METAL BACK CEMENTLESS ELASTIC ACETABULAR CUP

ESOP® (ATLAS)
The concept

The ESOP (Atlas) concept was born in 1985 as a result of Dr Alain Dambreville’s research. This cementless elastic cup immediately appealed to a large number of surgeons, who continue to implant several thousand every year, across the world. This success is partly due to ease of implant and to its results but also to its essential core principles:

1- Primary stability due to its press-fit;
2- Stability of the insert in the metal-back;
3- Secondary fixation due to surface coatings;
4- Thickness of the polyethylene.

Range and materials

The three types of ESOP (Atlas) metal-back are made out of titanium alloy, TA6V4 ELI with a constant 2.5 mm thickness. All three include:

- A slot providing the cup with the elasticity to ensure a perfect, instant press-fit and risk-free impacting for the supporting bone.
- Sand-blasting on the inside and a cylindrical area on par with the equatorial region ensuring the insert’s stability.
- Hydroxyapatite coating for secondary fixation.

The ESOP (Atlas) IIIP has 4 pegs that penetrate into the receiving bone to avoid any rotation of the cup and also screw holes if screw fixation is required.

The ESOP (Atlas) IVP has pegs but no screw holes.

The ESOP (Atlas) MS was designed without pegs, to meet LIS (Less Invasive Surgery) requirements. Like the ESOP (Atlas) IIIP, it has 3 screw holes. The four pegs are replaced with a rougher surface coating, obtained through projection of T40 porous titanium, before the HAP.

The ESOP (Atlas) metal-back range can be combined with a wide range of highly cross-linked polyethylene (TRIANON) or conventional PE inserts, available in various internal diameters (28; 32 and 36 mm) and shapes (flat-edge; posterior wall; anti-dislocation overhang).
Press-fit

The ESOP (Atlas) cup has a slot, which closes during impaction to facilitate penetration into the acetabulum. When the insert is impacted, this slot returns to its initial position, thus applying a major force for coaptation of the bone. Only an elastic cup allows this kind of press-fit. The elasticity of the metal-back improves transmission constraint.

Stability of the insert

The stability of the insert is, obviously, essential. To avoid the insert tilting, it has been designed with an equatorial cylindrical area and a rough internal surface on the metal-back due to sand-blasting. These technical elements have proven to be effective over the past 25 years and more than 150,000 implants. This fixation ensures there is no micro-movement of the insert within the metal-back, proven by observing the machining lines, which are still visible on inserts removed after over 10 years.

Coating

Secondary stability through surface coating has greatly improved as a result of 25 years of progress. The bioactive hydroxyapatite 120 µm coating has already proven its effectiveness. Bone adherence to the surface of the prosthesis is rapid and long lasting, even after absorption of the hydroxyapatite (HAP) in the long term.

Intimate osteointegration with no risk of fibrous tissue interposition as a result of using HAP, limits the risk of periprosthetic osteolysis by countering the migration of wear particles.

PE thickness

The 2.5 mm thickness of the ESOP (Atlas) cup allows polyethylene layers in traditional UHMWPE and highly cross-linked polyethylene to have a minimum thickness, and therefore provides excellent creeping resistance.

Extreme sizes

The ESOP (Atlas) range of cups starts with diameter 46 and is available up to size 74 in the ESOP (Atlas) III P version. This wide range of sizes provides surgeons with a solution, in particular in cases of cup revision.
**Prosthetic Compatibility**

ESOP (Atlas) IIIP cup

ESOP (Atlas) IV P cup

ESOP (Atlas) MS cup

Inserts ESOP (Atlas) + Stainless steel or CoCr heads, or BIOLOX® FORTE® alumina

Hip’n go
Cemented or cementless 130° & 122° straight stems (cemented 122° on request)

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**Description and Sales References**

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<tr>
<th>SIZES</th>
<th>ESOP (Atlas) IIIP (with screw hole)</th>
<th>ESOP (Atlas) IV P (without screw hole)</th>
<th>ESOP (Atlas) MS (without pegs)</th>
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**Fixation Screw**

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*supplied in non-sterile form with instrument set

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