

Uncemented Monoblock Cups in Primary Total Hip Arthroplasty: Average 10-year Follow-up

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INTRODUCTION:

The use of large diameter metal-on-metal (LDMOM) heads and dual mobility articulations (DM) has reduced the risk of dislocation after primary total hip arthroplasty (THA). Further, the non-modular versions minimize the risk of complications associated with modularity, such as corrosion. The purpose of this study was to determine the mid-term outcomes and survivorship of modern uncemented monoblock cups (UMCs) in primary THA.

METHODS:

Between 2005 and 2022, 2,292 primary THAs were performed using UMCs. 1,288 were LDMOM articulations (56%) and 1,004 were DM (44%). The mean age at operation was 64 years (range, 29-92) and 57% of the patients were men. Patients were routinely followed with Harris Hip Scores (HHS) and serial radiographs. Kaplan-Meier survival was determined for cup revision and aseptic loosening. All patients were followed for a minimum of two years. The mean follow-up was 10.8 years (range, 2-20).

RESULTS:

At the final follow-up, HHS and pain scores averaged 89 and 42, respectively. There were three dislocations (0.1%), all of which underwent successful closed reduction, and ten deep post-operative infections (0.4%), all of which underwent staged revisions. Fourteen loose cups (0.6%) were identified, nine associated with LDMOM metallosis and two with DM articulations, of which thirteen were revised. All of the other cups were deemed radiographically stable. Five additional cups were revised secondary to metallosis. The 10-year survivorship was 98.8 % for any cup revision, 99.2% for aseptic cup loosening, and 99.3% for aseptic cup revision.

DISCUSSION AND CONCLUSION:

Using UMCs in primary THA has provided excellent clinical results and survivorship at mid-term follow-up, with a very low dislocation rate. Although LDMOM use has fallen out of favor, UMCs still afford durable implant fixation, negating the concern over modular cup corrosion, when coupled with DM articulations.