

Use of OR30[®], a modular dual-mobility (mDM) implant, in primary total hip arthroplasty (THA) resulted in low rates of instability and demonstrated excellent survivorship at 2 years

Schaffler BC, Raymond HE, Black CS, Habibi AA, Ehlers M, Duncan ST, Schwarzkopf R. Two-year outcomes of novel dual-mobility implant in primary total hip arthroplasty. *Adv Orthop*. 2024;2024:4125965. Published 2024 Jan 16.

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Key points

At 2 year follow-up OR3O achieved:



98.4%
aseptic
survivorship



**Low instance of hip
instability and
intraprosthetic
dislocation** (both 0.4%)



**Improved HOOS
JR scores**

Overview

- Retrospective, multicentre study to assess survivorship of OR3O in primary THA at 2 years
- A total of 250 hips in 245 patients had a minimum 2 year follow-up (5 patients had staged bilateral THA)
 - Mean age 61 (30–85) and average BMI 29.5 (16.5–52.8)
 - 122 male (49.8%) and 123 female (50.2%)
- Primary osteoarthritis was the most common indication for index THA at 80.4%
- Other indications included avascular necrosis (9.6%), femoral neck fracture (3.6%), post-traumatic (3.2%), acetabular dysplasia (2.4%), inflammatory arthritis (0.4%) and untreated slipped capital femoral epiphysis (0.4%)
- Primary outcomes were revisions of OR3O and the liner, indication for revisions and time from index surgery to revision
- Patient-reported outcome measures (PROMs) and Hip Dysfunction and Osteoarthritis Outcome Scores for Joint Replacement (HOOS JR) were collected as a standard of care at preoperative and subsequent follow-up visits for up to 2 years

Results

- Average overall survivorship of OR3O acetabular implant at 2 years: 97.6% (Figure)
- Average aseptic survivorship of OR3O acetabular components at 2 years: 98.4% (Figure)
- Reasons for aseptic revisions:
 - Instability (n=1)
 - Intraprosthetic dislocation due to trauma (n=1)
 - Periprosthetic acetabular fracture (n=1)
 - Malpositioned acetabular cup resulting in impingement (n=1)
- HOOS JR improved by a mean average of 38.5 points at 2 years (n=87; Figure)
- No cases of metal-on-metal corrosion or metal ion disease reported

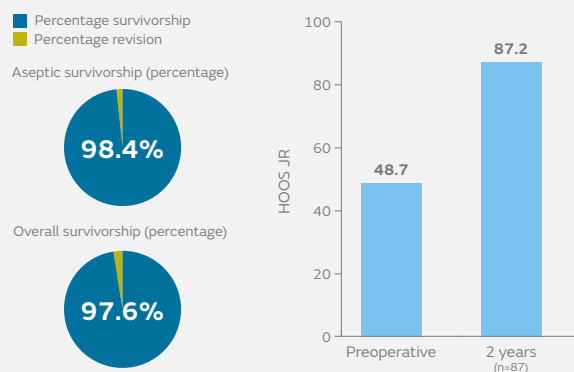


Figure. PROMs and percentage survivorship of the mDM implant at 2 years

Conclusions

The modular dual-mobility implant OR3O demonstrated low rates of instability and intraprosthetic dislocation, enhanced PROM outcomes and demonstrated good survivorship at 2 years with a low complication rate in THAs.

Considerations

This is the first study published on OR3O, a novel mDM acetabular implant that uses oxidised zirconium (OXINIUM[®]) for the inner articulation and diffusion hardened oxidised zirconium for the acetabular liner.

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