

Minimum 10-year Clinical Follow-up of Anatomic Shoulder Arthroplasty for Primary Glenohumeral Arthritis

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Abstract

Introduction: End-stage glenohumeral arthritis is commonly managed with shoulder arthroplasty, but reports on long term outcomes and failures are uncommon. The purpose of this study is present minimum 10-year clinical outcomes of patients undergoing ream-and-run and anatomic total shoulder arthroplasty for primary glenohumeral arthritis.

Methods: This study analyzed consecutive patients that had undergone a ream-and-run or an anatomic total shoulder arthroplasty (TSA) with minimum 10-year follow-up. The VAS pain score and Simple Shoulder Test (SST) values were obtained preoperatively and at a minimum of 10 years postoperatively. VAS pain and SST scores were collected at 10 years, and the percentage of maximum possible improvement (%MPI) was also calculated.

Results: Of 127 eligible patients, 63 (50%) responded to a 10-year survey. This included 34 patients undergoing ream-and-run arthroplasty and 29 patients undergoing TSA. The ream-and-run patients were significantly younger than the TSA patients (60 ± 7 vs 68 ± 8 , $p < 0.001$) and were predominantly male (97% vs 41%, $p < 0.001$). In the ream-and run group, the mean VAS pain score improved from a pre-operative value of 6.5 ± 1.9 to 0.9 ± 1.3 ($p < 0.001$), and the mean SST score improved from 5.4 ± 2.4 to 10.3 ± 2.1 at 10-year follow-up ($p < 0.001$). 28 (82%) achieved an SST improvement above the MCID of 2.6. Four patients (12%) underwent

single-stage exchange to another hemiarthroplasty, while 1 (3%) required a manipulation under anesthesia. In the TSA group, the VAS pain score improved from a pre-operative value of 6.6 ± 2.2 to 1.2 ± 2.3 ($p < 0.001$), and the SST score improved from 3.8 ± 2.6 to 8.9 ± 2.6 at 10-year follow-up. ($p < 0.001$). Of the 29 patients who underwent a TSA, 27 (93%) achieved an SST improvement above the MCID of 1.6. No patient in the TSA group required reoperation.

Conclusion: Excellent and durable functional results can be obtained with the ream-and-run arthroplasty and total shoulder arthroplasty for glenohumeral osteoarthritis.