

A Comparison of Patient Reported Outcomes among Older Adults after Simultaneous Bilateral Hallux Valgus Surgery and Staged Unilateral Surgery

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INTRODUCTION: It is unclear whether patient perceived outcomes after bilateral simultaneous scarf bunionectomy are comparable to those seen in unilateral surgery for older adults.

METHODS: We conducted a retrospective review identifying patients aged 50 years and older who had undergone bilateral scarf bunionectomy surgery at our institution over a 2-year period. Included subjects had to have preoperative and at least 12-month postoperative Foot and Ankle Outcome Scores (FAOS) available. Radiographic correction and complication rates were also assessed for the two groups. Only data from the patient's most symptomatic foot were used in the analysis to preserve the assumption of independence of observations. The postoperative protocol was the same for unilateral and bilateral groups, immediate weight bearing in a surgical shoe and transition to running shoes and commencement of physical therapy at one week.

RESULTS: Seventy-nine patients met the study inclusion criteria (38 unilateral, 41 bilateral), with a mean age of 60.4 ± 5.7 yrs and mean follow up time of 28.0 ± 10.4 months. There were no significant differences found for change in 1st/2nd intermetatarsal angle, change in hallux valgus angle or in the overall complication rate between groups (all $p > 0.05$). However, the unilateral group tended to do better than the bilateral group on most FAOS subscales postoperatively and these differences achieved statistical significance in the pain (94.7 ± 9.1 vs. 85.5 ± 14.2 , $p = 0.005$) and ADL (96.9 ± 5.1 vs. 92.3 ± 10.7 , $p = 0.041$) subscales at final follow up.

DISCUSSION AND CONCLUSION: We found that simultaneous bilateral hallux valgus surgery and staged unilateral hallux valgus surgery yield comparable radiographic results, and similar low complication rates in older adults; however, pain relief may be higher if the procedure is staged in this population.

Table 1. Study variables stratified by hallux valgus surgery type—staged unilateral versus simultaneous bilateral.

Variable	Unilateral Surgery N=38	Bilateral Surgery N=41	P-value
Age (in years)	62.0 ± 6.5	60.9 ± 4.5	0.585
BMI (in kg/m ²)	25.5 ± 3.9	24.5 ± 3.8	0.308
Follow up (in mos.)	27.8 ± 10.5	28.1 ± 10.1	0.890
HV angle Preop	27.5 ± 8.8	25.3 ± 9.0	0.376
HV angle Postop	12.9 ± 9.0	8.9 ± 9.3	0.107
HV angle Change	14.5 ± 3.8	16.3 ± 8.8	0.360
IM angle Preop	12.4 ± 2.6	14.0 ± 4.6	0.114
IM angle Postop	6.8 ± 3.0	8.4 ± 3.6	0.083
IM angle Change	5.3 ± 2.9	5.6 ± 3.2	0.686
FAOS Pain Preop	74.6 ± 18.7	74.8 ± 19.1	0.964
FAOS Pain Postop	94.7 ± 9.1	85.5 ± 14.2	0.005*
FAOS Pain Change	20.1 ± 19.4	10.7 ± 19.7	0.068
FAOS Symptoms Preop	83.4 ± 16.0	85.5 ± 12.0	0.575
FAOS Symptoms Postop	92.7 ± 10.8	88.4 ± 10.3	0.117
FAOS Symptoms Change	9.3 ± 18.0	2.9 ± 12.8	0.118
FAOS ADL Preop	83.9 ± 18.2	83.5 ± 19.9	0.930
FAOS ADL Postop	96.9 ± 5.1	92.3 ± 10.7	0.041*
FAOS ADL Change	12.9 ± 17.6	8.8 ± 21.8	0.425
FAOS S&R Preop	73.7 ± 25.5	73.7 ± 23.1	0.995
FAOS S&R Postop	88.9 ± 23.6	85.3 ± 20.7	0.535
FAOS S&R Change	15.2 ± 31.5	11.6 ± 29.0	0.653
FAOS QoL Preop	53.4 ± 19.7	57.3 ± 25.3	0.514
FAOS QoL Postop	85.3 ± 23.1	75.0 ± 23.0	0.093
FAOS QoL Change	31.9 ± 25.5	17.7 ± 30.2	0.058

Values are displayed as mean ± standard deviation

*Statistically significant test result

Table 2. Complications for simultaneous bilateral and staged unilateral hallux valgus surgery.

	Nonunion	AVN	Stress Fracture	Wound Dehiscence	Arthrofibrosis	Painful Hardware	Symptomatic Recurrence	Radiographic Recurrence	Hallux Varus	Overall Complication Rate
Unilateral	0 (0.0)	0 (0.0)	1 (0.03)	0 (0.0)	4 (0.11)	3 (0.08)	3 (0.08)	5 (0.13)	0 (0.0)	8 (0.21)
Bilateral	1 (0.02)	0 (0.0)	1 (0.02)	1 (0.02)	3 (0.07)	4 (0.10)	0 (0.0)	3 (0.07)	1 (0.02)	8 (0.20)
P-value	1.00	1.00	1.00	1.00	0.698	0.795	0.135	0.458	1.00	1.00

Values displayed as frequency (proportion of group total). Overall complication rate represents the total number of patients who experienced one or more postoperative complications (excluding radiographic recurrence) divided by the number at risk. Radiographic recurrence was defined as >20 degrees hallux valgus angle at final follow-up.