

Primary Total Hip Arthroplasties Using Jumbo Femoral Heads (40 and 44 mm): A Series of Over 1800 Patients

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INTRODUCTION: The use of jumbo femoral heads ($\geq 40\text{mm}$) in primary total hip arthroplasties (THAs) is gaining popularity to mitigate dislocation. The aim of the current study was to determine the dislocation risk, implant survivorship, and clinical outcomes of a large subset of primary THAs treated with jumbo femoral heads (40mm or 44mm).

METHODS:

We identified 1830 primary THAs performed for osteoarthritis between 2000 – 2022 that received a jumbo femoral head (40mm and 44mm) at a single academic medical center. Of these, 87% were 40mm heads. The most used cup size was 60mm for 40mm heads (35%) and 62mm for 44mm heads (31%). Bearings included ceramic-on-polyethylene (67%) and metal-on-polyethylene (33%). The liners utilized were elevated in 26% and lateralized in 60%. The majority of THAs were performed using a posterior approach (76%), followed by anterolateral (16%), and direct anterior (8%). Outcomes assessed included dislocation rates, revision for dislocation, any revision, and any reoperation. Clinical outcomes were evaluated using Harris hip scores (HHS). The mean age was 64 years with 81% being male, and the mean BMI was 28 kg/m². The mean follow-up was 4 years.

RESULTS: The 10-year survivorship free of dislocation for the entire cohort was 97.3%. The 10-year survivorship free of dislocation was 97% for 40mm heads and 99% for 44mm heads ($p=0.11$). The 10-year survivorship free of revision for dislocation for the entire cohort was 99.6%, with 99.5% for 40mm heads and 100% for 44mm heads ($p=0.55$). The 10-year survivorship free of any revision was similar between groups ($p=0.58$) as was the 10-year survivorship free of any reoperation ($p=0.59$). The mean HHS increased significantly and equally for both groups ($p\leq 0.05$).

DISCUSSION AND CONCLUSION: In this very large single-center study of jumbo femoral heads (40mm or 44mm) utilized in primary THAs, the 10-year survivorship free of dislocation was 97.3%. There was a slight, but not significant, trend toward lower dislocation rates with 44mm heads, although the study was underpowered to show a significant difference.