

Patient Satisfaction Results on a Modern Generation Fixed-Bearing Total Ankle Arthroplasty: Updated Mean 6-Year Follow-Up

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INTRODUCTION: Early results of modern total ankle arthroplasty system demonstrated improvement in patient satisfaction, quality of life, activity, and pain for patients with end-stage ankle arthritis. This study purpose is to update the previous follow-up (38.9 months) of this cohort for the largest series of U.S. patients undergoing modern fixed bearing total ankle arthroplasty (TAA).

METHODS: A retrospective review was completed of 301 consecutive patients who underwent implantation with 321 modern, fixed-bearing TAA for a single surgeon. Patient outcomes included Veterans Rand 12 Item Health Survey (VR-12), Ankle Osteoarthritis Scale (AOS), visual analog pain scale (VAS), and a post-operative patient satisfaction survey. Patient reported outcomes were compared using paired t-tests with significance level alpha <0.05.

RESULTS:

Of the 321 TAAs, an updated 299 procedures (281 patients) had a minimum of 2-year follow-up. 230 TAAs underwent concomitant procedures. The average follow-up was 74.8 months (24-191.5). The mean VR-12 Score was 29.7 (Physical) and 53.9 (Mental) pre-operatively and 39.8 (Physical) and 55.66 (Mental) at latest follow-up (p<.001 and p=0.135, respectively). AOS pain and disability scores improved significantly after total ankle arthroplasty (p<0.001). The results of the patient satisfaction survey indicated that 90.5% were satisfied with their medical procedure.

PROMS	Pre-op	1 year	2 year	Latest Follow-up (74.8 months)	P-value Pre-Op to Latest Follow-up
AOFAS	41.3 (4-72) ± 15.6	87 (21-100) ± 12.6	87.9 (29-100) ± 13.3	83.7 (0-100) ±16.7	<0.001
VR-12 Mental	53.9 (0-72.5) ± 13.9	55.6 (0-69.2) ± 9.4	55.7(21-69.2) ±8.8	55.6 (21-70.7) ± 9.3	0.135
VR-12 Physical	29.7 (12.0-54) ±9.6	41.1 (14.2- 57.7) ± 11.1	43.2 (11.3- 62.1) ± 11.1	39.8 (6.7-62.1) ± 12.3	<0.001
AOS Pain	51.7 (0-98.8) ± 18.8	17.1 (0-87) ± 20.9	16.6(0-87.4) ± 21.1	17.7 (0-89.4) ± 22	<0.001
AOS Disability	63.1 (2-100) ±20.4	22.0 (0-95.1) ± 23.9	22.1 (0-93.4) ± 24.9	24.6 (0-96) ± 27	<0.001
VAS Pain	64.8 (2-100) ± 22.6	20.9 (0-93) ± 23.5	17.1 (0-100) ± 21.8	20.3 (0-100) ± 26.4	<0.001

Nineteen patients have experienced a TAA complication. Seven patients were revised at an average 86 months (36-171); seven patients failed the primary TAA and were converted to an ankle fusion at a mean of 34.5 months (6.0- 99) and 4 patients had TAA failure, and the implant was eventually removed at a mean of 60.2 months (7.0- 143.4). One patient had a below-the-knee amputation at 15 years. Forty-six patients are deceased at the time of this report.

DISCUSSION AND CONCLUSION: Mid-term results of a large series of modern TAA system demonstrate improvement in patient satisfaction, quality of life, activity, and pain for patients at the early stages and a slight decrease at the latest follow-up. Continued long-term follow-up of these patients will improve the reported literature for TAA.