APRIL®

Cementless pressfit cup

symbios

custom-made for you

APRIL®

The APRIL® cup was created in 2007 and was designed to provide the surgeon with a modern and versatile cup system.

The APRIL® system helps effectively meet the current challenges of total hip arthroplasty, particularly with an increasingly active patient population and with greater functional expectations than before.

The APRIL® cup is indicated for total hip arthroplasty as primary treatment and enables the surgeon to benefit from cementless primary anchorage thanks to a progressive equatorial pressfit. The wide tribological option offered makes it possible to choose the frictional couple best suited to patients.

Since its creation, with over 50,000 implantations and over 10 years' clinical experience, the APRIL® system has become a versatile primary system which effectively complements the hip surgeon's therapeutic arsenal.

The instrumentation was completely revamped in 2017, becoming ultra-compact, ergonomic and enabling effective implantation regardless of the preferred surgical approach. This instrumentation was also designed to be compatible with the implantation of all Symbios cups.

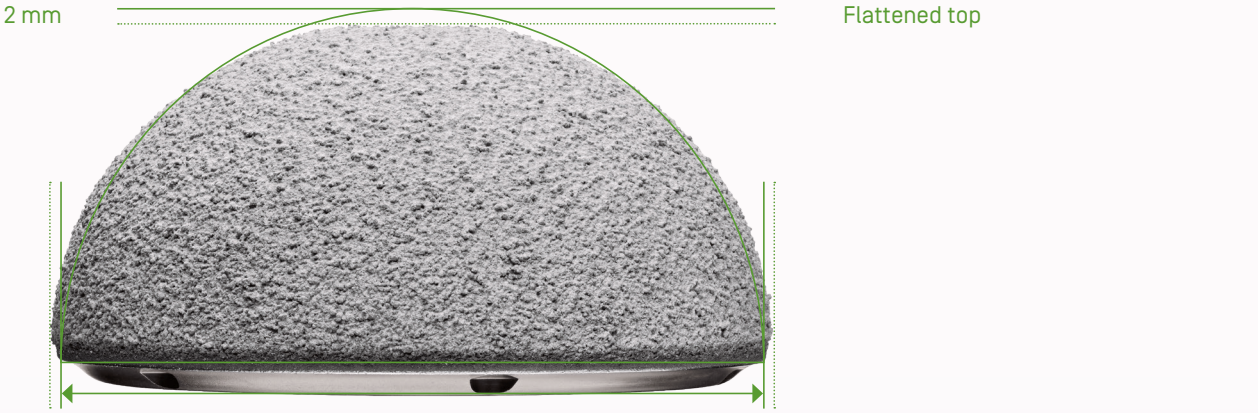
Increase primary stability

Progressive pressfit

- Hemispheric shape with flattened top
- Progressive pressfit reaching 1.4 mm at the equator
- Gradual force transmission at the equator

Reduced polar part

- Prevents any pressure on the acetabulum that could compromise pressfit stability
- Absorbs pressure during impaction



Optimum osteointegration

The APRIL® cup is made of titanium alloy, coated with porous titanium (500 µm) and hydroxyapatite (40 µm) enabling excellent anchorage and promoting osteo-integration for long-term biological fixation.

Minimally invasive equatorial design

The minimally invasive design of the APRIL® cup, with inward, softened edges, limits the risk of conflict with soft tissue and particularly with the iliopsoas muscle.

Optional screw to secure anchorage

In order to secure the initial stability of the cup after impaction, it is possible to complete the fixation with 3 cancellous bone screws of 6.5 mm in diameter (15 mm to 60 mm long) by removing the blanking caps at the base of the cup.

Large head diameter even for small sizes

The ceramic or polyethylene version of the APRIL® cup enables the use of a ø 36 head diameter, from size 52, in order to :

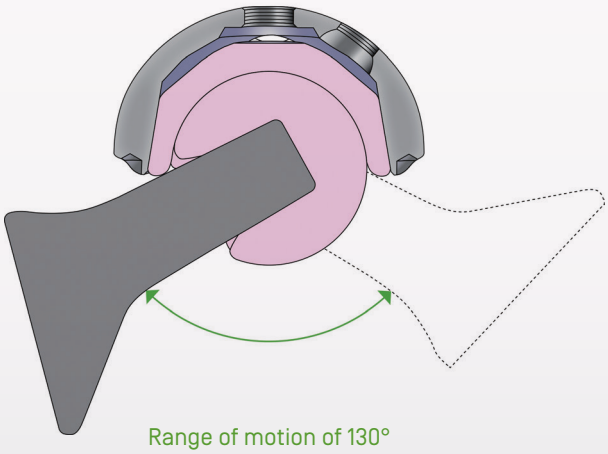
- Improve joint stability while reducing the risk of impingement
- Control wear and tear for good implant longevity
- Increase range of motion

These criteria are especially important in cases of young and active patients.

Cup sizes	40	42	44	46	48	50	52	54	56	58	60	62	64
ø Head (mm) with APRIL® Ceramic	28	28	28	32	32	32	36	36	36	40	40	40	40
ø Head (mm) with APRIL® Poly	22.2	22.2	22.2	28	28	32	36*	36	36	36	36	36	36

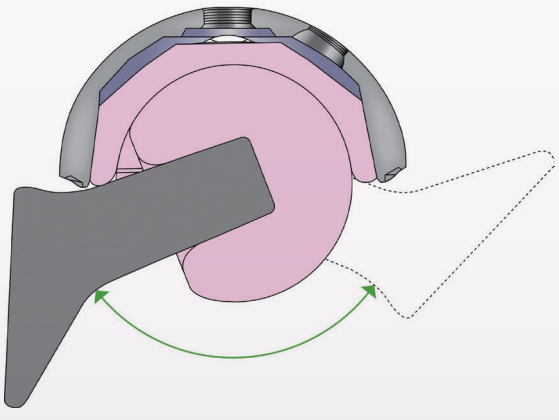
* Only with APRIL® Poly cups size 52 EXT

Head ø 28



Range of motion of 130°

Head ø 36



Range of motion of 142°

Choose freely

The APRIL® system offers a complete choice of frictional couple to meet a wide variety of indications without compromise.

Identical pressfit for both cups

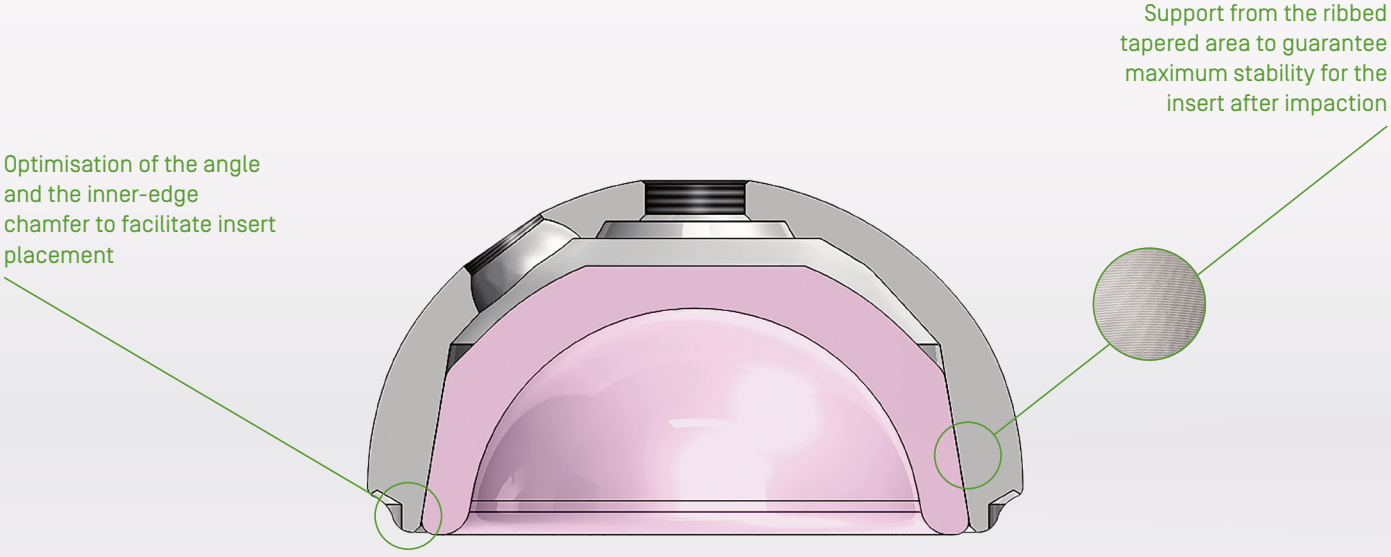
The interior design of the APRIL® cup enables, depending on the frictional couple, optimal mechanical cohesion between the insert and the cup, which was particularly designed to effectively reduce backside wear.

The APRIL® cup pressfit is identical in both versions (APRIL® Ceramic and APRIL® Poly), and therefore enables the surgeon to choose the frictional couple freely, while maintaining the same sensation during impaction.

APRIL® Ceramic

Easier insert positioning

The APRIL® Ceramic cup design makes it easier to place the insert up to its final position and helps prevent any risk of malpositioning.



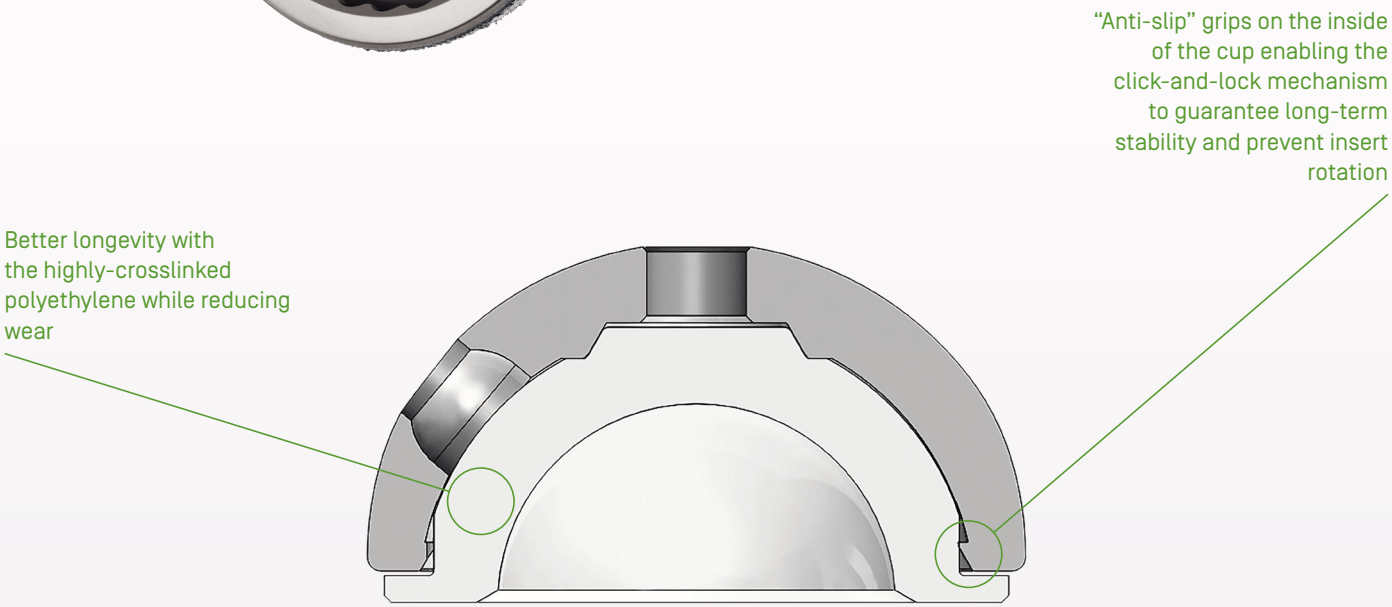
APRIL® Ceramic with BIOLOX® Delta insert

APRIL® Poly

High insert-cup congruence

Unlike the “2-in-1” cups, the APRIL® Poly cup does not require the ribbed tapered area required to stabilise the ceramic insert and which can be a factor accentuating polyethylene wear.

The specific design of the cup, with high congruence between the insert and the cup, was designed to limit backside wear which represents 30-50 % of all wear in metal-back cups [1].

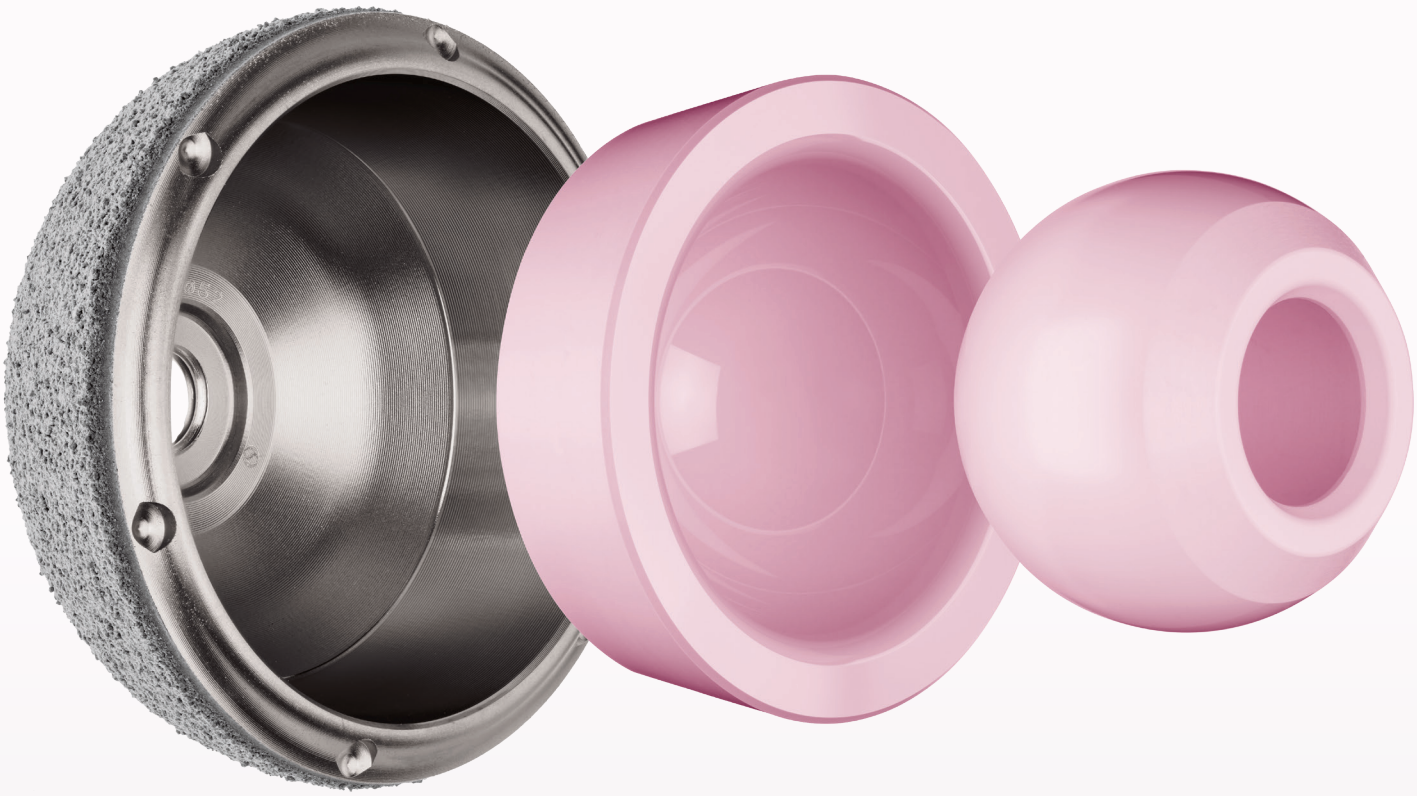


APRIL® Poly with INLOCK X insert

Management of very small sizes

Available upon request of APRIL® Ceramic cups in small sizes 40, 42 and 44 with ø 28 head.

Technology for better performance



APRIL® Ceramic and BIOLOX® Delta

Performance for active patients[2]

BIOLOX® Delta technology is one of the leading materials for active patients[2], thanks to its properties:

- Minimal wear[3][4]
- Excellent biocompatibility[5]
- High fracture resistance[6]

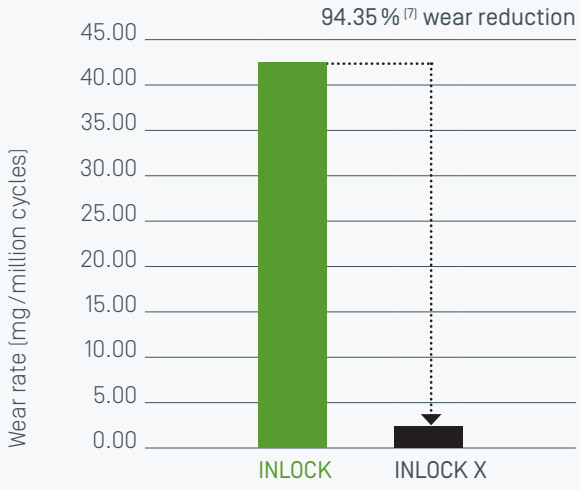
APRIL® Poly and INLOCK X

INLOCK X

The use of highly-crosslinked polyethylene with the INLOCK X insert reduces the wear rate by 94.35 % [7] compared to the standard polyethylene (INLOCK).

This technological advance offers better longevity for the implant while reducing the risk of osteolysis.

Wear reduction



Wear rate with BIOLOX® Delta head ø 36

Simple and flexible modern instrumentation

1 tray for all Symbios cups

Ultra-compact

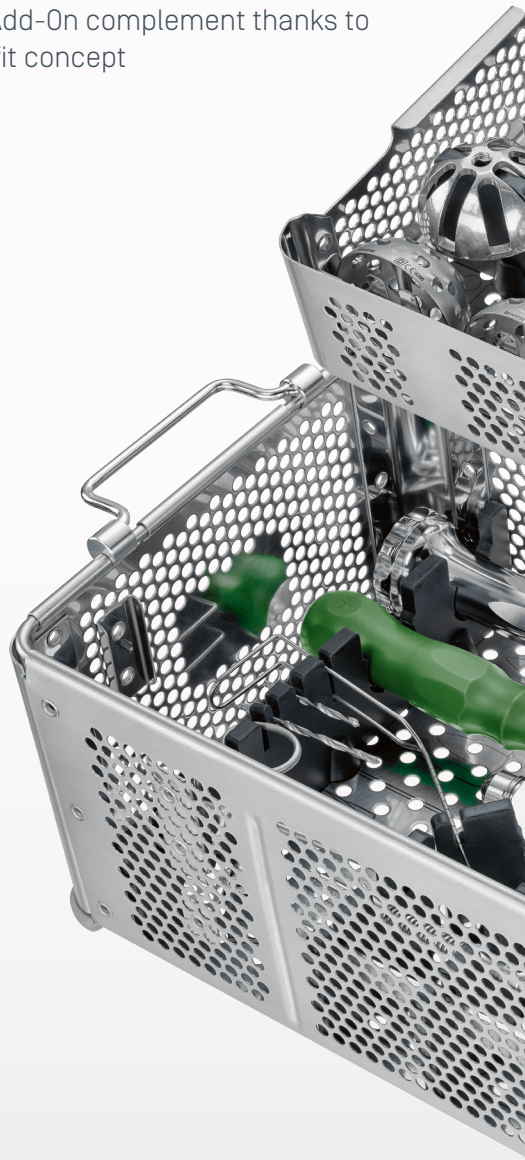
- Just a single tray for all Symbios cups
- SERENITY® Add-On in addition only for dual-mobility instruments
- Saves space and improves logistics management in the operating theatre

Easy to use

- Instruments are placed in an order consistent with the surgical steps
- Easy, quick instrument idendification and storage thanks to laser marking to scale at the base of the tray

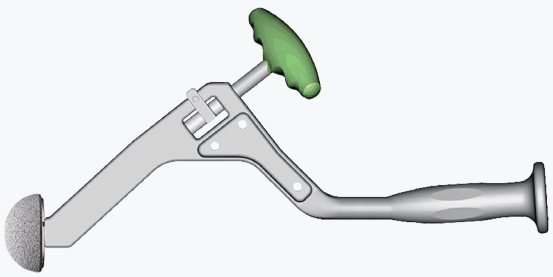
Surgical flexibility

- Instrumentation designed for all surgical approaches
- Versatile systems which offer the choice of a dual-mobility cup in peroperative stage with the SERENITY® Add-On complement thanks to the same pressfit concept



Effective impaction

- Design adapted to minimally invasive approaches
- Better impaction force

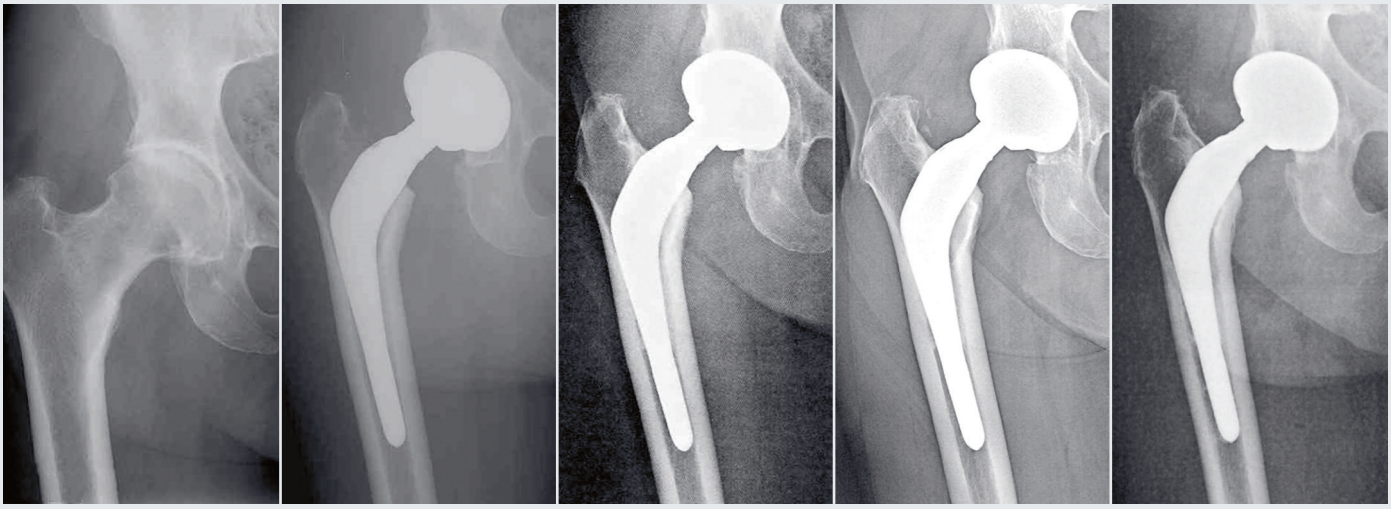


symbios

Clinical cases

CASE N° 1

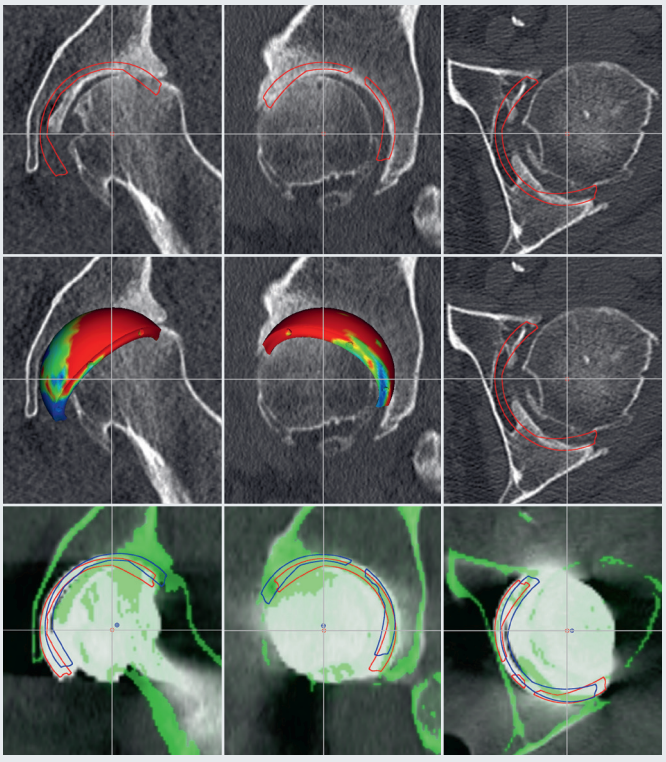
APRIL® Ceramic with CUSTOM HIP™ stem at 9 years



Preoperative | Postoperative | 3 years postoperative | 5 years postoperative | 9 years postoperative

CASE N° 2

APRIL® Ceramic planned in 3D with HIP-PLAN®



Coronal cut | Sagittal cut | Axial cut

3D HIP-PLAN® planning

- Acetabular offset of 97 mm
- Inclination of 44°
- Anteversion of 26°

- Control of bone density in contact with the cup

Planned implants:

- APRIL® Ceramic ø 52
- BIOLOX® Delta head +4 mm
- SPS® Evolution F

3D Postop

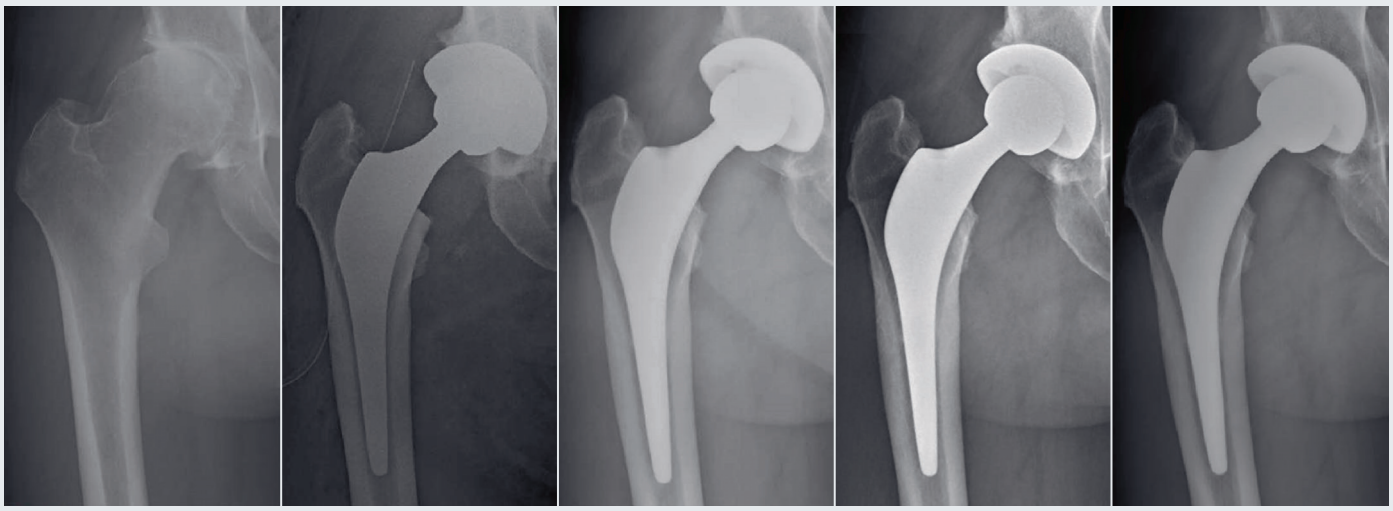
- Fusion of preop / postop CT scans (HIP-PLAN®)
- Inclination of 50°
- Anteversion of 29°

Implants used :

- APRIL® Ceramic ø 52
- BIOLOX® Delta head +0 mm
- SPS® Evolution F

CASE N° 3

APRIL® Poly with SPS® Evolution stem at 4 years

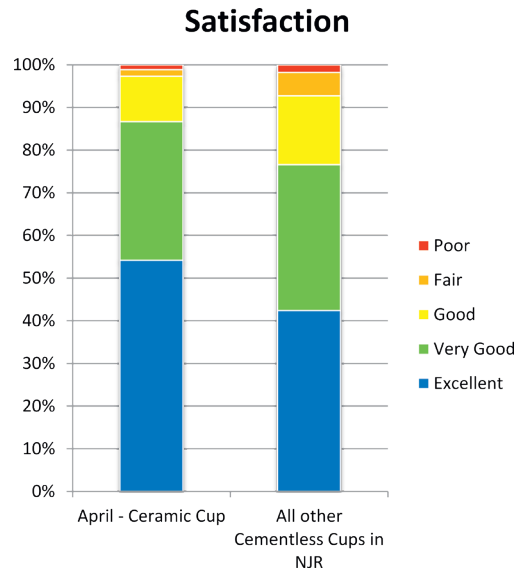


Preoperative | Postoperative | 1.5 years postoperative | 3 years postoperative | 4 years postoperative

Clinical results

The APRIL® system offers you the surgeon, a solution tailored to all your patient's needs, drawing on over 10 years of clinical experience.

APRIL® Ceramic: patient satisfaction is significantly higher* compared to other cementless cups from the National Joint Registry**



Chi-squared p-value for difference: <0.001
Answer to 6-months general health question:
How would you describe the results of your operation?

* Data from the National Joint Registry (08/2017).

** The data used for this analysis was obtained from the NJR data collection system. The Healthcare Quality Improvement Partnership ("HQIP") and/or the National Joint Registry ("NJR") are not responsible for the precision, currency, reliability or exactitude of the data used or mentioned in the report, nor are they responsible for the precision, currency, reliability or exactitude of the links or references to other information sources. They make absolutely no guarantees concerning these data, links and references, to the maximum extent permitted by law.

3D precision with HIP-PLAN®

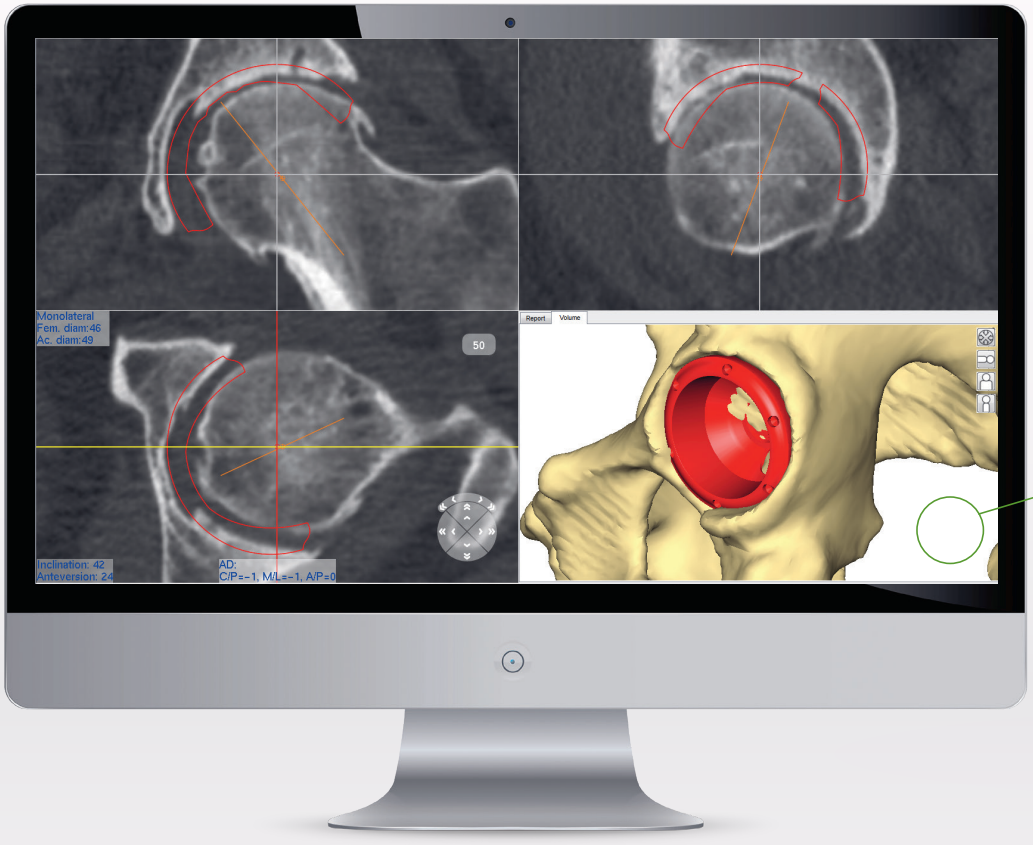
Advantages of 3D cup planning

- Precisely determine the positioning of the cup in three dimensions, as well as its size, inclination and anteversion.
- Examine the functional behaviour of implants thanks to the combination of multi-plan views with the surface view of the pelvis, in order to guard against oversizing which can cause conflict with the iliopsoas muscle during the postoperative period.
- Estimate the stability of reconstructed joint (cup and stem) by evaluating the functional outcome of reaming, position and size of chosen implants.

"Preoperative 3D planning increased the accuracy of anteversion restoration and reduced the percentage of outliers without increasing the operative time."

Sariali et al. JBJS Am., 2016 [8]

Three-dimensional view of the acetabulum and of the APRIL® cup



Surface view of the pelvis

APPENDICES

Implant references

APRIL® Ceramic

Cementless pressfit acetabular cup

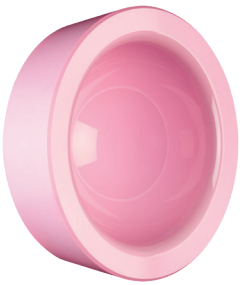
Titanium alloy (Ti6Al4V-ISO 5832-3), porous titanium and hydroxyapatite coating

Sizes	Ref.	Compatible inserts	Compatible heads			
			ø 28	ø 32	ø 36	ø 40*
40*	1025 4000*	40-44	•			
42*	1025 4200*					
44*	1025 4400*					
46	1025 4600	46-50		•		
48	1025 4800					
50	1025 5000					
52	1025 5200	52-56			•	
54	1025 5400					
56	1025 5600					
58	1025 5800	58-64			•	•
60	1025 6000					
62	1025 6200					
64	1025 6400					

BIOLOX® Delta Insert

Truncated conical insert

Ceramic (Al2O3 + ZrO2-ISO 6474-2)



Sizes	Ref.	Compatible heads			
		ø 28	ø 32	ø 36	ø 40*
40-44 / ø 28	1510 2835	•			
46-50 / ø 32	1510 3239		•		
52-56 / ø 36	1510 3644			•	
58-64 / ø 36	1510 3648			•	
58-64 / ø 40*	1510 4048*				•

APRIL® Poly

Cementless pressfit acetabular cup

Titanium alloy (Ti6Al4V-ISO 5832-3), porous titanium and hydroxyapatite coating

Sizes	Ref.	Compatible heads			
		ø 22.2	ø 28	ø 32	ø 36
40*	1027 4000*	•			
42*	1027 4200*	•			
44*	1027 4400*	•			
46	1027 4600		•		
48	1027 4800		•		
50	1027 5000		•	•	
52	1027 5200		•	•	
52 EXT	1027 5201				•
54	1027 5400		•	•	•
56	1027 5600		•	•	•
58	1027 5800		•	•	•
60	1027 6000		•	•	•
62	1027 6200		•	•	•
64	1027 6400		•	•	•

INLOCK X

Insert

Highly-crosslinked polyethylene (Chirulen® 1020 X-ASTM F2565)

Cup sizes	ø 22.2 0°	ø 22.2 10°	ø 28 0°	ø 28 10°	ø 32 0°	ø 32 10°	ø 36 0°	ø 36 10°
40*	1513 4010*	1513 4011*	–	–	–	–	–	–
42*	1513 4210*	1513 4211*	–	–	–	–	–	–
44*	1513 4410*	1513 4411*	–	–	–	–	–	–
46	–	–	1513 4620	1513 4621	–	–	–	–
48	–	–	1513 4820	1513 4821	–	–	–	–
50	–	–	1513 5020	1513 5021	1513 5030	1513 5031	–	–
52	–	–	1513 5220	1513 5221	1513 5230	1513 5231		–
52 EXT	–	–	–	–	–	–	1513 5240	1513 5241
54	–	–	1513 5420	1513 5421	1513 5430	1513 5431	1513 5440	1513 5441
56	–	–	1513 5620	1513 5621	1513 5630	1513 5631	1513 5640	1513 5641
58	–	–	1513 5820	1513 5821	1513 5830	1513 5831	1513 5840	1513 5841
60	–	–	1513 6020	1513 6021	1513 6030	1513 6031	1513 6040	1513 6041
62	–	–	1513 6220	1513 6221	1513 6230	1513 6231	1513 6240	1513 6241
64	–	–	1513 6420	1513 6421	1513 6430	1513 6431	1513 6440	1513 6441

* Only available upon request

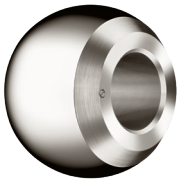
Implant references

BIOLOX® Delta Head

Ceramic head (Al203+Zr02-ISO 6474-2), compatible with 12/14 5°40' taper

Sizes	Offset in mm						
	-4	-3.5	+0	+3.5	+4	+7	+8
ø 28	–	2014 2801	2014 2802	2014 2803	–	–	–
ø 32	2014 3201	–	2014 3202	–	2014 3203	2014 3204	–
ø 36	2014 3601	–	2014 3602	–	2014 3603	–	2014 3604
ø 40*	2014 4001*	–	2014 4002*	–	2014 4003*	–	2014 4004*

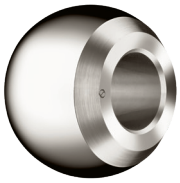
* Only available upon request



Cobalt-Chrome Head

Cobalt-Chrome head (CoCrMo-ISO 5832-12), compatible with 12/14 5°40' taper

Sizes	Offset in mm							
	-4	-3.5	-2	+0	+3.5	+4	+7	+8
ø 22.2	–	–	2010 2201	2010 2202	–	2010 2204	–	–
ø 28	–	2010 2801	–	2010 2802	2010 2803	–	2010 2804	–
ø 32	2010 3201	–	–	2010 3202	–	2010 3203	–	2010 3204
ø 36	2010 3601	–	–	2010 3602	–	2010 3603	–	2010 3604



Stainless Steel Head

Stainless steel head (ISO 5832-9),
compatible with 12/14 5°40' taper

Sizes	Offset in mm						
	-4	-3.5	+0	+3.5	+4	+7	+8
ø 28	–	2011 2801	2011 2802	2011 2803	–	2011 2804	–
ø 32	2011 3201	–	2011 3202	–	2011 3203	–	2011 3204

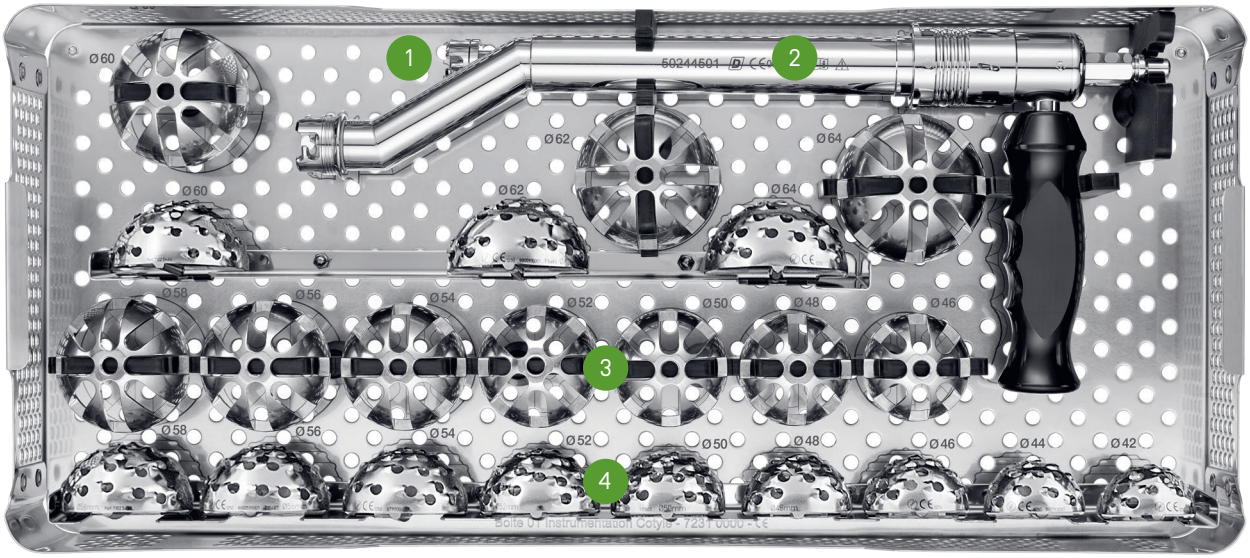
Spongious Bone Screw

Spongious bone screws
Titanium alloy (Ti6Al4V-ISO 5832-3)
Screw diameter ø 6.5 mm

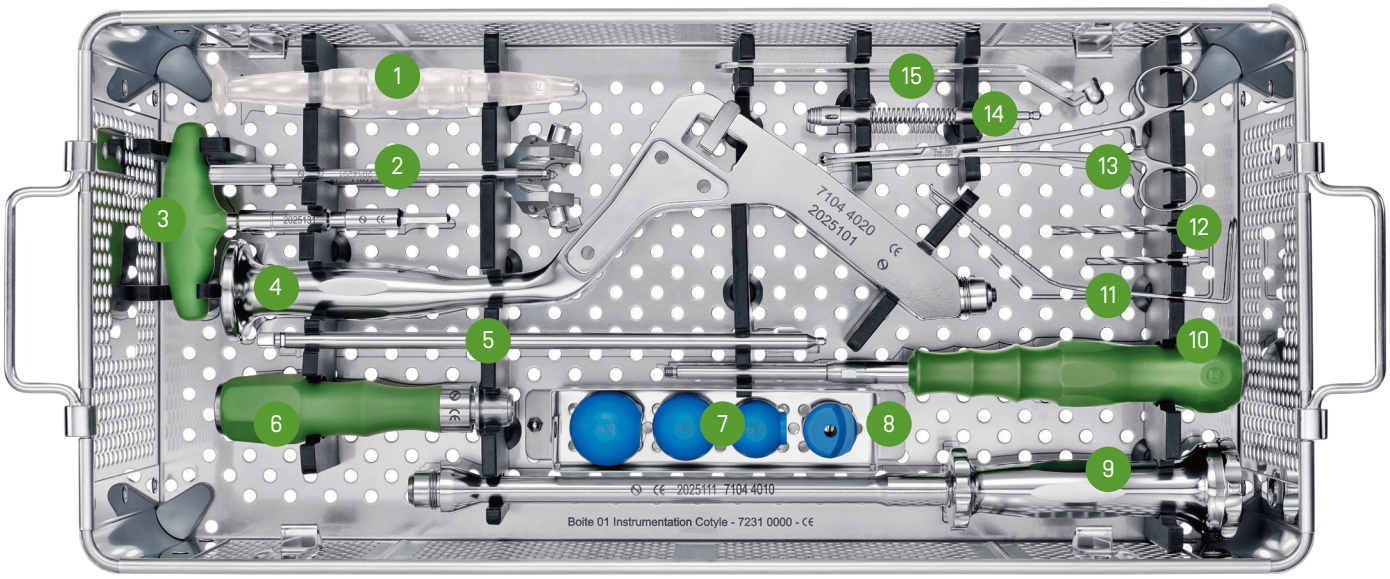
Sizes	Ref.	Length
L 15	8001 6515	15 mm
L 20	8001 6520	20 mm
L 25	8001 6525	25 mm
L 30	8001 6530	30 mm
L 35	8001 6535	35 mm
L 40	8001 6540	40 mm
L 45	8001 6545	45 mm
L 50	8001 6550	50 mm
L 55	8001 6555	55 mm
L 60	8001 6560	60 mm

Instrument references

Level 1



Level 2



7231 0000
Cup instrumentation

Level 1		Ref.
1	Straight reamer-handle	7106 2110
2	Offset reamer-handle	7106 2109
3	Trial cup ø46	7103 3046
	Trial cup ø48	7103 3048
	Trial cup ø50	7103 3050
	Trial cup ø52	7103 3052
	Trial cup ø54	7103 3054
	Trial cup ø56	7103 3056
	Trial cup ø58	7103 3058
	Trial cup ø60	7103 3060
	Trial cup ø62	7103 3062
	Trial cup ø64	7103 3064
4	Reamer ø42	7102 5442
	Reamer ø44	7102 5444
	Reamer ø46	7102 5446
	Reamer ø48	7102 5448
	Reamer ø50	7102 5450
	Reamer ø52	7102 5452
	Reamer ø54	7102 5454
	Reamer ø56	7102 5456
	Reamer ø58	7102 5458
	Reamer ø60	7102 5460
	Reamer ø62	7102 5462
	Reamer ø64	7102 5464

Level 2		Ref.
1	Suction cup for Ceramic insert	7104 4002
2	Cup positioner	7105 2016
3	T handle	PR100 011
4	Offset cup impactor	7104 4020
5	Cardan-shaft hex screwdriver bit	7104 6002
	Straight hex screwdriver bit	7104 6001
6	Universal handle	7105 5000
7	Insert impaction end-cap ø28	7104 2028
	Insert impaction end-cap ø32	7104 2032
	Insert impaction end-cap ø36	7104 2036
8	Repositioner end-cap	7105 2020
9	Straight cup impactor	7104 4010
10	Screwable impactor	7004 1000
11	Measurer	7105 3001
12	Drill bit ø3.2 mm × 40 mm	7102 4001
	Drill bit ø3.2 mm × 60 mm	7102 4002
13	Screw holder	7104 7004
14	Flexible shaft	7104 6010
15	Drill guide ø3.2 mm	7105 1006

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