



## Long Term Outcomes of 925 Extensively Porous-coated Stems in Revision Total Hip Arthroplasty

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**Introduction:** Extensively porous-coated cylindrical stems have demonstrated excellent results in revision total hip arthroplasty (THA). However, few studies have reported the long-term outcome and none have been of sufficient size to sub-analyze factors associated with success and failure.

**Methods:** 925 extensively porous-coated stems of the one design were utilized in aseptic revision THAs. We evaluated clinical outcomes (Harris hip scores [HHS]), radiographic results (Engh criteria), Kaplan Meier survivorship and complications. Risk factors for femoral revision for aseptic loosening, femoral revision for any reason, reoperation for any reason, were assessed using the Cox proportional Hazards method. Mean clinical and radiographic follow-up was 10 years.

**Results:** Overall, 40 femoral stems (4%) were revised: 17 for aseptic loosening, 10 for femoral component fracture, 11 for infection, and 2 for periprosthetic fracture. 9 of 10 stem fractures occurred in stems 13.5-mm and below. Survivorship free of revision for aseptic femoral loosening or femoral component fracture was 97% at 15 years. Patient age, gender, operation diagnosis, stem diameter, and stem length were not associated with risk of femoral re-revision. Complications included intra-operative femur fracture in 15% (149): 8 inch stems had a significantly higher risk of fracture ( $p=0.03$ ). In unrevised patients, mean HHS improved from 56 preoperatively to 80 at last follow-up ( $p<0.001$ ). Radiographic review found 94% of stems to be bone-ingrown, 3% fibrous stable, and 3% loose at most recent follow-up.

**Conclusions:** In this very large series, extensively porous-coated stems in revision total hip arthroplasty had excellent long-term survivorship validating the common practice of uncemented diaphyseal fixation in revision THA. Patients had a significant and sustained improvement in clinical outcomes.