Smith+Nephew

POLARCUP®
Dual Mobility System

VERILAST®
Oxidized Zirconium with XLPE

Product Information
POLARCUP® Dual Mobility System

Insert / cup articulation

Ball head / insert articulation

Third articulation
Neck / insert articulation
POLARCUP combined with a polished neck stem is highly recommended

Disclaimer:
The following product information is for informational and educational purposes only. It is not intended to serve as medical advice. It is the responsibility of treating physicians to determine and utilize the appropriate products and techniques according to their own clinical judgment for each of their patients. For more information on POLARCUP and VERILAST, including indications for use, contraindications, and product safety information, please refer to the label and the Instructions for Use packaged with the product.
Dual Mobility Articulation

Neutral position

Low level activity
Primary movement occurs in the ball head / insert articulation, allowing the insert to sit in its natural position

High level activity
Secondary movement occurs in the insert / cup articulation

Dual Mobility prostheses increase jump distance

Standard hip ø 50/28mm
28 mm head (28 mm diameter head)

POLARCUPTM ø 53/28mm
28 mm head (53 mm insert = 47 mm diameter head)

- The Dual Mobility insert acts as a large head intended to increase the jump distance, designed to reduce the risk of dislocation and restoring hip stability.2-6
- The superior-posterior 6° skirt under the equatorial rim is designed to increase jump distance by ensuring additional stability.
**POLARCUP\textsuperscript{\textregistered} performance**

**POLARCUP performance demonstrates excellent clinical and functional outcomes\textsuperscript{1,7,8}**

- Cementless POLARCUP 7A* ODEP Rating\textsuperscript{7}
- Cemented POLARCUP 3A ODEP Rating\textsuperscript{7}

**POLARCUP is designed to reduce the risk of dislocation and increase joint stability\textsuperscript{1-6}**

- Dislocation rate of 0.0 and 0.7\% reported\textsuperscript{8,9}
- Increased range of motion (ROM) compared to conventional THA and constrained liners\textsuperscript{7}

**POLARCUP demonstrates low wear in vitro\textsuperscript{10}**

- Standard Polyethylene (UHMWPE) 8.87 mg/million cycles (StdDev. 0.59) after 5 million cycles
- Cross-linked Polyethylene (XLPE) 0.39 mg/million cycles (StdDev 0.41) between 2 and 5 million cycles

### Comparison UHMWPE and XLPE

<table>
<thead>
<tr>
<th>Wear rate (mg/million cycles)</th>
<th>POLARCUP Standard Polyethylene</th>
<th>POLARCUP cross-linked Polyethylene (XLPE)</th>
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VERILAST® technology for hips

VERILAST Technology for Hips from Smith+Nephew uses the exclusive bearing combination of proprietary OXINIUM™ and highly cross-linked polyethylene, which provides superior clinical survivorship\(^{11}\) and biocompatibility\(^{12-14}\) without sacrificing versatility or introducing the risk of ceramic-like fracture\(^{15}\).

**Wear performance**

VERILAST Technology for total hip arthroplasty has been laboratory tested and shown to provide superior wear performance compared to CoCr on highly-crosslinked polyethylene, for up to 45 million cycles. With advanced materials designed to last, VERILAST Technology helps restore patients to their active lifestyles.

**Corrosion avoidance**

With its biocompatible properties, due to its use of oxidized zirconium, VERILAST Technology has been shown to reduce taper corrosion in total hip arthroplasty, minimizing the concern of trunnionosis\(^{12-13}\).

An article published in the HSS Journal showed that in a 22 year retrieval database, OXINIUM femoral heads are associated with decreased corrosion damage compared to CoCr femoral heads. Furthermore, chromium rich deposits which were present on some CoCr femoral heads were completely absent from OXINIUM\(^{13}\).

*Cumulative volumetric wear comparison components; XLPE groups consist of R3\(^*\) shells and liners and the CPE group consists of REFLECTION\(^*\) shells and liners.
Product features

Low wear
All versions of the POLARCUP® have a highly polished internal surface designed to minimize wear.10

Self-aligning implant
The self-aligning insert is designed to allow loading following the path of least resistance.

Surface
The Ti-Plasma and Ti-Plasma / hydroxyapatite surfaces have a high degree of surface roughness.17

Stability
The equatorial teeth and ribs on the cup are designed to prevent rotation and provide primary stability.

Cement
The cemented POLARCUP can be used with previously implanted reinforcement cages and rings.18

Additional fixation with Flanged POLARCUP

One cup, four combinations

The screws and pegs can be used in combination with the Ti Plasma / HA flanged POLARCUP to provide additional fixation.

Flanges broken off using the flange cutter
Flanges bent over the acetabular rim fixed with 1 or 2 cortical screws
Flanges bent over the acetabular rim without cortical screws
Flanges bent over the acetabulum fixed with 1 or 2 cortical screws and 2 impacted anchoring pegs
Product overview

Ti-Plasma / HA Cementless Cup with flanges

Ti-Plasma Cementless Cup

Stainless Steel Cup for use with cement only

Cortical Screw (for use with the Ti-Plasma / HA flanged cup)

Peg (for use with the Ti-Plasma / HA flanged cup)

PE Insert

XLPE Insert

Implant Overview

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<tr>
<th>Sizes mm</th>
<th>Ti-plasma/HA cementless cup with flanges</th>
<th>Ti-Plasma cementless cup</th>
<th>Stainless steel cemented cup</th>
<th>PE Insert Ø 22mm head</th>
<th>PE Insert Ø 28mm head</th>
<th>XLPE Insert Ø 22mm head</th>
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References

18. POLARCUP Surgical Technique, 01620-en (1582).