

ACCIS
ADVANCED CERAMIC COATED IMPLANT SYSTEM



**Ceramic Coated
Resurfacing Hip
Surgical Technique**



implantcoast

Introduction:

Resurfacing Hip Arthroplasty (RHA) has regained the attention of the orthopaedic world. Recognition of the fact, that polyethylene wear debris played a great role in the failure of earlier designs, led to a renewed interest in metal-on-metal articulating surfaces. Metal-on-metal articulations generate lower volumetric wear compared to polyethylene bearing surfaces. However all metal implants, in particular metal-on-metal bearings, corrode at a rate determined by their surface area and cause a release of metal ions. In addition to the corrosion potential of the implant itself, wear debris elevates the ion release due to the increased metal surface.



Serious local hypersensitivity reactions to metal degradation products have been described and systemic toxicity and cancer risk are considered as possible disadvantages of the metal-on-metal articulation, because both cobalt and chromium exposure have been shown to be carcinogenic and mutagenic in human and animal models.

In the ACCIS hip prostheses a ceramic coating protects the metal articulating surfaces against wear and corrosion. The development of metal ions is minimized.

Clinical Outcome:

The Resurfacing Hip Arthroplasty depends upon:

- proper patient selection : bone quality and anatomy.
- application of correct surgical techniques.
- optimal selection of the size of the components to be implanted.
- achieving adequate primary fixation of the components to the bone.



Indications :

- arthritis of a hip joint diagnosed and judged severe enough to require insertion of a hip resurfacing implant.
- adult aged 18 years or more of either sex.
- sufficient bone stock

Contra-indications:

- female patients who are pregnant.
- osteoporosis or severe osteopenia.
- recent or active sepsis.
- insufficient bone stock:
 - ~ hip dysplasia stage C or greater on the Eftekhar scale.
 - ~ bone stock in the surgical area that has been damaged by irradiation.
 - ~ femoral head necrosis involving more than 50% of the femoral head.
 - ~ large cysts in the femoral neck.
- patients with reduced renal function confirmed by a creatinine clearance below 40ml/min.

Patient Information

Operative consent information should be given and should include issues of risk of femoral neck fracture, absence of long-term experience, revision options and routine aspects of hip arthroplasty.

Surface Arthroplasty Risk Index

Surface Arthroplasty Risk Index	
	Pts
Femoral Head Cyst >1cm	2
Patient Weight < 82kg	2
Previous Hip Surgery	1
UCLA Activity level > 6	1
Maximum Score	6

- the SARI-score was published by Beaulé in 2004*
- according to Amstutz et al. a SARI score >3 represents a 12 fold increased risk in early failure or adverse radiological changes.
- Amstutz and associates reported a survivorship of 89% at four years in patients with a SARI score > 3. versus 97% in patients with a score < 3 in their report on their first 400 hybrid metal-on-metal surface replacements.
- decreased bone mineral density, lateral head-neck remodelling, head/neck ratio less than 1.2 to 1.0, a femoral neck shorter than 2 cm and a shallow acetabulum are additional factors which make the patient unsuited for surface replacement.

*Beaulé PE, Dorey FJ, LeDuff MJ, Gruen T, Amstutz HC. Risk factors affecting outcome of metal-on-metal surface arthroplasty of the hip. Clin Orthop. 2004; 418:87-93.



The X-ray above shows the optimal patient conditions for the use of the ACCIS® resurfacing Hip:

- head/neck ratio > 1.25 to 1.
- neck length > 2 cm.
- slight valgus of the neck
- good bone density.
- no femoral cysts.



Preoperative templating:

it is strongly recommended to use the available X-ray templates for the following reasons:

1. to establish the femoral neck/shaft angle:

- if the femoral neck-shaft angle is more than 10° valgus or too much varus to obtain the desired position of the femoral component, an osteotomy should be considered.
- the femoral component should be placed with an ideal femoral neck-shaft angle of 135°-140°. This way the component is placed in a 0° -10° valgus position.
- notching of the femoral neck must be avoided.

2. to estimate the size and position of the femoral component to be implanted:

- the femoral component should be bigger than the actual neck diameter.
- the femoral component should be placed between a neutral and 10° valgus position relative to the anatomical neck.
- notching of the femoral neck should be avoided.
- sufficient anterior offset is needed to prevent anterior impingement of the femoral neck in flexion.
- the size of the final implant is determined during surgery.

3. to estimate the size and position of the acetabular component to be used:

- the acetabular component should be well seated within the acetabulum and should fill the acetabular fossa.
- incorrect seating within the acetabular ring may jeopardize the primary press-fit fixation.
- the acetabular component should be implanted in the anatomical position at sufficient depth with an angle of 45° relative to the longitudinal body axis and in 15° of anteversion.
- the internal size of the acetabular component corresponds with the outer size of the femoral component.
- two acetabular components are available for each femoral component, one being 2 mm bigger than the other.
- the inner size of the acetabular component selected should be large enough to prevent the use of a too small femoral component.

In cases with a sub-optimal anatomy, when pre-operative templating shows, that the ACCIS Surface Replacement can only be implanted with a cup diameter bigger than the acetabulum or with a risk of neck notching, implantation of a total hip replacement should be considered.

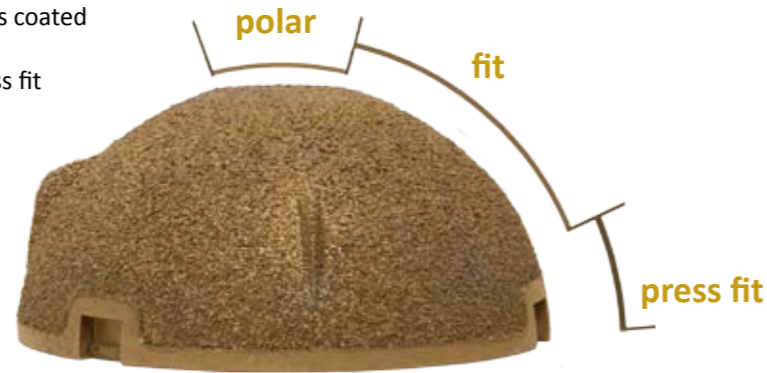
Caution

Familiarity with the general surgical requirements for hip resurfacing arthroplasty and instrumentation and proper implantation of the ACCIS System are required prior to its use in patients because implantation can be a more technically demanding procedure than traditional total hip arthroplasty.



ACCIS® cementless acetabular components

- the cementless ACCIS® acetabular components have three radii with three distinct areas:
- the “polar area” where there is no contact between the bone and the component.
- the “fit area” where the bone is in contact to the porous coated surface for bone ingrowth.
- the “press fit area” which provides circumferential press fit at the equator for primary implant stability.
- cementless cups are available with outside diameters 42-64 mm with 2 mm increments.
- the outer side has a three radial design with a 1.6 to 2.1 mm wider circumference at the equator and a slightly smaller radius at the pole.
- the wider circumference at the equator provides a perfect press fit fixation.
- two additional fins placed at the equator add to the rotational stability.
- a pure Titanium porous coating increases the primary stability and provides bone in-growth capacity.
- the inner side of the acetabular cup is purely spherical to accommodate the femoral head component.



Head Diameter	Acetabulum Reamer	Acetabulum Cup Diameter	Equatorial Diameter
38	42	42	43,6
	44	44	45,7
42	46	46	47,7
	48	48	49,7
44	48	48	49,7
	50	50	51,7
46	50	50	51,7
	52	52	53,8
48	52	52	53,8
	54	54	55,8
50	54	54	55,8
	56	56	57,9
52	56	56	57,9
	58	58	59,9
54	58	58	59,9
	60	60	62,0
58	62	62	64,0
	64	64	66,1

ACCIS® femoral heads for Surface Hip Replacement

- the femoral component of the surface replacement system is designed for cemented fixation.
- a surface replacement femoral head component with cementless fixation is under investigation.



Surgical Technique for the ACCIS® Surface Replacement Hip Arthroplasty, by Dr. K.J.Hamelynck

The ACCIS surface replacement system incorporates many of the design principles of conservative hip Arthroplasty and the successful design characteristics of earlier metal-on-metal hip resurfacing systems for maximized bone and soft tissue preservation. Exact component sizing and positioning is mandatory to preserve as much acetabular and femoral bone as possible and to allow a free ROM without impingement.

Femoral component. The femoral component should ideally be positioned in a neutral to slightly valgus position relative to the anatomical neck axis with a ventral offset as large as possible. An implantation in varus position increases the risk of femoral neck fracture. A missing anterior component-neck-offset can lead to impingement and reduced range of flexion especially when the cup anteversion is decreased too. It is critical to ensure that the femoral component inner diameter is slightly greater than the widest diameter of the femoral neck to avoid neck notching and fracture.

Acetabular component. The cup has to be selected in a size that fills the acetabular fossa and gives a sufficient primary stability without over-reaming the acetabulum and removing excessive amounts of healthy bone stock. It has to be positioned in an abduction angle great enough to ensure a perfect tribology of the bearing and to avoid rim loading. The anteversion should be large enough to allow a free flexion movement without impingement. In cases with an abnormal anatomy (i.e. CDH, pistol grip deformities, coxa vara or short femoral necks) the surgeon has to judge on an individual basis if a correction is possible with the ACCIS surface replacement system to achieve a stable implant fixation and free range of motion. If that is impossible, the procedure should be changed into conventional THR.

Sequence of surgical actions:

1. surgical approach.
2. femur first or acetabulum first?
3. preliminary sizing of the femoral component.
4. inserting the femoral neck guide wire.
5. preliminary preparation of the femoral head.
6. preparation of the acetabulum.
7. establishing the cup size.
8. insertion of the acetabular component.
9. final sizing of the femoral head.
10. resection of the femoral dome.
11. chamfer reaming of the femoral dome.
12. insertion of the femoral component.
13. reduction and closure of the wound.

1. surgical approach:

- ACCIS® resurfacing implants can be implanted through either the posterior and the antero-lateral approach.
- for the antero-lateral approach special angled acetabular reamers and impactors are available.
- sufficient exposure, access to the femoral neck and acetabulum and adequate visibility are critical to the positioning of the implant and should prevail over the desire to reduce the scar length and minimize the soft tissue trauma, how desirable they may be.

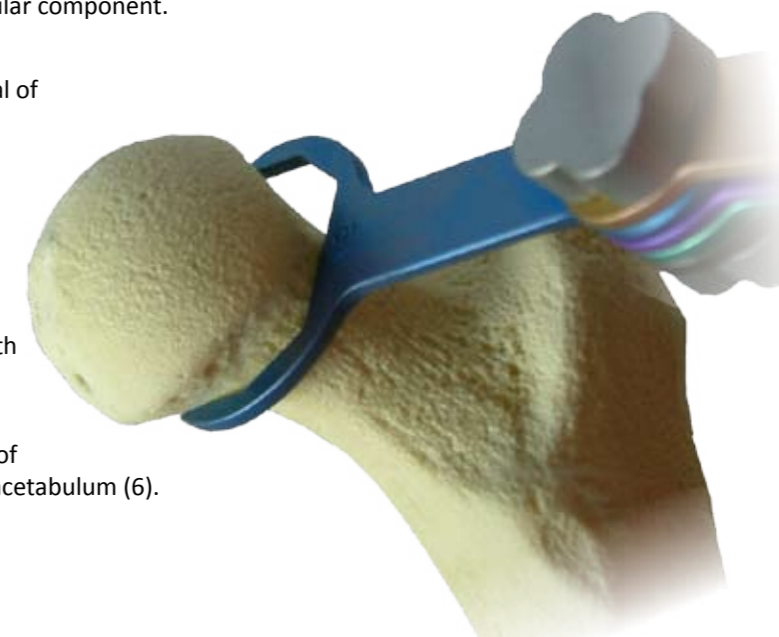
2. femur first or acetabulum first?

- the technique of starting with a preliminary preparation of the femoral head has advantages over starting with the acetabulum.
- the removal of excessive bone and osteophytes may contribute considerably to a good visibility of the acetabulum.
- a preliminary size of cylindrical reaming one size (+2 mm) or two sizes (+4mm) bigger than the determined minimal size as measured with templates provides the surgeon with more choices when sizing the acetabular component.
- the maximum of hard subchondral bone is preserved.
- the surgeon may prefer to start with the preparation of the acetabulum, but preliminary sizing of the femoral component should always be done first to provide the surgeon with an estimate of the outer size of the femoral component. this size must accommodate the inner size of the acetabular component.

3. preliminary sizing of the femoral component:

- after opening the joint, dislocation of the hip and removal of osteophytes, the femoral neck (not the femoral head) is measured, using the color coded head-neck templates.
- the outside of the template gives the size of the outer diameter of the femoral component.
- the sizer must be placed across the widest part of the neck, this size is the minimal size of femoral component that may be used.
- the outer size of the femoral component corresponds with the inner size of the acetabulum component.

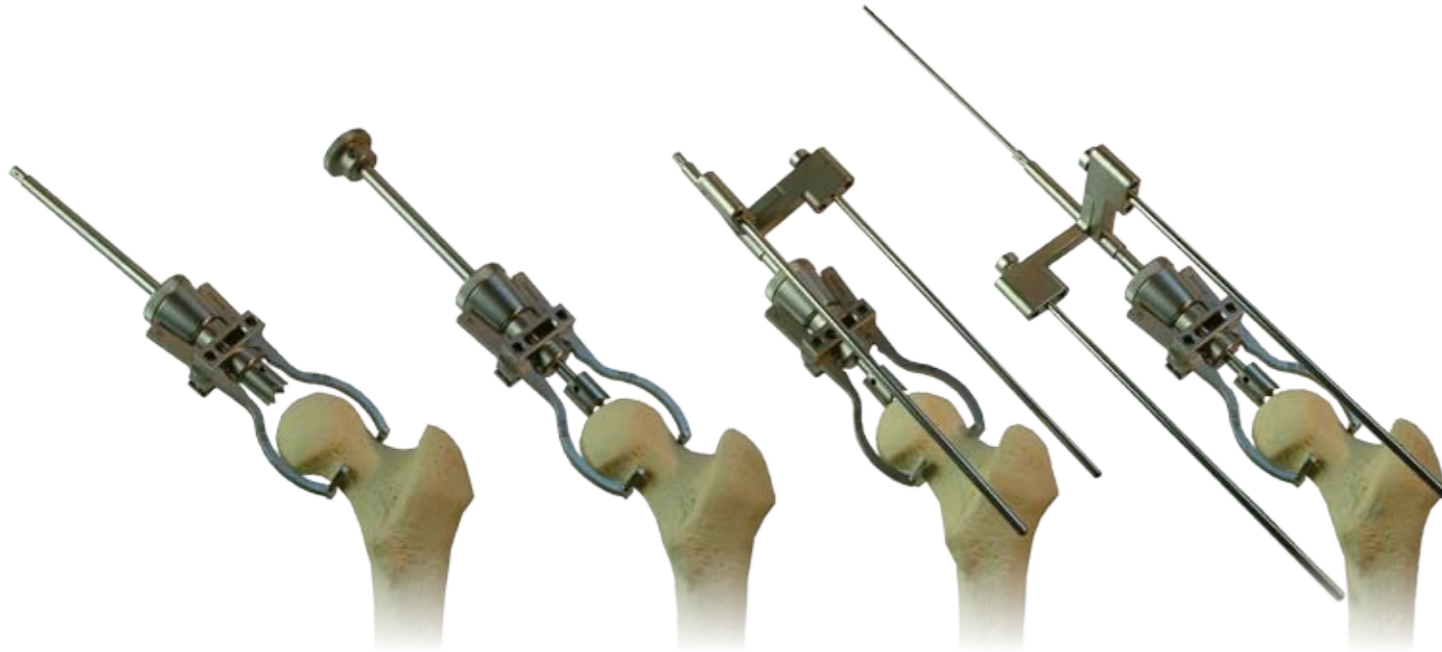
After the preliminary sizing of the femoral component the surgeon may elect to start with the preliminary preparation of the femoral head (4) or to start with the preparation of the acetabulum (6).



4. Inserting the femoral neck guide wire:

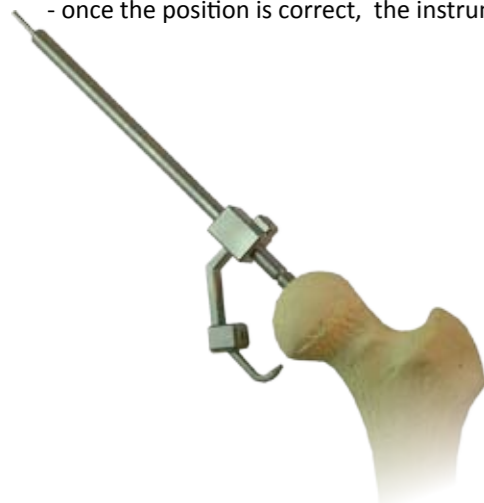
Principle

- the axis of the femoral neck and not the shape and size of the femoral head is used as a reference for the insertion of the guide wire and the reaming procedure of the femoral head.
- the femoral component must be placed with a femoral neck-shaft angle of ideally 140° but not below 135°. As a result the component will be placed in a 5-10° valgus position.
- any notching of the femoral neck must be avoided. This will reduce the risk of post operative neck fractures.
- during the preliminary preparation the size of the cylindrical reamer should be larger than the largest circumference of the femoral neck.



Technique

- the guide wire instrument is supplied with two sizes of arms that will grasp around the femoral neck.
- once the guide wire instrument is placed around the neck, it is tightened to get a secure grip around the neck.
- the knurled knob advances the serrated dish onto the head of the femur and is tightened lightly.
- the knurled knob is removed to allow one or two alignment towers to be mounted on the wire guide.
- a rod, that can rotate freely around the neck, to fully check the correct positioning in the AP and ML plane is advanced through the alignment tower.
- it is also possible to use two rods (these will be at a 90° angle) to check the positioning.
- the femoral component must be placed with a femoral neck-shaft angle of 135° - 140°, this way the component is placed in a 0°-10° valgus position.
- once the position is correct, the instrument is fixed by turning the knurled knob and the K-wire can be drilled in.



Preliminary sizing of the femoral head

- after removal of the alignment guide the stylus arm is set to the minimal size determined in step 3 (page 5) and is placed over the K-wire to check again whether the guide wire is well centered and there is complete clearance from the neck.

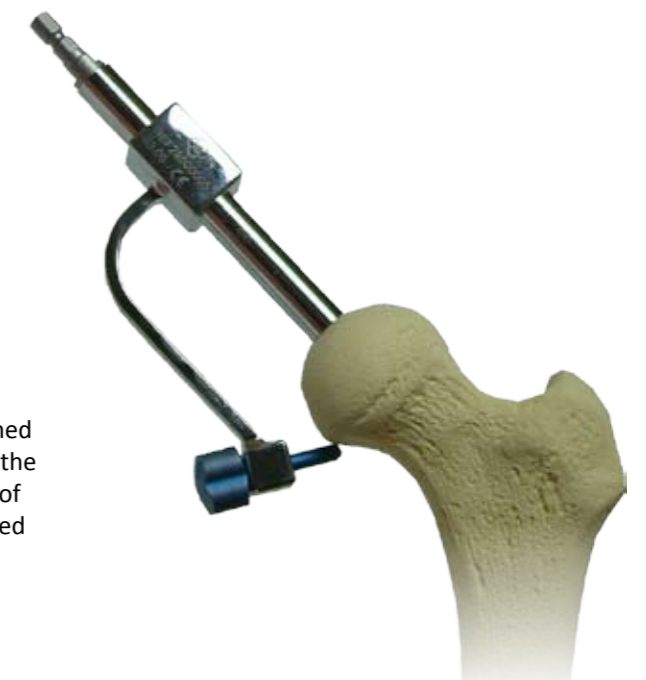
5. Preliminary preparation of the femoral head:

- 5a - the femoral head is drilled to accommodate the guide rod.
- the reamer is guided by the guide wire and is inserted until the mark of the previous selected size is reached.



- 5b - the guide rod is now inserted using the quick-lock T-handle.
- the femoral head reamers will be guided by this guide rod.
- during the preliminary preparation of the femoral head a size may be selected, one or two sizes bigger than the previously determined minimal size of the component.
- remember, the definitive size of the femoral component will be determined after implantation of the acetabular component.

- 5c - by setting the instrument at 2 or 4 mm bigger than the determined minimal size and circulating the stylus around the femoral head the amount of resection of the head can be estimated and the size of the cylindrical reamer to be used for the initial reaming is selected





5d Cylindrical Reaming:

- the femoral head may now be reamed using the cylindrical reamer.
- reaming should be performed in a gentle way starting with the reamer running at a relatively high speed without touching femoral bone.
- the femoral head should be reamed carefully starting from the top and proceeding gently without force.
- care should be taken not to notch into the femoral neck
- the head-neck templates can be placed inferior of the femoral head to protect the neck.
- it should be noted that in osteo-arthritic hips the amount of bone removed from the femoral head can be unevenly distributed over the head circumference.
- after reaming the reamer and the guide rod are removed.
- the final size of the femoral component will be determined by the size of the acetabular component.

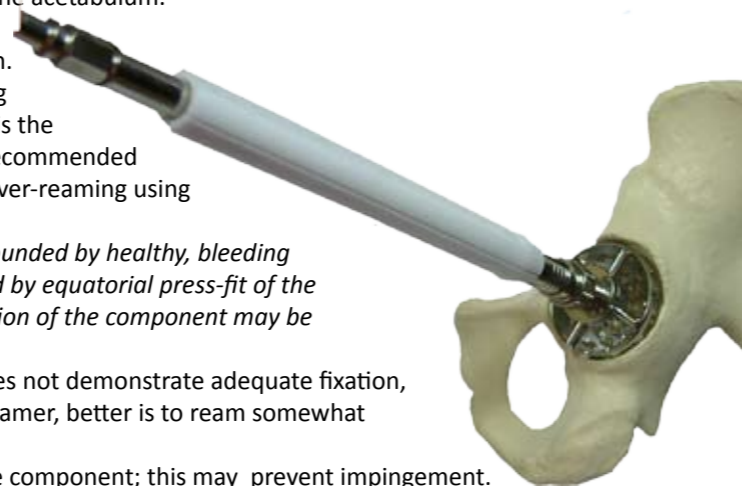
6. Preparation of the Acetabulum:

Principle :

- the cup has to be selected in a size that fills the acetabular fossa and give sufficiently primary stability without over-reaming. the acetabulum and removing excessive amounts of healthy bone stock. It has to be positioned in an abduction angle great enough to ensure a perfect tribology of the bearing and to avoid rim loading. The anteversion should be large enough to allow a free flexion movement without impingement.

Technique :

- the acetabular component should be implanted in the anatomical position at sufficient depth (well surrounded by bone) with an angle of 40°- 45° relative to the longitudinal body axis and in 15°- 20° of anteversion.
- it is recommended to start reaming in medial direction in order to remove the osteophytes around the fovea ("double fond") and reach the bottom of the fovea.
- a reamer should be used that is smaller than the estimated size of acetabular component.
- the same procedure is recommended in mild dysplasia of the acetabulum.
- once sufficient depth has been achieved, the reaming should be directed towards the desired 40°- 45° angulation.
- sequential reaming is recommended until adequate seating in the acetabulum is achieved. The size of the last reamer is the size of the acetabular component. Under-reaming is not recommended in most bone conditions, however in hard bone 1 mm of over-reaming using an intermediate reamer is recommended.
- it is mandatory to implant the component completely surrounded by healthy, bleeding acetabular bone, otherwise the press-fit principle provided by equatorial press-fit of the component will not function adequately and primary fixation of the component may be jeopardised.
- if the component at the end of the reaming procedure does not demonstrate adequate fixation, it is recommended, not to proceed initially with a larger reamer, better is to ream somewhat deeper, and retry.
- any osteophytes should be removed before implanting the component; this may prevent impingement.
- the inner size of acetabular component will determine the size of the definitive femoral component, so the surgeon should be aware of the size of the femoral head when making a decision about the size of the acetabular component.



7. Establishing the Cup Size:

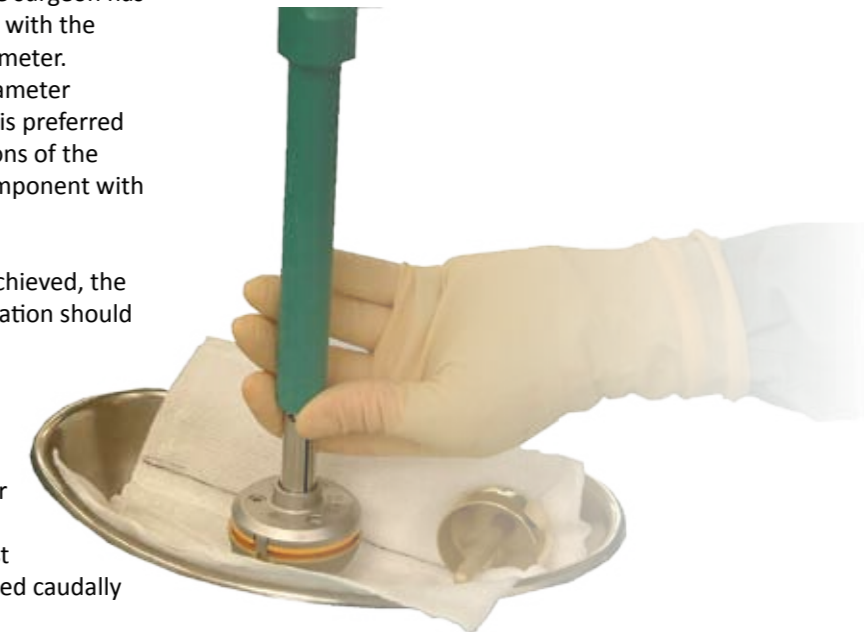
- the open-cage trial acetabular component gives you good visibility to ensure that the acetabular component can be seated properly.
- the size measured is the size of the final component to be implanted.
- the configuration of the acetabular cups is such that there is adequate circumferential fit; no under-reaming is required.



- when selecting the final acetabular component, the surgeon has two options, there are two acetabular components with the same outer diameter, but with a different inner diameter.
- the acetabular component with the larger inner diameter together with the larger femoral head component is preferred over the smaller diameter, unless the bony conditions of the femoral head necessitate the placement of the component with the smaller diameter.
- the options are colour-coded.
- in case insufficient primary stability of fixation is achieved, the use of an acetabular component with cemented fixation should be considered.

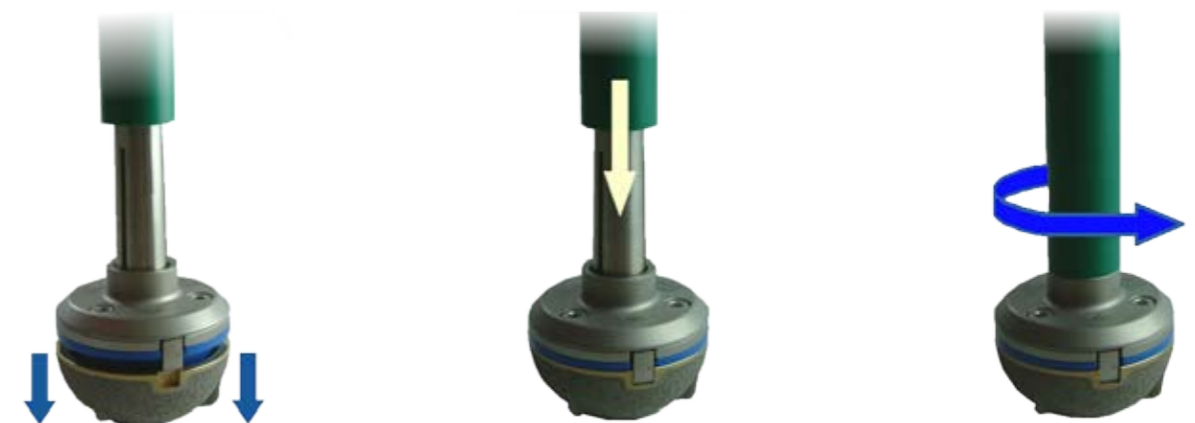
8a Insertion of the acetabulum component:

- the ACCIS® acetabular component is placed without the use of acrylic bone cement.
- the cup has a tri-radial circumference to provide for an excellent press-fit fixation.
- two fins secure press-fit fixation and protect against rotational forces; these two fins have to be implanted caudally on both sides of the original fovea.
- the cup is placed on the corresponding colour coded self-holding cup inserter.
- this coupled impactor is used to facilitate a proper positioning.
- impacting the cup it is recommended to use a hammer of sufficient weight (> 800 gram) to adequately seat the component and to acquire the desired equatorial press-fit. The impaction should be performed in a gentle manner
- for final seating of the cup the second colour coded impactor should be used.
- after implantation of the cup the stem is removed from the impactor and the impactor is left in place to protect the acetabular component.



8b Use of the Coupled Impactor:

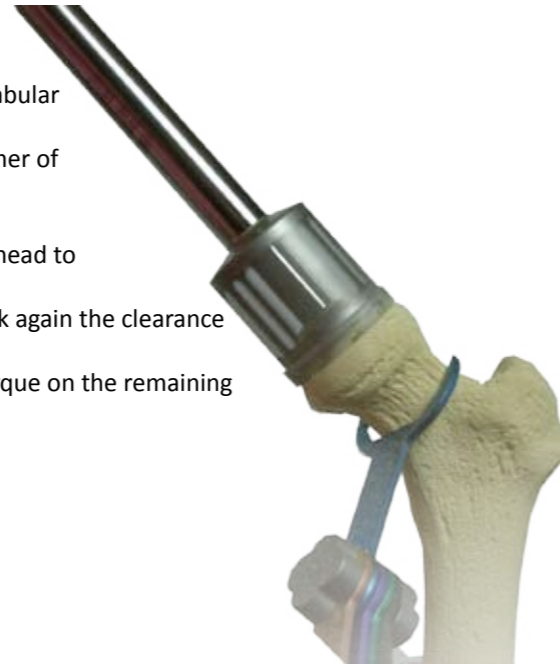
- the cup may be fixed by placing the three prongs on the cup and advancing the sleeve on the impactor.
- once the impactor is seated it locked by turning the sleeve half a turn, in either direction.
- to loosen the inserter after placing the cup, the inserter must be turned half a turn and the sleeve is pulled back.



The surgeon who started with the preparation of the acetabulum has now to continue with the preparation of the femur as described in paragraph 4.

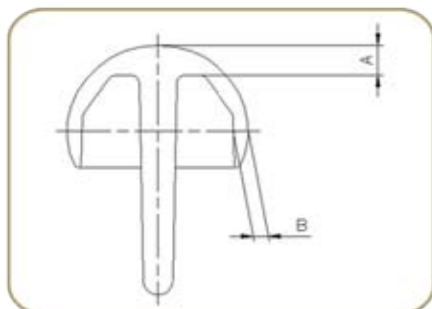
9. Final Preparation of the Femur:

- the final size of the femoral component is selected, the size is determined by the inner diameter of the size of the acetabular component.
- the femoral head may now be reamed using the cylindrical reamer of the final size.
- care should be taken not to notch into the femoral neck.
- the head-neck templates can be placed inferior of the femoral head to protect the neck.
- before starting the reaming procedure it is recommend to check again the clearance around the neck using the stylus.
- the reamer should be advanced slowly to prevent too much torque on the remaining bone.
- after reaming the reamer and the guide rod are removed.



10. Resecting the Femoral Dome:

- now the dome of the remaining femoral head is resected, a colour coded sleeve of the corresponding size is placed around the reamed part of the femoral head.
- the sleeve should be placed well over the femoral head in such manner that all subchondral bone of the femoral head is covered.
- the sleeve must be fixed with the fixation screw, for additional stability one or two Steinman pins may be added.
- the head is now trimmed off with a reciprocating saw (an oscillating saw is not recommended).

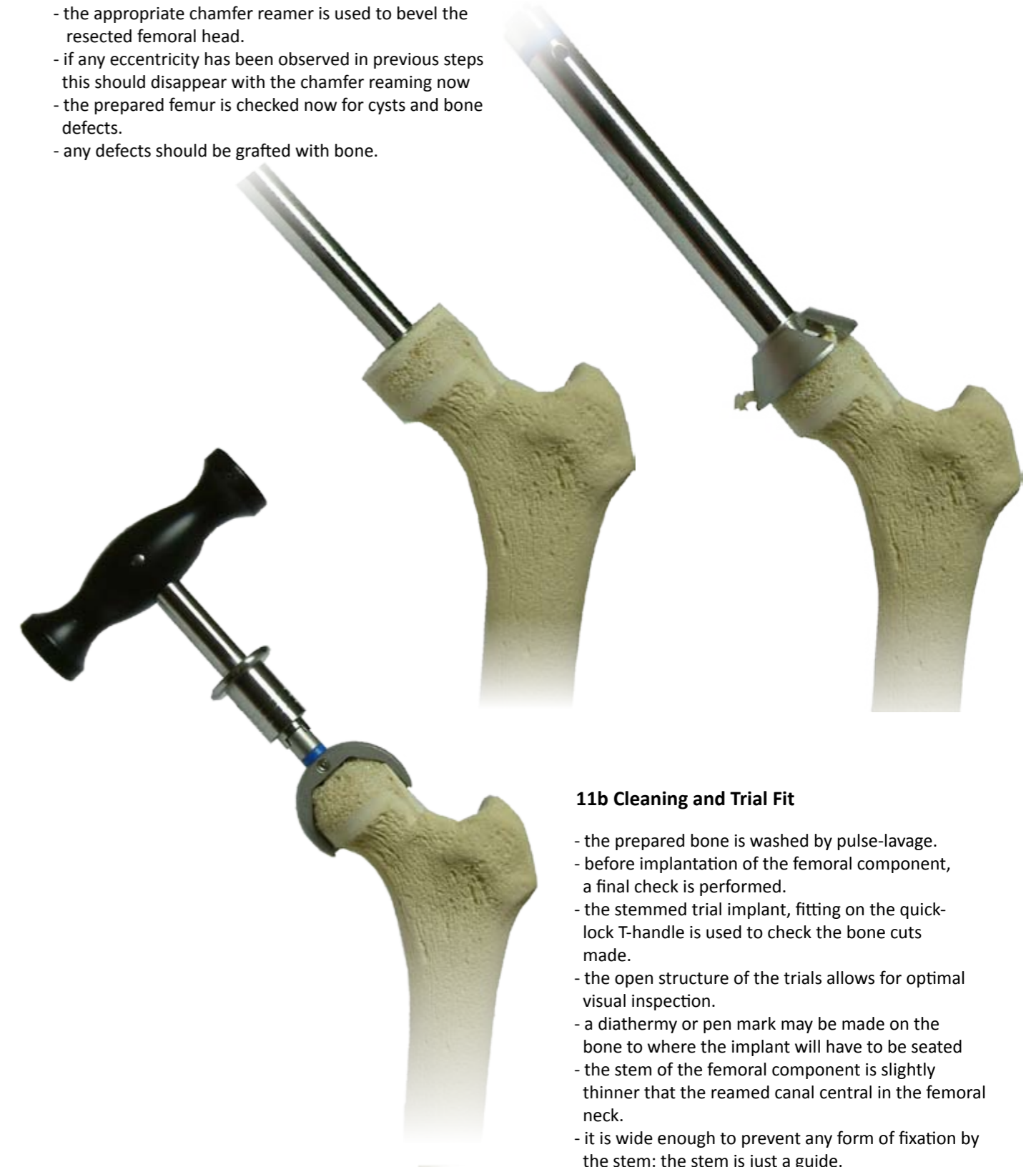


OD size	A	B
38 mm	6.0 mm	3,7 mm
42 mm	7.0 mm	3,7 mm
44 mm	7.5 mm	3,8 mm
46 mm	8.0 mm	3,8 mm
48 mm	8.5 mm	3,8 mm
50 mm	9.0 mm	3,7 mm
52 mm	9.5 mm	3,8 mm
54 mm	10.0 mm	3,7 mm
58 mm	11,0 mm	3,7 mm

- using the chart (left) the exact level of femoral head to be resected and exact placement of the femoral neck ring can be established.
- an osteotome is placed at 90° angle across the highest point of the head and a ruler at a 90° angle to that from the op surface of the neck ring to give the correct resection height.

11a Chamfer Reaming of the Femoral Dome:

- the guide rod is re-inserted.
- the chamfer reamer should be advanced slowly to prevent too much torque on the remaining bone.
- either gauzes or a protective plastic sheet are used to prevent bone debris from entering into the surgical field.
- the appropriate chamfer reamer is used to bevel the resected femoral head.
- if any eccentricity has been observed in previous steps this should disappear with the chamfer reaming now
- the prepared femur is checked now for cysts and bone defects.
- any defects should be grafted with bone.



11b Cleaning and Trial Fit

- the prepared bone is washed by pulse-lavage.
- before implantation of the femoral component, a final check is performed.
- the stemmed trial implant, fitting on the quick-lock T-handle is used to check the bone cuts made.
- the open structure of the trials allows for optimal visual inspection.
- a diathermy or pen mark may be made on the bone to where the implant will have to be seated
- the stem of the femoral component is slightly thinner that the reamed canal central in the femoral neck.
- it is wide enough to prevent any form of fixation by the stem: the stem is just a guide.

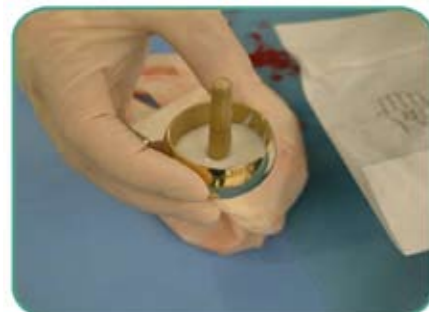


12. Insertion of the Femoral Component:

- the final component is placed and fixed to the bone using bone cement.
- a medium or low viscosity bone cement is used.
- bone cement is not used for filling the defects, but is used on top of the dome.
- only a limited amount of cement should be used.
- cement entering the canal for the central pin should be avoided.
- all reamed bone should be covered when the component is in place.

12a Using low viscosity bone cement:

- a venting canula is introduced through the cortical bone into the trochanter minor.
- no suction should be applied on the canula.
- a small amount of bone cement is poured into the femoral component.
- the cup is placed and gently impacted using the femoral impactor.



12b Using low viscosity bone cement, modified technique:

- no venting canula is placed.
- a small amount of bone cement is poured into the femoral component.
- the femoral component is turned in such a way that the cement is distributed over the inner surface of femoral component.
- any excess cement is poured out from the femoral component.
- the component is placed by finger forces or by mild impaction with the femoral impactor.



12c. Using medium viscosity bone cement:

- cement is spatulated on the inside of the femoral component.
- the femoral component is preferably implanted without force, gentle hammering may be needed.

Excess cement should be removed carefully.

13. Reduction of the hip and closure



ACCIS® Components

ACCIS® Acetabular Components cementless

2912-3842	ACCIS® Acetabular Component cementless 38/42 mm
2912-3844	ACCIS® Acetabular Component cementless 38/44 mm
2912-4246	ACCIS® Acetabular Component cementless 42/46 mm
2912-4248	ACCIS® Acetabular Component cementless 42/48 mm
2912-4448	ACCIS® Acetabular Component cementless 44/48 mm
2912-4450	ACCIS® Acetabular Component cementless 44/50 mm
2912-4650	ACCIS® Acetabular Component cementless 46/50 mm
2912-4652	ACCIS® Acetabular Component cementless 46/52 mm
2912-4852	ACCIS® Acetabular Component cementless 48/52 mm
2912-4854	ACCIS® Acetabular Component cementless 48/54 mm
2912-5054	ACCIS® Acetabular Component cementless 50/54 mm
2912-5056	ACCIS® Acetabular Component cementless 50/56 mm
2912-5256	ACCIS® Acetabular Component cementless 52/56 mm
2912-5258	ACCIS® Acetabular Component cementless 52/58 mm
2912-5458	ACCIS® Acetabular Component cementless 54/58 mm
2912-5460	ACCIS® Acetabular Component cementless 54/60 mm
2912-5862	ACCIS® Acetabular Component cementless 58/62 mm
2912-5864	ACCIS® Acetabular Component cementless 58/64 mm



ACCIS® Resurfacing Femoral Components cemented

2900-0038	ACCIS® Resurfacing Femoral Component cemented 38 mm
2900-0042	ACCIS® Resurfacing Femoral Component cemented 42 mm
2900-0044	ACCIS® Resurfacing Femoral Component cemented 44 mm
2900-0046	ACCIS® Resurfacing Femoral Component cemented 46 mm
2900-0048	ACCIS® Resurfacing Femoral Component cemented 48 mm
2900-0050	ACCIS® Resurfacing Femoral Component cemented 50 mm
2900-0052	ACCIS® Resurfacing Femoral Component cemented 52 mm
2900-0054	ACCIS® Resurfacing Femoral Component cemented 54 mm
2900-0058	ACCIS® Resurfacing Femoral Component cemented 58 mm



ACCIS® Cemented Acetabular Components

2923-3848	ACCIS® Acetabular Component cemented 38/48 mm
2923-3850	ACCIS® Acetabular Component cemented 38/50 mm
2923-4252	ACCIS® Acetabular Component cemented 42/52 mm
2923-4254	ACCIS® Acetabular Component cemented 42/54 mm
2923-4656	ACCIS® Acetabular Component cemented 46/56 mm
2923-4658	ACCIS® Acetabular Component cemented 46/58 mm
2923-5060	ACCIS® Acetabular Component cemented 50/60 mm
2923-5062	ACCIS® Acetabular Component cemented 50/62 mm
2923-5464	ACCIS® Acetabular Component cemented 54/64 mm



ACCIS® Modular Femoral Heads and Necks

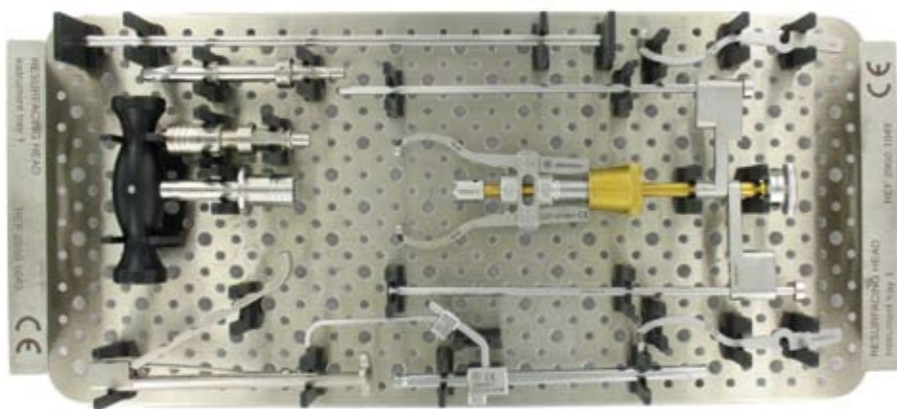
2902-0038	ACCIS® Femoral Head (modular) Ø 38 mm
2902-0042	ACCIS® Femoral Head (modular) Ø 42 mm
2902-0044	ACCIS® Femoral Head (modular) Ø 44 mm
2902-0046	ACCIS® Femoral Head (modular) Ø 46 mm
2902-0048	ACCIS® Femoral Head (modular) Ø 48 mm
2902-0050	ACCIS® Femoral Head (modular) Ø 50 mm
2902-0052	ACCIS® Femoral Head (modular) Ø 52 mm
2902-0054	ACCIS® Femoral Head (modular) Ø 54 mm
2902-0058	ACCIS® Femoral Head (modular) Ø 58 mm
2938-4400	Modular Neck Ø 38-44 mm Short
2938-4405	Modular Neck Ø 38-44 mm Standard
2938-4410	Modular Neck Ø 38-44 mm Long
2946-5000	Modular Neck Ø 46-50 mm Short
2946-5005	Modular Neck Ø 46-50 mm Standard
2946-5010	Modular Neck Ø 46-50 mm Long
2952-5800	Modular Neck Ø 52-58 mm Short
2952-5805	Modular Neck Ø 52-58 mm Standard
2952-5810	Modular Neck Ø 52-58 mm Long



Modular Neck and Head Assembled

ACCIS® Instrument Trays

**ACCIS® Resurfacing Head
Instrument Tray 1 - Top Tray**
REF 2950-1049



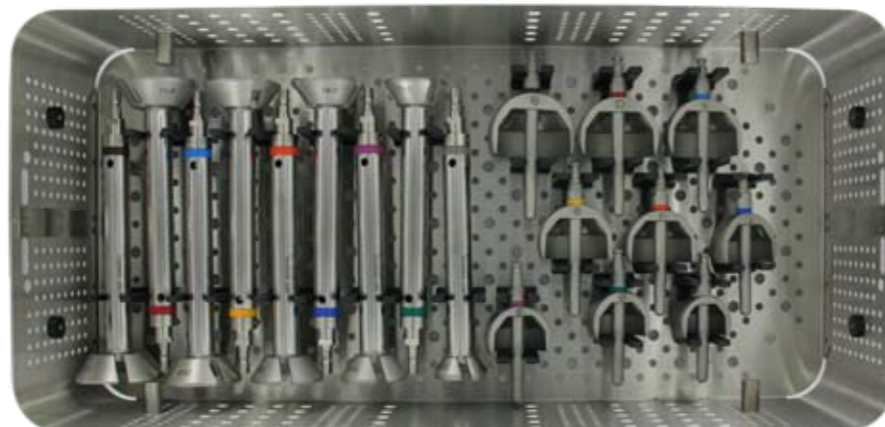
**ACCIS® Resurfacing Head
Instrument Tray 1 - Bottom Tray**
REF 2950-1049



**ACCIS® Resurfacing Head
Instrument Tray 2 - Top Tray**
REF 2950-1050



**ACCIS® Resurfacing Head
Instrument Tray 2 - Bottom Tray**
REF 2950-1050



ACCIS® Instrument Trays

**ACCIS® Acetabular Cup Basic
Instrument Tray - Top Tray**
REF 2950-1051



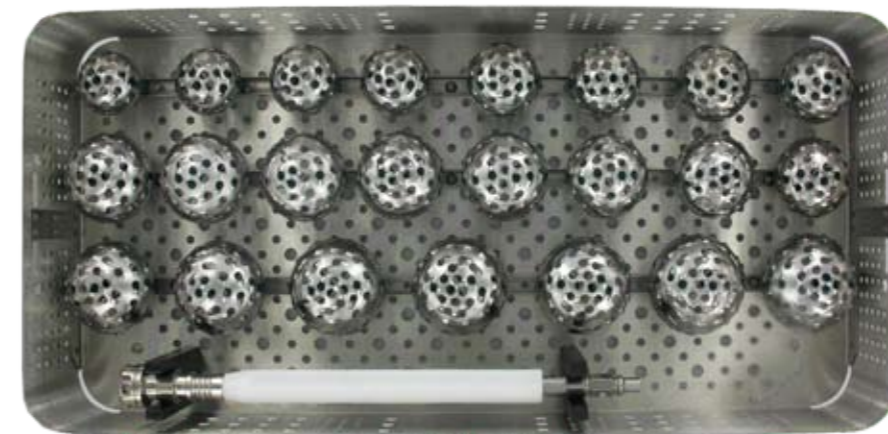
**ACCIS® Acetabular Cup Basic
Instrument Tray - Bottom Tray**
REF 2950-1051



**ACCIS® Acetabular Cup
Impaction Instrument Tray**
REF 2950-1052



**Acetabular Reamer Container
(42-64mm, 1mm step)**
REF 2950-1048





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