

Long-Term Outcomes of Small-Size Dual Mobility Cups (<46 mm) in Primary Total Hip Arthroplasty

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INTRODUCTION:

Prosthetic dislocation remains one of the most common complications after total hip arthroplasty (THA). Modern dual mobility cups (DMCs) have significantly reduced this risk. However, the effectiveness of small-sized DMCs (<46 mm), which require 22.2 mm heads and thinner polyethylene liners, remains debated. This study aimed to evaluate the dislocation rate and implant survivorship in a continuous series of primary THAs using small cementless monoblock DMCs.

Hypothesis:

Small-sized DMCs (<46 mm) offer excellent protection against dislocation at long term follow-up.

METHODS:

This ongoing prospective, single-center study included 93 primary THAs performed between 2009 and 2019 for aseptic osteonecrosis and primary or secondary coxarthrosis (fractures and osteosynthesis failures were excluded). All procedures used the same latest-generation monoblock DMCs in sizes 41, 43, or 45 mm. Patient demographics, complications, and revision rates were analyzed. The primary endpoint was the rate of postoperative dislocation. Mean follow-up was 6 ± 3 years.

RESULTS:

At final follow-up, 11 patients had died, and one was lost to follow-up. No dislocations were reported (0% dislocation rate). There was one revision due to late periprosthetic infection, with no cases of aseptic loosening or femoral fracture. The 10-year implant survival rate, using revision for any cause as the endpoint, was 98.9% (Kaplan-Meier analysis).

DISCUSSION AND CONCLUSION:

Small-sized DMCs (<46 mm) offer excellent protection against dislocation, even in patients with small acetabular anatomy, where the use of modular DMCs may not be feasible. This study supports the reliability of monoblock small DMCs in selected patient populations, particularly in women or individuals of slight build, with excellent mid- to long-term outcomes and very low complication rates.