

Hip resurfacing arthroplasty for end-stage arthritis caused by childhood hip disease

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Abstract

Introduction:

Patients with hip arthritis due to Legg-Calvé-Perthes (LCP) and slipped capital femoral epiphysis (SCFE) pose altered femoral anatomy, making hip resurfacing arthroplasty (HRA) technically complicated. We examined implant survival and clinical symptoms in patients with a history of LCP or SCFE who underwent HRA for end-stage osteoarthritis.

Methods:

Data was collected for patients who underwent HRA for osteoarthritis due to LCP ($n = 59$) or SCFE ($n = 32$). Harris Hip Scores (HHS), UCLA activity scores, and radiographs were evaluated pre and postoperatively. Wilcoxon Signed-Rank Tests and Kaplan-Meier Survivorship curves were used to analyse data.

Results:

Survivorship for freedom from revision or clinical failure was 93.55(95% CI, 78.47–98.18) at 5.79 years, up until the most recent follow-up of 11.23 years. There were 3 failures: 1 LCP due to instability at 2.4 years, 1 SCFE due to femoral neck fracture at 1 month, and another SCFE due to unexplained pain at 5.8 years. Five patients, 1 LCP and 4 SCFE, had retained hardware prior to surgery; 4 had their hardware removed during surgery. Postoperatively HHS and UCLA activity scores increased ($p < 0.0001$, for both measures). Leg-length discrepancy improved preoperatively from 7.9 (0.0–32) mm to 0.65 (0.0–10) mm postoperatively ($p < 0.0001$). Follow-up radiographs of all non-failure HRA patients revealed implants to be in good alignment with no indication of loosening.

Conclusion:

Although HRA in SCFE and LCP patients increases technical difficulties, findings demonstrate excellent implant survival, no intraoperative complications, and improvements in leg-length discrepancies and clinical functional outcomes.

Keywords [Acetabular dysplasia](#), [hip resurfacing arthroplasty](#), [Legg-Calvé-Perthes](#), [proximal femoral anatomy](#), [slipped capital femoral epiphysis](#), [total hip arthroplasty](#)