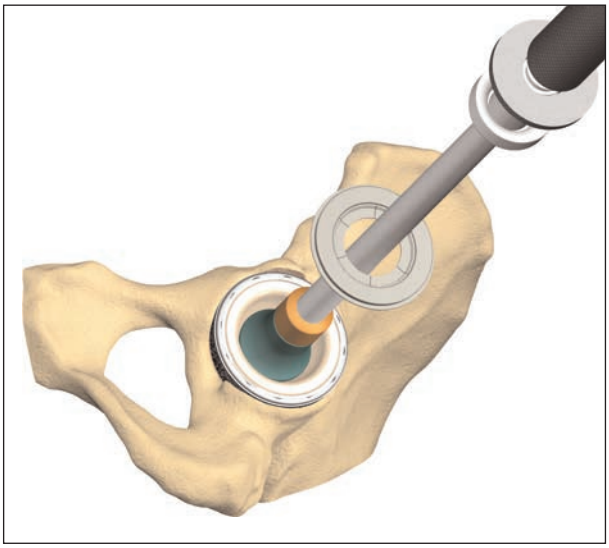
Acetabular Trialing



Acetabular Shell Insertion



Acetabular Screw Insertion



Acetabular Poly Liner Insertion

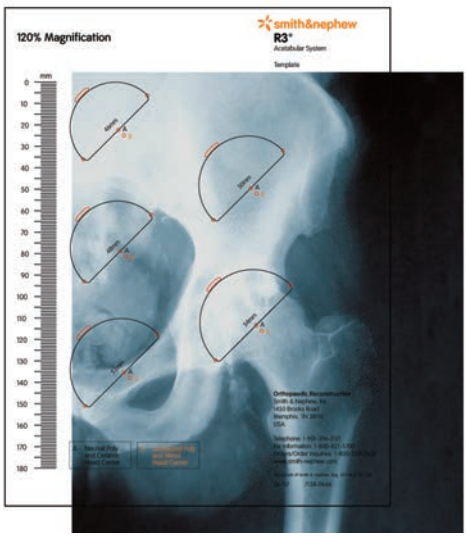
Preoperative planning

Preoperative X-rays should include an AP of the pelvis centered over the symphysis and an AP 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.

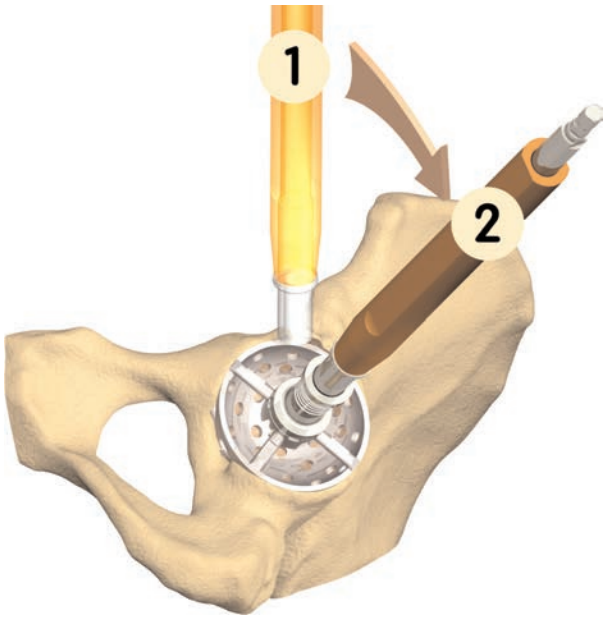
Remove all overhanging soft tissue and osteophytes in order to visualize the entire acetabular socket.

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 thetemplated 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 the THREE HOLE and NO HOLE cups, the acetabulum should be underreamed by 1–2mm depending on bone quality and acetabular size. The cups are available in even sizes so the last reamer used should either be an odd size for 1mm or an even size for 2mm underreaming.

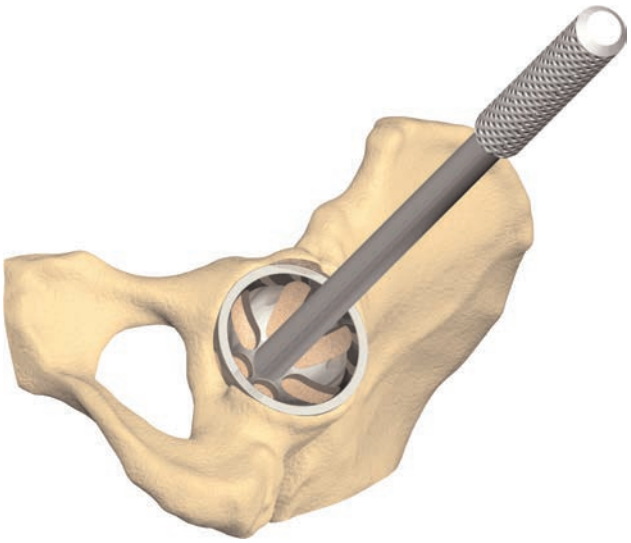
Surgical tips:

- 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 the preparation of 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.

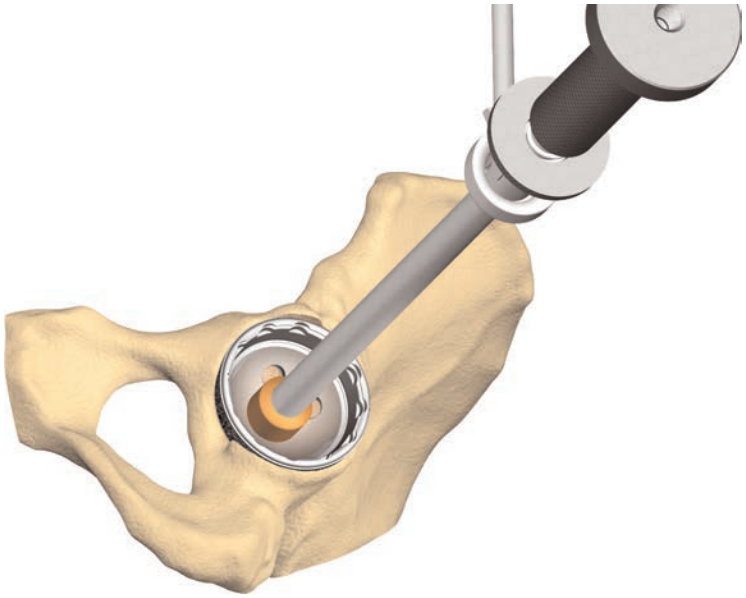
Surgical tip:

- The bone at the edge of the trial shell can be marked with an electric cautery 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.

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.

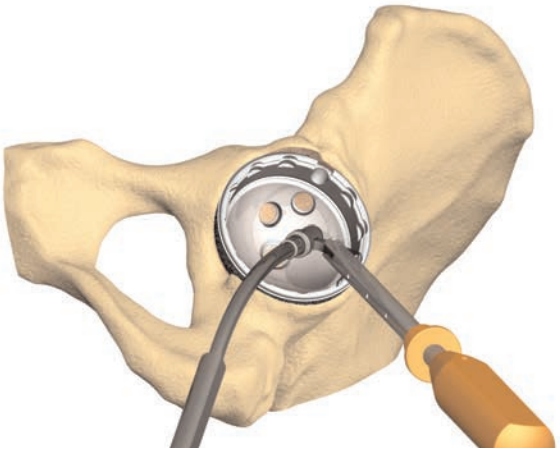
Surgical tips:

- 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.
- 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.
- The X-bar references 45° of abduction and 20° of anterversion.

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. Use of 'skirted' modular heads should be avoided when possible to maximize range of motion to impingement.

Before inserting the R3 acetabular liner, lavage any unused holes and insert the hole covers. 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. Insert heard bearings only after ensuring the inner taper of the shell is clean and dry.

For 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. Impact firmly with the mallet until the liner is fully seated.

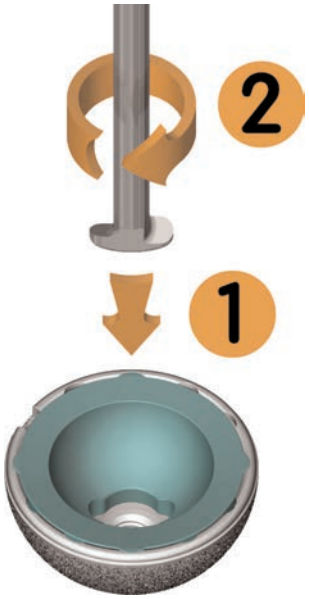
Inspect the liner/shell interface for proper seating. The liner should sit flush with the face of the shell.

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 & CoCr liners 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 the liner loose.

Instrument tips:

- The liner trials are designed with flexible locking tabs around the periphery that is a quick-snap design. 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.
- The metal liner can be removed by placing the liner removal tool in the removal slot and prying, or impacting and prying if necessary, the liner loose.

***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.

R3◇ AcetabularLiner insertion *continued*

Specific to R3◇ metal liners

The R3 metal liner and R3 shell must be used with either Smith & Nephew BHR◇ resurfacing femoral heads or Smith & Nephew BHR Modular heads. Do not mix the CoCr head or liners 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.

Specific to R3◇ ceramic liners

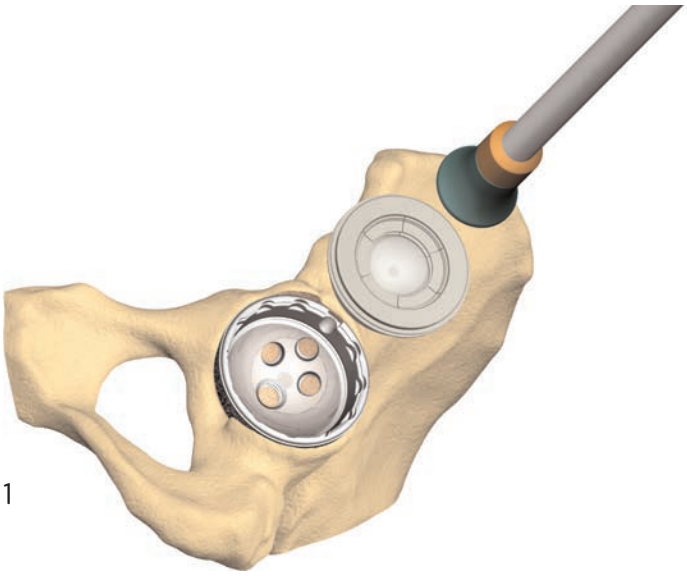
Use extreme care in handling and storage of ceramic implant components. Damage to components may induce internal stresses that are not obvious to the observer, and it may lead to premature failure of the component. Before use of ceramic implants, carefully examine each component for indications of damage 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 tips:

- 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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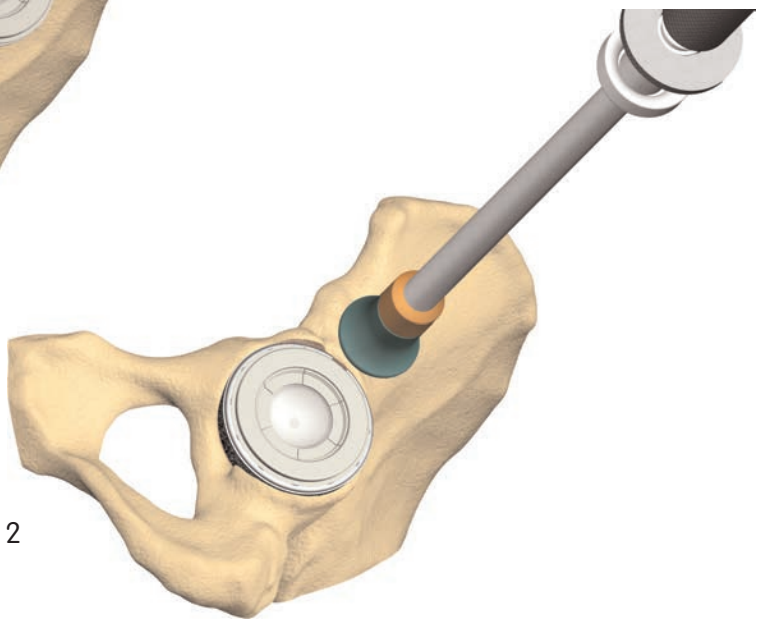

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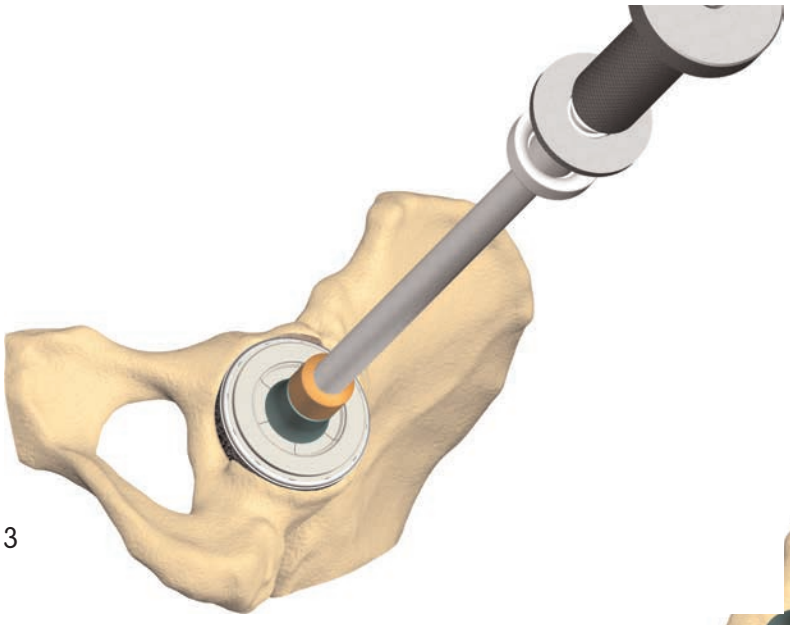

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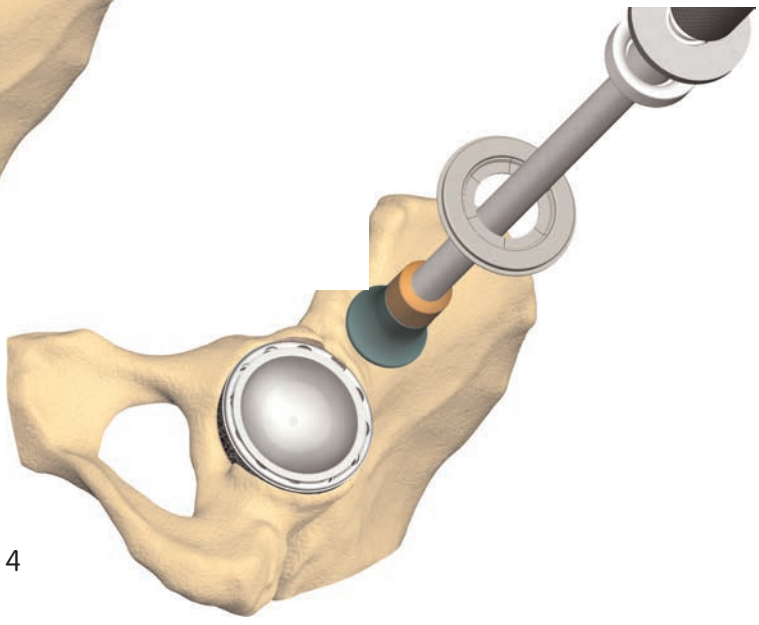


4

Shell and liner offerings

	XLPE				Ceramic		Metal								
cups	22	28	32	36	32	36	38	40	42	44	46	48	50	52	54
40	●														
42	●														
44	●														
46		●													
48		●	●		●										
50		●	●		●		●								
52		●	●	●		●		●							
54		●	●	●		●			●						
56		●	●	●		●				●					
58		●	●	●		●					●				
60		●	●	●		●						●			
62			●	●		●							●		
64				●		●								●	
66/68				●		●									●

Range of motion

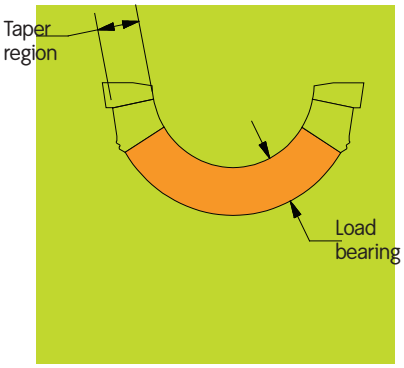
(SPECTRON® stem (size 3), +4 head offset)

REFLECTION® Hip System				
	22mm	28mm	32mm	36mm
0°	143°	142°	145°	148°
20°	122°	122°	126°	128°
Ceramic	—	136°	141°	—

R3® Acetabular System				
	22mm	28mm	32mm	36mm
0°	140°	150°	154°	157°
20°	132°	134°	136°	138°
Ceramic	—	—	154°	156°

Poly thickness chart

Shell OD	Poly ID	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
58	28	11.3	12.1
58	32	9.3	10.1
58	36	7.3	8.1
60	28	12.3	13.1
60	32	10.3	11.1
60	36	8.3	9.1
62	32	11.3	12.1
62	36	9.3	10.1
64	36	10.3	11.1
66–68	36	11.3	12.1



Catalog

R3° NO HOLE Acetabular Shells

Standard size shells		Small size shells	
Cat. no.	ODmm	Cat. no.	ODmm
7133-1846	46	7133-1840	40
7133-1848	48	7133-1842	42
7133-1850	50	7133-1844	44
7133-1852	52		
7133-1854	54	Large shell sizes	
7133-1856	56	7133-1866	66
7133-1858	58	7133-1868	68
7133-1860	60		
7133-1862	62		
7133-1864	64		

R3 NO HOLE HA Acetabular Shells

Standard size shells		Small size shells	
Cat. no.	ODmm	Cat. no.	ODmm
7133-2246	46	7133-2240	40
7133-2248	48	7133-2242	42
7133-2250	50	7133-2244	44
7133-2252	52		
7133-2254	54	Large shell sizes	
7133-2256	56	7133-2266	66
7133-2258	58	7133-2268	68
7133-2260	60		
7133-2262	62		
7133-2264	64		

R3 THREE HOLE Acetabular Shells

Standard size shells		Small size shells	
Cat. no.	ODmm	Cat. no.	ODmm
7133-5546	46	7133-5540	40
7133-5548	48	7133-5542	42
7133-5550	50	7133-5544	44
7133-5552	52		
7133-5554	54	Large shell sizes	
7133-5556	56	7133-5566	66
7133-5558	58	7133-5568	68
7133-5560	60		
7133-5562	62		
7133-5564	64		

R3 THREE HOLE HA Acetabular Shells

Standard size shells		Small size shells	
Cat. no.	ODmm	Cat. no.	ODmm
7133-1946	46	7133-1940	40
7133-1948	48	7133-1942	42
7133-1950	50	7133-1944	44
7133-1952	52		
7133-1954	54	Large shell sizes	
7133-1956	56	7133-1966	66
7133-1958	58	7133-1968	68
7133-1960	60		
7133-1962	62		
7133-1964	64		

Catalog

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	66/68	7133-2766	7133-5766	7133-6966	7133-8566

Catalog

R3° INTL Forte Ceramic Liners*

ID	OD	Ceramic Cat. no.
32	48	7133-1648
32	50	7133-1650
36	52	7133-1652
36	54	7133-1654
36	56	7133-1656
36	58	7133-1658
36	60	7133-1660
36	62	7133-1662
36	64	7133-1664
36	66/68	7133-1666

R3 INTL Delta Ceramic Liners**

ID	OD	Ceramic 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

R3 INTL Metal Liners***

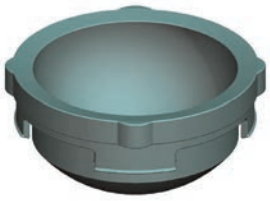
ID	OD	CoCr Cat. no.
38	50	7133-5850
40	52	7133-5852
42	54	7133-5854
44	56	7133-5856
46	58	7133-5858
48	60	7133-5860
50	62	7133-5862
52	64	7133-5864
54	66/68	7133-5866

* For Use with Alumina Ceramic Heads Only
** For Use with Delta Ceramic Heads Only
*** For Use with BHR Modular or Resurfacing Heads Only
May not be available at launch

Catalog

R3° Trial Shells

Standard size trail shells		Small size trial shells	
Cat. no.	**ODmm**	**Cat. no.**	**ODmm**
7136-0745	45	7136-0739	39
7136-0746	46	7136-0740	40
7136-0747	47	7136-0741	41
7136-0748	48	7136-0742	42
7136-0749	49	7136-0743	43
7136-0750	50	7136-0744	44
7136-0751	51		
7136-0752	52	**Large size trial shells**	
7136-0753	53	**Cat. no.**	**ODmm**
7136-0754	54	7136-0765	65
7136-0755	55	7136-0766	66
7136-0756	56	7136-0767	67
7136-0757	57	7136-0768	68
7136-0758	58		
7136-0759	59		
7136-0760	60		
7136-0761	61		
7136-0762	62		
7136-0763	63		
7136-0764	64		



R3 Poly Snap in Trial Liners

ID	OD	0° Trial Cat. no.	20° Trial Cat. no.	0° +4 Trial Cat. no.	20°+4 Trial 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	66/68	7136-5266	7136-7966	7136-8566	7136-9166

Catalog

R3° Ceramic Snap in Trial Liners

ID	OD	Ceramic Trial Cat. no.
32	48	7136-9748
32	50	7136-9750
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 Metal Snap in Trial Liners

ID	OD	CoCr Trial Cat. no.
38	50	7136-9450
40	52	7136-9452
42	54	7136-9454
44	56	7136-9456
46	58	7136-9458
48	60	7136-9460
50	62	7136-9462
52	64	7136-9464
54	66/68	7136-9466

R3 Liner Impactor Heads

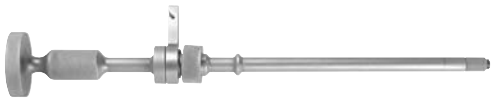
Cat. no.	Size mm
7136-8122	22
7136-8128	28
7136-8132	32
7136-8136	36
7136-3842	38-42
7136-4448	44-48
7136-4449	50-54

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
Cat. no. 7136-4450



R3 Impactor Replacement Tip
Cat. no. 7136-8570

R3 Depth Guage
Cat. Nno. 7136-4451

X-Bar
Cat. no. MT-2201

Screw Forceps
Cat. no. 7136-2298

Ball Joint Screwdriver
Cat. no. 7136-2295

R3 Variable Angle Drill Guide
Cat. no. 7136-4477

Reamer Handle
Cat. no. 7136-2279

Flexible Screw Drills

Cat. no.	**Length mm**
7136-2915	15
7136-2925	25
7136-2935	35
7136-2950	50

Captured Flexible Screwdriver Shaft
Cat. no. 7136-2291

Captured U-Joint Screwdriver Shaft
Cat. no. 7136-2292

R3 Surgical Templates (not shown)
Cat. no. 7136-1081

Catalog

R3° Trial Liner Removal Tool
Cat. no. 7136-4455

R3 Liner Removal Tool
Cat. no. 7136-6021

Hole Cover Impactor
Cat. no. 73-2117

Trial Shell Handle
Cat. no. 7136-2297

Flexible Screwdriver
Cat. no. 7136-2290

Ratchet Handle
Cat. no. 7136-2294

Small Slap Hammer
Cat. no. 7136-7541

REFLECTION° Mallet
Cat. no. 7136-2106

Hole Cover Inserter
Cat. no. 73-2133

Straight Screwdriver Shaft
Cat. no. 7136-2293

Power Adaptors (not shown)
Cat. no. 7136-2781
7136-2782
7136-2783

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		
7136-2762	62		
7136-2763	63		
7136-2764	64		

Catalog

Small Outer Case
Cat. no. 7112-9401

Lid for Outer Cases
Cat. no. 7112-9402

R3° Trial Liner Lid
Cat. no. 7136-1081

R3 Trial Shell Tray
Cat. no. 7136-2213

R3 20 Degree Trial Liner Tray
Cat. no. 7136-1073

R3 20 Degree +4 Trial Liner Tray
Cat. no. 7136-1074

R3 Metal Trial liner Tray
Cat. no. 7136-2220

R3 Jumbo Trial Liner Tray
Cat. no. 7136-1076

R3 0 Degree Outlier Tray
Cat. no. 7136-1085

R3 0 Degree +4 OutlierTray
Cat. no. 7136-1084

R3 Demo Sample Case
Cat. no. 7138-4096

R3 Main Instrument Tray
Cat. no. 7136-2211

R3 MIS Instrument Tray
Cat. no. 7136-2219

R3 Primary Reamer Dome Tray
Cat. no. 7136-2212

Catalog

R3°/REFLECTION° Threaded Hole Cover

Cat. no. 7133-6500

Spherical Head Screws

Cat. no.	Length mm
7133-2515	15
7133-2520	20
7133-2525	25
7133-2530	30
7133-2535	35
7133-2540	40
7133-2545	45
7133-2550	50
7133-2555	55
7133-2560	60
7133-2565	65
7133-2570	70

R3° Screw Hole Cover

Cat. no. 7136-9894

R3 0 Degree Trial Liner Tray

Cat. no. 7136-2214

R3 0 Degree +4 Outlier Trial Liner Tray

Cat. no. 7136-2217

R3 Ceramic Trial Liner Tray

Cat. no. 7136-1075

R3 CDH Trial Tray

Cat. no. 7136-1077

R3 20 Degree Outlier Tray

Cat. no. 7136-1078

R3 20 Deg +4 Outlier Trial Liner Tray

Cat. no. 7136-1082

Catalog

Biolox Delta 12/14 Femoral Heads

Cat. no.	I.D.
7653-9162	32 L
7653-9161	32 M
7653-9160	32 S
7653-9167	36 L
7653-9166	36 M
7653-9165	36 S

Biolox Forte 12/14 Femoral Heads

Cat. no.	ID
7133-3200	32 +0
7133-3204	32 +4
7133-3208	32 +8
7133-1047	36 +0
7133-1048	36 +4
7133-1049	36 +8

Resurfacing Femoral Heads

Cat. no.	ID
7412-1138	38
7412-3140	40
7412-1142	42
7412-3144	44
7412-1146	46
7412-3148	48
7412-1150	50
7412-3152	52
6412-1154	54

Modular Head Sleeves

Cat. no.	mm
7422-2100	-4mm
7422-2200	+0mm
7422-2300	+4mm
7422-2400	+8mm

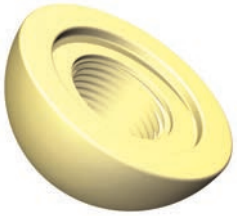
Catalog

Modular Metal Femoral Heads

Cat. no.	ID
7422-2138	38
7422-2140	40
7422-2142	42
7422-2144	44
7422-2146	46
7422-2148	48
7422-2150	50
7422-2152	52
7422-2154	54

Modular Head Trials

Cat. no.	ID
9003-5538	38
9003-5540	40
9003-5542	42
9003-5544	44
9003-5546	46
9003-5548	48
9003-5550	50
9003-5552	52
9003-5554	54



Trial Necks

Cat. no.	mm
9003-5571	-4
9003-5572	+0
9003-5573	+4
9003-5574	+8

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