

# **Fifteen-Year Minimum Outcomes and Survivorship of a Ultra-Short Anatomic Cementless Femoral Stem in Patients Younger than 30 Years**

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## **INTRODUCTION:**

Contemporary conventional cementless femoral stems in patients younger than 30 years have reported good results. Yet pain in the thigh, proximal stress shielding related bone resorption, fracture around the stem, proximal-distal dimensional mismatch, and difficulty in revision can still present concerns for a number of conventional cementless stems. Thus, ultra-short only proximal loading anatomic cementless stem was introduced to minimize these problems. The aim of this study was to evaluate the long-term (minimum 15 years): 1) clinical outcomes using validated scoring instruments; 2) radiographic results; 3) CT scan results; 4) dual-energy X-ray absorptiometry (DEXA) scanning results; 5) complication rate; 6) revision rate and osteolysis; and 7) survivorship of the femoral stem in patients < 30 years old.

## **METHODS:**

One-hundred-eighty patients (240 hips) with an average age of 27 years (range, 21 to 30 years) were enrolled in the current study. The Harris hip score, Western Ontario and McMaster Universities Osteoarthritis index (WOMAC), University of California, Los Angeles (UCLA) activity scores, and radiographic findings were recorded at each follow up. All patients underwent DEXA scanning of the acetabulum and proximal femur preoperatively and at final follow up. CT scan was obtained in all patients at final follow up. The mean duration of the follow up was 16.7 years (range, 15 to 18 years).

**RESULTS:** At final follow up, the average Harris hip score, WOMAC score, and UCLA activity score were 93 points, 18 points, and 7 points, respectively. All (100%) of the acetabular and femoral components were rigidly embedded at the latest follow up. Two acetabular and 2 femoral components (0.8%) were revised for infection. Eight hips (3%) had squeaking sound. No hip was revised for squeaking sound. Survivorship of the acetabular and femoral stems was 99.2% (95% CI, 94-100%) at 17 years.

## **DISCUSSION AND CONCLUSION:**

Ultra-short proximal loading anatomic cementless femoral stems with ceramic-on-ceramic bearings have excellent survivorship in patients younger than 30 years old.