

Return to Golf after Shoulder Arthroplasty: Golf Performance and Outcome Scores

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INTRODUCTION: Golf is an increasingly popular sport in the United States, especially amongst the age group of patients undergoing joint replacement. Return to golf after hip and knee arthroplasty has been previously studied. However, the quality and level of play following total shoulder arthroplasty is less defined, especially following reverse shoulder arthroplasty. We hypothesize that shoulder pain and performance will improve during golf similarly after both anatomic and reverse total shoulder arthroplasty.

METHODS: This is a retrospective cohort study of 69 patients identified as playing golf recreationally prior to undergoing either anatomic or reverse shoulder arthroplasty. All patients were cleared to return to golf activities 3 months following surgery. A golf-specific questionnaire was emailed to patients focusing on their experience returning to golf after shoulder arthroplasty. Results following total shoulder arthroplasty (TSA) were compared to reverse shoulder arthroplasty (RSA). Patient reported and functional outcome scores were evaluated.

RESULTS: The median age at surgery was 70 (62-73) years with 47 (68.1%) total shoulder replacements and 22 (31.9%) reverse shoulder replacements. Thirty-six (52.1%) patients returned to playing golf within 6 months and sixty (87.0%) patients returned to playing golf within 12 months following surgery. Enjoyment of golf either improved or stayed the same in 51 patients (91.0%). There was no significant change in handicap score after shoulder replacement. Pain experienced during golf improved significantly from a median VAS pain of 6 to 1 (p<0.001), with slightly greater improvement in pain for TSA patients (p=0.025). Driving distance improved for 52.2% of patients, with TSA patients reporting significantly greater improvements in distance (p=0.014). For all other questions, patients treated with anatomic and reverse shoulder arthroplasty reported similar experiences. ASES, SST, SANE, VAS function, active flexion and external rotation all significantly improved at most recent follow up (p<0.001).

DISCUSSION AND CONCLUSION: Return to golf following both reverse and anatomic total shoulder arthroplasty is a realistic expectation, with significant improvements in pain and function while playing golf. Enjoyment playing golf, golf performance, and average length of drive improve in approximately half of all patients. Patients treated with anatomic and reverse shoulder arthroplasty can expect similar golf experiences following surgery, with TSA patients experiencing a better improvement in driving distance.

Table I. Demographic comparisons between TSA and RSA patients (N=69)

Variable	TSA (n=47)	RSA (n=22)	p
Age (years)	69.2(7.4)	69.2(7.4)	0.987
Sex	27 (57.7%)	20 (91.4%)	0.001
Female	17 (36.2%)	14 (63.6%)	0.271
Female (non-ambly)	15 (31.9%)	12 (54.5%)	0.124
GAFF pre-performance	42.0(8.4)	21.0(5.5)	0.001
GAFF	7.1(8.8)	0.0(0.0)	0.840
Likewise	7.0(9.0)	1.6(5.5)	0.840
Return to golf after surgery	8 (17.0%)	1 (4.5%)	0.840
6-12 months	13 (27.7%)	1 (4.5%)	0.840
>12 months	4 (8.5%)	0 (0.0%)	0.840

Table II. Patient's experience returning to golf after shoulder arthroplasty (N=69)

Variable	Return to play	Return to play	p
Frequency playing golf in past year	15 (31.9%)	15 (68.1%)	0.914
1-2 times per month	24 (51.1%)	15 (68.1%)	0.914
3-4 times per month	12 (25.5%)	15 (68.1%)	0.914
5-6 times per month	11 (23.4%)	15 (68.1%)	0.914
Decreased frequency of playing golf after surgery	11 (23.4%)	15 (68.1%)	0.914
Response to pain (VAS)	1 (2.1%)	15 (68.1%)	0.914
GAFF	1 (2.1%)	15 (68.1%)	0.914
GAFF pre-performance	1 (2.1%)	15 (68.1%)	0.914
GAFF	1 (2.1%)	15 (68.1%)	0.914
Likewise	1 (2.1%)	15 (68.1%)	0.914
Return to golf after surgery	1 (2.1%)	15 (68.1%)	0.914
6-12 months	1 (2.1%)	15 (68.1%)	0.914
>12 months	1 (2.1%)	15 (68.1%)	0.914

Table III. Comparison of return to golf experiences between TSA and RSA patients (N=69)

Variable	TSA (n=47)	RSA (n=22)	p
Frequency playing golf in past year	15 (31.9%)	15 (68.1%)	0.914
1-2 times per month	24 (51.1%)	15 (68.1%)	0.914
3-4 times per month	12 (25.5%)	15 (68.1%)	0.914
5-6 times per month	11 (23.4%)	15 (68.1%)	0.914
Decreased frequency of playing golf after surgery	11 (23.4%)	15 (68.1%)	0.914
Response to pain (VAS)	1 (2.1%)	15 (68.1%)	0.914
GAFF	1 (2.1%)	15 (68.1%)	0.914
GAFF pre-performance	1 (2.1%)	15 (68.1%)	0.914
GAFF	1 (2.1%)	15 (68.1%)	0.914
Likewise	1 (2.1%)	15 (68.1%)	0.914
Return to golf after surgery	1 (2.1%)	15 (68.1%)	0.914
6-12 months	1 (2.1%)	15 (68.1%)	0.914
>12 months	1 (2.1%)	15 (68.1%)	0.914

Table IV. Comparison of patient outcomes between TSA and RSA patients (N=69)

Variable	TSA (n=47)	RSA (n=22)	p
Preop ASES	30.2(10.4)	32.2(10.6)	0.914
Postop ASES	31.2(10.4)	32.2(10.6)	0.914
Preop SST	15.7(5.1)	15.7(5.1)	0.914
Postop SST	15.7(5.1)	15.7(5.1)	0.914
Preop SANE	15.7(5.1)	15.7(5.1)	0.914
Postop SANE	15.7(5.1)	15.7(5.1)	0.914
Preop VAS Pain	6.0(7.0)	6.0(7.0)	0.914
Postop VAS Pain	1.0(2.0)	1.0(2.0)	0.914
Preop VAS Function	47.0(10.0)	47.0(10.0)	0.914
Postop VAS Function	47.0(10.0)	47.0(10.0)	0.914
Preop External Rotation	15.7(5.1)	15.7(5.1)	0.914
Postop External Rotation	15.7(5.1)	15.7(5.1)	0.914
Preop Active Flexion	15.7(5.1)	15.7(5.1)	0.914
Postop Active Flexion	15.7(5.1)	15.7(5.1)	0.914

Table V. Comparison of preoperative and most recent patient outcomes (N=69)

Variable	Preoperative	Most Recent	p
TSA (n=47)	30.2(10.4)	31.2(10.4)	<0.001
RSA (n=22)	32.2(10.6)	32.2(10.6)	<0.001
SANE	15.7(5.1)	15.7(5.1)	<0.001
VAS Pain	6.0(7.0)	1.0(2.0)	<0.001
VAS Function	47.0(10.0)	47.0(10.0)	<0.001
External Rotation	15.7(5.1)	15.7(5.1)	<0.001
Active Flexion	15.7(5.1)	15.7(5.1)	<0.001
GAFF	42.0(8.4)	42.0(8.4)	<0.001
GAFF	7.1(8.8)	7.1(8.8)	<0.001
Likewise	7.0(9.0)	7.0(9.0)	<0.001
Return to Golf	8 (17.0%)	8 (17.0%)	<0.001
6-12 months	13 (27.7%)	13 (27.7%)	<0.001
>12 months	4 (8.5%)	4 (8.5%)	<0.001