

Younger Patients Undergoing Total Ankle Arthroplasty Experience Higher Complication Rates and Worse Functional Outcomes Scores

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INTRODUCTION:

Although many patients with posttraumatic ankle arthritis are of a younger age, studies evaluating the impact of age on outcomes of primary total ankle arthroplasty (TAA) reveal heterogenous results. The purpose of this study is to determine the effect of age on complication rates and patient-reported outcomes after TAA.

METHODS:

This was a retrospective study of 1,185 primary TAA divided into 3 age cohorts (Age<55, n=219; Age55-70, n=688; Age>70, n=278). Patient demographics, intraoperative variables, postoperative complications, and patient-reported outcome measures were compared among groups using univariable analyses. Multivariable Cox regression was performed to assess risk for implant failure by age group. Mean follow up was 5.7 years.

RESULTS:

Compared to Age55-70 and Age>70 groups, Age<55 patients had the lowest mean ASA score (2.2 vs. 2.4 vs. 2.5; $p<0.001$). They had the highest rates of all complications (33.8% vs. 23.1% vs. 19.8%; $p=0.001$), implant failure (9.1% vs. 6.0% vs. 3.2%; $p=0.022$), and component removal (5.0% vs. 2.8% vs. 1.1%; $p=0.030$). Univariable and multivariable cox regression analysis revealed a decreased risk for implant failure for Age>70 compared to Age<55 patients (HR: 0.43 [95%CI: 0.19-0.94], $p=0.034$; and HR: 0.42 [95%CI: 0.18-0.95], $p=0.038$, respectively). Across the AOFAS Hindfoot and all subscales of the FAOS measure, Age<55 group reported the lowest (worst) mean pre and postoperative scores compared to the Age55-70 and Age>70 groups ($p\leq 0.001$). The age<55 group had the highest mean VAS score at final follow-up (22 vs. 14 vs. 14; $p<0.001$).

DISCUSSION AND CONCLUSION:

Studies involving large sample sizes with mid-to long-term follow up are critical to reveal age-related impacts on outcomes after TAA. Younger patients had higher rates of complications and implant failure and fared worse on patient-reported outcome measures in the largest single-institution series to date evaluating the effect of age on outcomes in TAA.

