



BIOTECHNI®

APOGEE® CUP

SURGICAL TECHNIQUE





Design

The **APOGEE cup** is a **dual mobility** implant available in a coated version (press-fit) and a cemented version. The cementless APOGEE cup with Ti+HA coating (ref. CAPxx), is a hemispherical press-fit cup; the primary stability is ensured by an immediate press-fit effect thanks to multiple retentive equatorial grooves on the first half of the cup, and an anti-rotational effect thanks to six meridian grooves distributed every 60°. The secondary stability is then ensured by the double coating which allows a good osseointegration of the implant.

Similarly, on the cemented APOGEE cup, the primary stability of the implant is ensured by the retentive equatorial grooves to anchor the cement and six anti-rotational meridian grooves distributed every 60°.

Cementless and cement APOGEE cups have a mirror-polished inner surface designed to protect the polyethylene insert from wear.

APOGEE cup is used with a **polyethylene dual mobility insert** (ref. IDM22-xx+ or IDM28-xx+).

Materials

The APOGEE cups are manufactured from high nitrogen content stainless steel rods, in conformity with ISO 5832-9 standards. The cementless APOGEE cup outer surface is coated with hydroxyapatite; the top of the dome is also coated with an additional layer of porous titanium.

The IDM+ inserts are manufactured from Ultra High Molecular Weight Polyethylene (UHMWPE) GUR-1050 (without calcium) rods and whose characteristics are conform to the ISO 5834-2 standard, type 2 classification. The insert design enables the retention of the femoral head.

Sizes

APOGEE cups are available in 10 sizes from 44 to 62 mm (outer diameter of the cup).

Dual mobility polyethylene inserts are available on 2 diameters: 22.22 mm and 28 mm.



Indications

APOGEE dual mobility cups are intended for hip arthroplasty due to:

- Arthrosis, rheumatoid arthritis and post-traumatic arthritis. Femoral head or neck fractures, bone tumor disease. Aseptic osteonecrosis of the femoral head.
- In primary total hip arthroplasty, in patients with high dislocations risks. In revision, in patients with iterative dislocations.
- Replacement of failed acetabular cup or revision of total hip arthroplasty.

Contraindications

Conditions which can severely affect the success of the implantation:

- Any local, acute, or chronic infection. Any infectious illness. Fever or leucocytosis.
- Systemic and metabolic disorders. Any mental or neuromuscular disorder.
- Deficient bone stock, osteopenia and/or severe osteoporosis.
- Drug, tobacco and/or alcohol addiction and/or abuse.
- Incomplete skeletal development.
- Intense physical activity
- Proved or suspect sensitivity to components
- Tumor unresectable or residual.
- Pregnancy, obesity or overweight.

These contraindications are of general order and not exhaustive, and the surgeon will have to evaluate each patients, in order to determine the risks specific to the surgery and the benefit for the patient.

Surgical technique

Step 1 Acetabular reaming

Use the **acetabular reamer** (ref. FRCxx) assembled to the **handle** (ref. PFRC312X26) for the preparation of the acetabulum.

Ream the acetabulum. Under normal bone conditions, milling must stop at the subchondral bone.



Step 2 Acetabular cup trialing

Screw the trial cup (ref. CA21xx) on the handle (ref. CA3028)

The **coated APOGEE® (uncemented)** cup is a press-fit cup to be used size per size.

For example a **S52 reamer** (ref. FRC52) → **S52 Trial cup** (ref. CA 21xx) → **S52 Final cup** (ref. CAPxx).

For the APOGEE® cup to be cemented, the choice of the final implant will be 1 to 2 sizes less than the trial cup, depending on the quantity of cement chosen by the surgeon.

For example **S50 Trial cup** (ref. CA21xx) → **S46 Final cup** (ref. CAPCxx) with cement.



Step 3 Setting up the APOGEE cup

For the coated APOGEE cup (ref. CAPxx):

1. Select the final implant and the **pear handle** (ref. C13A-Pxx, xx= size of implant).
2. Insert the **retractor tool** (ref. 13A-11) through the pear handle.
3. Put the implant on the impactor ensuring that the landmark of the pear matches with the opening groove of the cup.
See Figure 1.

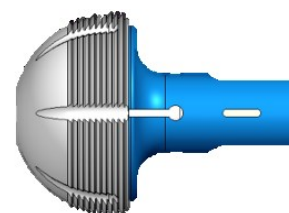


Figure 1

4. Screw the pear assembled with its cup on the **impactor handle** (ref. C13A-10).
5. Insert the **45° guide** (ref. C5A/G45) on the impactor handle. *See Figure 2.* The 45° guide must align with the groove on the top of the rim to help orient the cup.

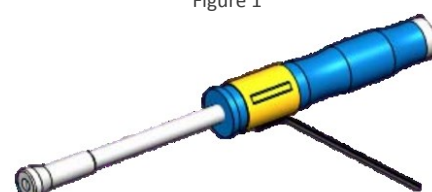


Figure 2

6. Impact the implant. *See Figure 3.*
7. Check the contact and the hold between the implant and the bone.
8. Unscrew the impactor handle while maintaining the pear handle with the **key** (ref. C8A-PC600). Then, remove the pear handle with a light hammer hit at the back of the impactor.



Figure 3

For the APOGEE cup to be cemented (ref. CAPCxx):

1. Choose the **final implant** and the **pear handle** (ref. C13A-Pxx, xx= size of implant).
2. Insert the **retractor tool** (ref. 13A-11) through the pear handle (ref. C13A-Pxx).
3. Put the implant on the pear ensuring that the landmark of the pear matches with the opening groove of the cup. *See Figure 1.*
4. Screw the pear assembled with its cup on the **impactor handle** (ref. C13A-10).
5. Insert the **45° guide** (ref. C5A/G45) on the **impactor handle** (ref. C13A-10). *See Figure 2.* The 45° guide must align with the groove on the top of the rim to help orient the cup.
6. Put the cement into the patient's acetabulum. *See figure 3.*
7. Insert the APOGEE cup in the cement. Hold pressure during 5 to 10 minutes with desired orientation.
8. Unscrew the impactor handle while maintaining the pear handle with the **nut wrench** (ref. C8A-PC600).
9. Smoothly remove the pear handle.

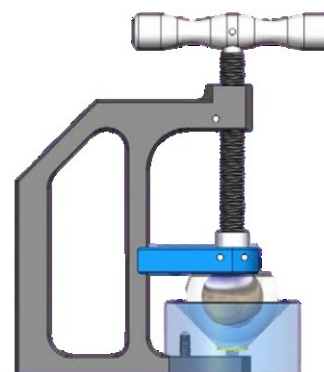
NB: Beware of the cement which could go into the pear's slots and solidify inside the cup:

Solidified cement may impede pear removal;

Presence of undesired material may result in early and unusual wear of the device.

Step 4 Setting up the dual mobility polyethylene insert using the press

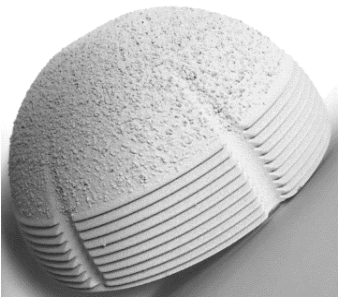
1. Put in place the final insert on the base of the press, and the femoral head into the PE insert, taper directed upward.
2. Screw the press handle until the head is fully pushed into the PE insert.
3. Impact the assembly (head +PE insert) onto the stem by using the **head pusher** ref. C13A-12 with a light hammer hit.



Step 5 Reduction

1. Prior to reduction, wash correctly throughout the joint.
2. Using the head pusher, reduce the implant in the acetabulum.
3. Check the stability of the assembly and close the wound.

APOGEE® range

Product	Sizes	References
CAPxx Coated Ti+HA APOGEE cup (where xx are various sizes) 	Ø 44 mm	CAP44
	Ø 46 mm	CAP46
	Ø 48 mm	CAP48
	Ø 50 mm	CAP50
	Ø 52 mm	CAP52
	Ø 54 mm	CAP54
	Ø 56 mm	CAP56
	Ø 58 mm	CAP58
	Ø 60 mm	CAP60
	Ø 62 mm	CAP62
CAPCxx APOGEE cup to be cemented (where xx are various sizes) 	Ø 44 mm	CAPC44
	Ø 46 mm	CAPC46
	Ø 48 mm	CAPC48
	Ø 50 mm	CAPC50
	Ø 52 mm	CAPC52
	Ø 54 mm	CAPC54
	Ø 56 mm	CAPC56
	Ø 58 mm	CAPC58
	Ø 60 mm	CAPC60
	Ø 62 mm	CAPC62
IDM22-xx+ PE insert dual mobility Ø22.22 mm 	Ø 44 mm	IDM22-44+
	Ø 46 mm	IDM22-46+
IDM28-xx+ PE insert dual mobility Ø28 mm 	Ø 48 mm	IDM28-48+
	Ø 50 mm	IDM28-50+
	Ø 52 mm	IDM28-52+
	Ø 54 mm	IDM28-54+
	Ø 56 mm	IDM28-56+
	Ø 58 mm	IDM28-58+
	Ø 60 mm	IDM28-60+
	Ø 62 mm	IDM28-62+

Instruments for APOGEE cups

Reference	Designation	Visual
ANC-APOGEE	Container with removable tray and lid	
CA3028	Universal handle for trial cup	
PFRC312X26	AO Handle for acetabular reamer	
C8A/PC600	Nut wrench of cup handle	
C13A-10	Impactor handle for cup	
C13A-11	Retractor tool	
C13A-P44	Pear APOGEE – Size 44	
C13A-P46	Pear APOGEE – Size 46	
C13A-P48	Pear APOGEE – Size 48	
C13A-P50	Pear APOGEE – Size 50	
C13A-P52	Pear APOGEE – Size 52	
C13A-P54	Pear APOGEE – Size 54	
C13A-P56	Pear APOGEE – Size 56	
C13A-P58	Pear APOGEE – Size 58	
C13A-P60	Pear APOGEE – Size 60	
C13A-P62	Pear APOGEE – Size 62	
C5A/G45	Guide 45°	
C13A-20	Press	
CA3122	Insert pusher – D22.22	
CA3128	Insert pusher – D28	

Reference	Designation	Visual
C13A-12	Head pusher	
CA 2144	Trial acetabular cup – Size 44	
CA 2146	Trial acetabular cup – Size 46	
CA 2148	Trial acetabular cup – Size 48	
CA 2150	Trial acetabular cup – Size 50	
CA 2152	Trial acetabular cup – Size 52	
CA 2154	Trial acetabular cup – Size 54	
CA 2156	Trial acetabular cup – Size 56	
CA 2158	Trial acetabular cup – Size 58	
CA 2160	Trial acetabular cup – Size 60	
CA 2162	Trial acetabular cup – Size 62	
C13A-E2244	APOGEE trial insert – D22-44	
C13A-E2246	APOGEE trial insert – D22-46	
C13A-E2848	APOGEE trial insert – D28-48	
C13A-E2850	APOGEE trial insert – D28-50	
C13A-E2852	APOGEE trial insert – D28-52	
C13A-E2854	APOGEE trial insert – D28-54	
C13A-E2856	APOGEE trial insert – D28-56	
C13A-E2858	APOGEE trial insert – D28-58	
C13A-E2860	APOGEE trial insert – D28-60	
C13A-E2862	APOGEE trial insert – D28-62	
FRC44	Acetabular Reamer – Size 44	
FRC46	Acetabular Reamer – Size 46	
FRC48	Acetabular Reamer – Size 48	
FRC50	Acetabular Reamer – Size 50	
FRC52	Acetabular Reamer – Size 52	
FRC54	Acetabular Reamer – Size 54	
FRC56	Acetabular Reamer – Size 56	
FRC58	Acetabular Reamer – Size 58	
FRC60	Acetabular Reamer – Size 60	
FRC62	Acetabular Reamer – Size 62	

Before using the device, the Orthopaedic surgeon must refer to the Instructions for Use, Package Insert and/or product label.

Thank you for sending us your suggestions to:

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