



■ INFOGRAPHIC

Infographic: Total hip arthroplasty in golfers

Keywords: Golf, Total, Hip, Arthroplasty, Sport

**S. T. Khan,
P. G. Robinson,
D. J. MacDonald,
A. D. Murray,
I. R. Murray,
G. J. Macpherson,
N. D. Clement**

From Royal Infirmary of Edinburgh, Edinburgh, UK

Total hip arthroplasty (THA) is a clinically beneficial and cost-effective treatment for patients with end-stage hip arthritis.¹ Among patients undergoing lower limb arthroplasty, golf is a popular pursuit.²⁻⁴ Hip arthritis can limit patients' ability to play golf, and this can adversely affect quality of life (QoL).⁵ However, the effect of being a golfer on functional outcomes and QoL following THA versus a non-golfer are unclear. Furthermore, there is a paucity of studies exploring factors associated with return to golf following THA.

Robinson et al⁶ set out to assess the hip-specific functional outcomes, satisfaction, and improvements in QoL following THA in golfers versus non-golfers. Additionally, the study aimed to determine the rate of return to golf and influencing factors. Overall, 328 patients undergoing primary THA over a one-year period at a single institute were included.⁶ Of these, 120 patients (39%) were male and 188 (61%) were female, with an overall mean age of 67.8 years (standard deviation (SD) 11.6). There were 44 golfers (14%) within this group.

This study found that golfers had significantly higher hip function than non-golfers at one year following surgery (Oxford Hip Score of 43.1 (SD 5.2) vs 39.5 (SD 7.7); $p < 0.001$, independent-samples t -test). In addition, golfers had a significantly greater EuroQoL visual analogue scale score (82.6 (SD 15.2) vs 77.1 (SD 20.6); $p = 0.039$, independent-samples t -test) indicating a higher perceived QoL following surgery. Of the 44 golfers, 32 (72.7%) returned to golf, and within this group, 27 (84.4%) were

satisfied with their involvement in golf since returning from their surgery. Finally, this study found that male sex ($p = 0.001$, chi-squared test), those with greater preoperative QoL ($p = 0.039$, independent-samples t -test) or greater preoperative hip function ($p = 0.026$, independent-samples t -test) are more likely to return to golf.⁶ These findings can assist surgeons and patients in shared decision-making for THA.

Twitter

Follow S. T. Khan @ShujaaK
Follow P. G. Robinson @DrPGRobinson
Follow A. D. Murray @docandrewmurray
Follow I. R. Murray @MurraySportOrth
Follow G. J. Macpherson @gjmapherson

References

1. Jenkins PJ, Clement ND, Hamilton DF, Gaston P, Patton JT, Howie CR. Predicting the cost-effectiveness of total hip and knee replacement: a health economic analysis. *Bone Joint J.* 2013;95-B(1):115–121.
2. Meek RMD, Treacy R, Manktelow A, Timperley JA, Haddad FS. Sport after total hip arthroplasty: undoubted progress but still some unknowns. *Bone Joint J.* 2020;102-B(6):661–663.
3. Ollivier M, Frey S, Parratte S, Flecher X, Argenson JN. Pre-operative function, motivation and duration of symptoms predict sporting participation after total hip replacement. *Bone Joint J.* 2014;96-B(8):1041–1046.
4. Amstutz HC, Le Duff MJ. Effects of physical activity on long-term survivorship after metal-on-metal hip resurfacing arthroplasty: is it safe to return to sports? *Bone Joint J.* 2019;101-B(10):1186–1191.
5. Scott CEH, MacDonald DJ, Howie CR. "Worse than death" and waiting for a joint arthroplasty. *Bone Joint J.* 2019;101-B(8):941–950.
6. Robinson PG, Khan ST, MacDonald D, Murray IR, Macpherson GJ, Clement ND. Golfers have a greater improvement in their hip specific function compared to non-golfers after total hip arthroplasty but less than three-quarters returned to golf. *Bone Jt Open.* 2022;3(2):145–151.

Correspondence should be sent to Nick D. Clement; email: nickclement@doctors.org.uk

doi: 10.1302/2633-1462.22.BJO-2022-0007

Bone Jt Open 2022;2-2:xxx–xxx.



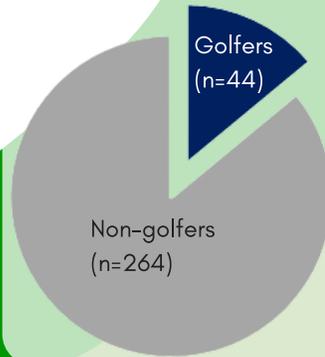
TOTAL HIP ARTHROPLASTY IN GOLFERS

AIM

Assess 1 year post-op outcomes of golfers vs non-golfers undergoing THA



STUDY DESIGN

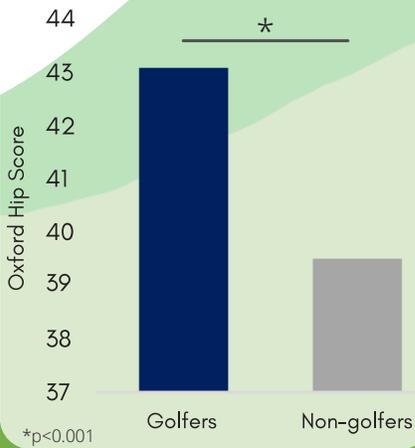


308 Patients
Mean age = 67.8

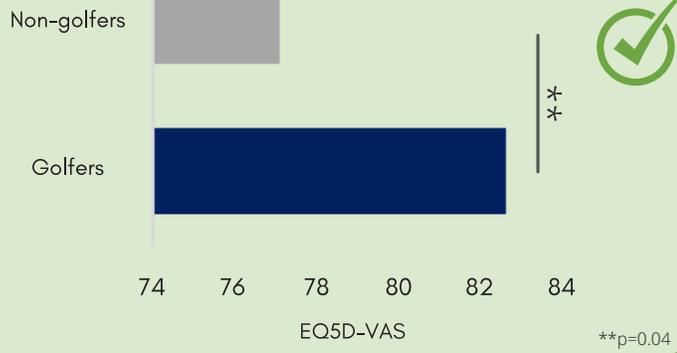
120 Males
188 Females



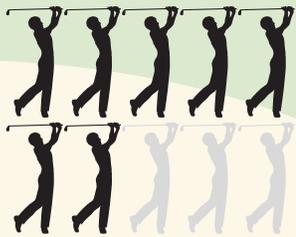
HIP FUNCTION



QUALITY OF LIFE



RETURN TO GOLF



72.7% returned



84.4% satisfied with their golf

↑ Rate of return if:

- Male sex
- ↑ pre-op QoL
- ↑ pre-op hip function

ST Khan¹, PG Robinson^{1,2}, D MacDonald¹, AD Murray², IR Murray¹, GJ Macpherson¹, ND Clement¹
1. Edinburgh Orthopaedics, Royal Infirmary of Edinburgh, UK 2. PGA European Tour Performance Institute, Virginia Water, UK

Author information:

- S. T. Khan, BSc (Hons), Medical Student, Edinburgh Medical School, University of Edinburgh, Edinburgh, UK.
- P. G. Robinson, MRCS (Ed), MSc (Res), Specialist Registrar, Edinburgh Orthopaedics, Royal Infirmary of Edinburgh, Edinburgh, UK; PGA European Tour Performance Institute, Virginia Water, UK.
- D. J. MacDonald, BA, Research Manager
- I. R. Murray, FRCS (Orth), PhD, Consultant Orthopaedic Surgeon
- G. J. Macpherson, FRCS (Orth), Consultant Orthopaedic Surgeon
- N. D. Clement, MD, PhD, FRCS (Tr&Otho), Consultant Orthopaedic Surgeon Edinburgh Orthopaedics, Royal Infirmary of Edinburgh, Edinburgh, UK.
- A. D. Murray, MRCP, FFSEM, Chief Medical Officer, PGA European Tour Performance Institute, Virginia Water, UK.

Author contributions:

- S. T. Khan: Data curation, Writing – original draft, Writing – review & editing.
- P. G. Robinson: Conceptualization, Methodology, Formal analysis, Writing – original draft, Writing – review & editing.
- D. J. MacDonald: Data curation, Writing – review & editing.
- I. R. Murray: Supervision, Writing – review & editing.
- G. J. Macpherson: Supervision, Writing – review & editing.
- N. D. Clement: Conceptualization, Methodology, Supervision, Formal analysis, Writing – original draft, Writing – review & editing.

Funding statement:

- The authors received no financial or material support for the research, authorship, and/or publication of this article.

ICMJE COI statement:

- I. R. Murray reports consulting fees from Stryker, unrelated to this study. G. J. Macpherson reports consulting fees, payment or honoraria for lectures, presentations, speakers bureaus, manuscript writing or educational events, and support for attending meetings and/or travel from Stryker, all unrelated to this study.

Acknowledgements:

- We would like to thank all the patients who have taken part in this project.

Ethical review statement:

- Ethical approval was obtained from the regional ethics committee (Research Ethics Committee, South East Scotland Research Ethics Service, Scotland [16/SS/0026]) for analysis and publication of the presented data. The data collection was carried out in accordance with the GMC guidelines for good clinical practice and the Declaration of Helsinki.

Open access funding

- The authors confirm the open access funding for this study was provided by the Department of Trauma and Orthopaedic Surgery, University of Edinburgh.

© 2022 Author(s) et al. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial No Derivatives (CC BY-NC-ND 4.0) licence, which permits the copying and redistribution of the work only, and provided the original author and source are credited. See <https://creativecommons.org/licenses/by-nc-nd/4.0/>