Most Charnley Total Hip Replacements Viable after 35 Years

Age and health status affect function more than implant wear

NEW ORLEANS—In a new study presented today at the 2014 Annual Meeting of the American Academy of Orthopaedic Surgeons (AAOS), researchers sought to evaluate the clinical, radiographic and functional outcomes of a Charnley total hip replacement (THR)—a traditional hip prosthesis consisting of a polyethylene acetabular (plastic) cup and a metal femoral head—in patients under age 50 at a minimum of 35 years after the initial surgery.

Out of 69 THR patients (93 hip replacements) who participated in a 25-year follow up assessment, 32 were alive (44 percent) and 30 were available for an evaluation, according to the study, “Assessment of Durability and Function at Minimum 35-Year Follow up of THR Patients 50 and Under.” Out of the original 93 hip replacements, 28 required revision surgery. The 30 patients with viable hip components were assessed through quality of life and hip scores, and activity measurements, including six-minute walk and pedometer monitoring.

Although 63.5 percent of the original hip replacements were functioning at the latest follow-up examination or at the time of patient death, a significant decrease in activity level, as measured by functional scores, was seen over time. Age and health related factors, as opposed to implant failure, limited activity in this cohort at long-term follow up.

According to the study authors, the results reflect the durability of cemented hip replacements, and provide a benchmark comparison for THR performed in younger patients with other designs, materials and techniques.

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View lead author disclosure.

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