R3° acetabular cups are associated with low revision rates in patients undergoing total hip arthroplasty (THA)

Patients implanted with R3 acetabular cups showed excellent clinical outcomes and a 1.1% risk of revision at a minimum five-year follow-up

**Study design**

- A single-centre, retrospective analysis of 293 THAs in 286 patients (mean age, 69.4 years) using the R3 acetabular cup with conventional bearings, implanted between 2009–2011
  - 283 (97%) cementless with POLARSTEM™ femoral stem; 10 (3%) hybrid combination
- The primary outcome was revision, with radiographic and functional assessments occurring at baseline and minimum five-year follow-up

**Key results**

- Three THAs (1.1%) required revision by five-year follow-up (Figure)
  - The two cases of cup revision were not related to implant factors
  - None of the R3 cups showed osteolysis at final follow-up
  - No revisions were due to aseptic loosening
- Radiographic evaluation showed that the status of the R3 acetabular cup was excellent in all patients at five years
- Mean Oxford Hip Scores improved from 23 (range 10–34) preoperatively to 40 (range 33–48) at follow-up

**Conclusion**

R3 acetabular cups with conventional bearings showed high survivorship and excellent clinical results at five-year follow-up. These data are consistent with the lowest class-average revision rate of 0.75% at five years for the R3/POLARSTEM combination, as reported in the UK National Joint Registry.¹

**Study citation**

Available at: Journal of Arthroplasty*