

Golfers have greater preoperative and equal postoperative function when undergoing total knee arthroplasty compared to non-golfers

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- No conflicts of interest

Background

It has been reported that between 14% to 20% of patients with joint arthroplasties are golfers.^{1,2} What is not known, is if being a golfer has any influence on the outcomes compared to other patients undergoing TKA, as their expectations may be different and this has been shown to influence outcome.^{3,4} Furthermore, there is little knowledge of the golfers' motivation to return to golf following TKA.

The aim of this study was to assess if being a golfer is associated with functional outcomes, satisfaction or improvement in quality of life (QoL) compared to non-golfers following total knee arthroplasty.



Methods

All patients undergoing primary total knee arthroplasty (TKA) over a one year period at a single institution were included with one-year postoperative outcomes. All patients received a cruciate-retaining Triathlon (Stryker) prosthesis. Patients were retrospectively followed up to assess if they had been golfers at the time of their surgery and questioned regarding their involvement and expectations regarding golf postoperatively.

Outcome measures included:

Oxford Knee Score

Forgotten Joint Score

EuroQoL 5D

Visual Analogue Scale - Pain

Golfing outcomes

Multivariate linear regression analysis was performed to assess the independent association of preoperative golfing status on postoperative function and health-related outcomes.



Demographic results

Demographic	Study cohort (n=514)	Golfer		Difference / Odds Ratio (95% CI)	p-value
		No (n=466)	Yes (n=48)		
Gender (%)					
Male	223 (43.3)	181 (37.2)	42 (87.5)		
Female	291 (56.7)	285 (62.8)	6 (12.5)		<0.001
Side (%)					
Left	276 (53.7)	252 (54.1)	24 (50)		
Right	238 (46.3)	214 (45.9)	24 (50)	OR 1.2 (0.6 to 2.1)	0.59
Mean age (years, SD)	70 (9.5)	70.2 (9.6)	68.5 (8.2)	Diff -1.7 (-4.5 to 1.2)	0.25
BMI	30.1 (5.9)	30.6 (5.9)	29.7(5.9)	Diff -0.9 (-2.6 to 0.9)	0.33
Co-morbidities (n, %)					
IHD	25	22	3	OR 1.4 (0.4 to 4.7)	0.64
COPD	19	18	1	OR 0.5 (0.1 to 4)	0.446
Vascular disease	7	6	1	OR 0.7 0 (0.4 to 1.3)	0.81
Diabetes	57	50	7	OR 1.4 (0.6 to 3.1)	0.64
Gastric ulcer	10	10	0	OR 1 (1 to 1)	0.72
Kidney disease	9	8	1	OR 1.2 (0.2 to 9.7)	0.74
Liver disease	4	4	0	OR 1 (1 to 1)	0.92
Cerebrovascular disease	16	14	2	OR 0.7 (0.1 to 5.8)	0.98
Preoperative EQ5D VAS	70.8 (18.8)	70.1 (19.1)	77.1 (14.7)	Diff 7 (1.5 to 12.6)	0.01
Preoperative EQ5D Index	0.423 (0.312)	0.414 (0.31)	0.449 (0.318)	Diff 0.084 (-0.001 to 0.177)	0.07
Preoperative Pain VAS	51.6 (21.8)	51.3 (21.6)	55.1 (25.5)	Diff 3.8 (-2.7 to 10.3)	0.25
Preoperative OKS	20.9 (8)	20.4 (7.9)	25.3 (7.8)	Diff 4.9 (2.5 to 7.2)	<0.001

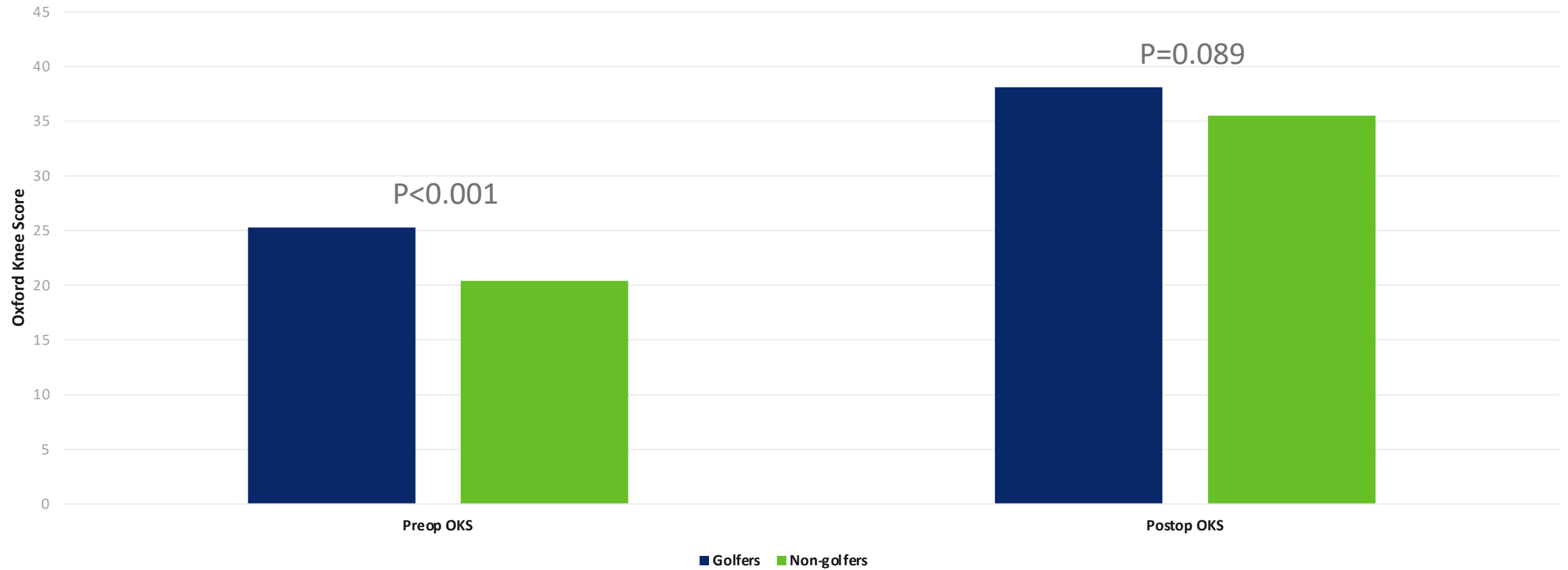
Golfers vs non-golfers
Significant preoperative differences in:

Preop Quality of Life

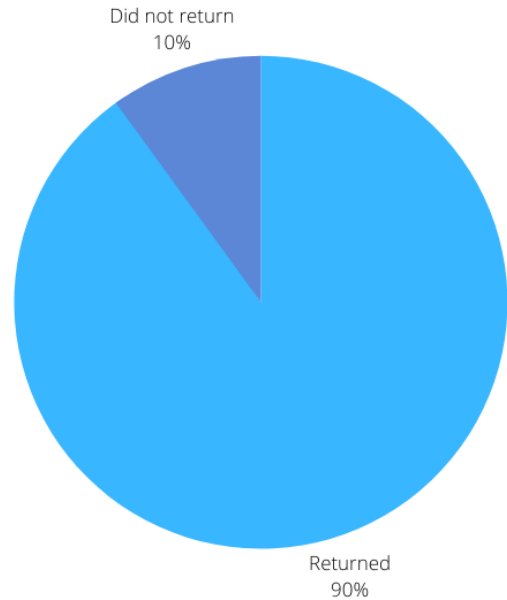


Preop Knee Function





Golf outcomes



RETURNED

DID NOT RETURN

88% reported **satisfaction** in their postoperative involvement in the game of golf

81% reported postoperative golf improved their overall **well-being**

66% reported golf helped with their **rehabilitation**

65% still **playing** 5 years postoperatively

63% reported golf being an **important** reason for undergoing surgery



Golfers had **better preoperative and equal postoperative knee specific function** compared to non-golfers. The majority of golfers returned to golf by one year and were satisfied with their involvement in the game.

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2. Behrend H, Giesinger K, Giesinger JM, Kuster MS. The "forgotten joint" as the ultimate goal in joint arthroplasty: validation of a new patient-reported outcome measure. *J Arthroplasty*. 2012 Mar;27(3):430-436.e1.
3. Scott CE, Bugler KE, Clement ND, MacDonald D, Howie CR, Biant LC (2012) Patient expectations of arthroplasty of the hip and knee. *J Bone Joint Surg Br* 94:974-981
4. Yapp LZ, Clement ND, Macdonald DJ, Howie CR, Scott CEH (2020) Changes in Expectation Fulfillment Following Total Knee Arthroplasty: A 10-Year Follow-Up Study. *J Arthroplasty* 35:1826-1832