Product Information
ADVANTAGES of POLARCUP° Dual Mobility System

Low wear
Advanced bearing technology
Low dislocation rates
Increased range of motion
Comprehensive product portfolio
Accurate and efficient instrumentation

DUAL MOBILITY
Insert / cup articulation
Ball head / insert articulation

THIRD ARTICULATION
Neck / insert articulation
POLARCUP combined with a polished neck stem without any roughness is highly recommended
LOW WEAR

NEUTRAL POSITION
The insert is self-aligning, allowing loading following the path of least resistance

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

THE FACTS...

• The majority of movement occurs in the ball head / insert articulation.
• The freely moving insert ensures that movement never occurs in the ball head / insert articulation and the insert / cup articulation at the same time.
• The optimized cup design prevents impingement with soft tissues and the neck of the stem.
• Transmission of tensions between the bone / cement cup construct are eliminated due to the freely moving insert.

POLARCUP
in vitro wear at 5 million cycles vs Total Hip Arthroplasty

Wear rate (mg/million cycles)

8.87
0.39
12.5
0.9

POLARCUP – Standard Polyethylene
POLARCUP – cross-linked Polyethylene (XLPE)
Conventional THA – Standard Polyethylene
Conventional THA – cross-linked Polyethylene (XLPE)

*Smith & Nephew internal test data
The facts in black and white...

OXINIUM has a surface hardness that is over twice that of cobalt-chrome.

OXINIUM may last longer than other implants as it reduces implant wear common to other hips based on lab simulator studies.

OXINIUM avoids the risk of brittle fracture that can occur with ceramic implants and is 20% lighter than cobalt-chrome.

OXINIUM contains less than 0.0035% detectable nickel, the leading cause of adverse reactions in patients with metal allergies.

ADVANCED BEARING TECHNOLOGY

The perfect equation for hips.

More than a decade ago, Smith & Nephew introduced OXINIUM® Oxidized Zirconium. Its combination of hardness, smoothness and scratch-resistance makes it a superior choice for hip implants.
LOW DISLOCATION RATE

The insert acts as a large head increasing the jump distance and reducing the risk of dislocation \(^1,2,3,4,5\) and instability in the joint.

The superior-posterior 6° skirt under the equatorial rim increases jump distance further decreasing the risk of dislocation ensuring additional stability.

**Cup placement at 45° inclination and 15° anteversion
**Smith & Nephew internal test data

POLARCUP™ Ø 53 mm
28 mm head
(53 mm insert = 47 mm diameter head)
Jump Distance = 11.0 mm**

STANDARD HIP Ø 50 mm
28 mm head
(28 mm diameter head)
Jump Distance = 3.8 mm**

INCREASED RANGE OF MOTION

The range of motion is significantly increased due to the high head/neck ratio compared to conventional acetabular cups.

<table>
<thead>
<tr>
<th>POLARCUP™</th>
<th>Flex – Ext</th>
<th>185.4°</th>
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<td>Add – Abd</td>
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<td>Rot. Int – Ext</td>
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*Range of Motion (ROM) Evaluation has been performed in accordance to EN ISO 21535. The analysis has been done with a size 6 standard Polestem, in accordance with 28 mm ball head, 55/28 mm Polarcup insert and a 55 mm Polarcup.
**Smith & Nephew internal test data
LOW WEAR
All versions of the POLARCUP™ have a highly polished internal surface allowing for minimal wear.

SELF-ALIGNING IMPLANT
The circular feature on the dome of the cup ensures correct cup placement and optimal load transfer. The self-aligning insert allows loading following the path of least resistance.

SURFACE
The Ti-Plasma and Ti-Plasma / HA surfaces have a high degree of surface roughness with good osteointegration.

STABILITY
The equatorial teeth and ribs prevent rotation and allow for good primary stability.

CEMENT
The cemented POLARCUP can be used with previously implanted reinforcement rings, providing increased stability and reduced dislocation rates in complex acetabular revisions.

ADDITIONAL FIXATION
One cup, four combinations
The screws and pegs can be used in combination with the Ti Plasma / HA flanged POLARCUP to provide additional fixation.
PRODUCT OVERVIEW

**Ti-Plasma / HA Cementless Cup**
- With flanges

**Ti-Plasma Cementless Cup**

**Stainless Steel Cup**
- For use with cement only

**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 22 mm head</th>
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References


3 Hailer et al. Dual-mobility for revision due to instability are associated with a low rate of re-revisions due to dislocation. 288 patients from the Swedish Joint Register. Acta Orthopaedica 2012;83 (6): 566-571
