

Management of acute periprosthetic joint infection. A review of debridement, antibiotics and implant retention outcomes in a high volume unit

C Brines¹, C Goodland^{1*}, R Cassidy¹, P Karayiannis¹

1. Primary Joint Unit, Musgrave Park Hospital, Belfast, Northern Ireland, U.K.



INTRODUCTION

There is an increasing incidence of periprosthetic joint infections (PJI) with recent British guidelines on management of suspected acute PJI published 2023 and updated April 2024

There remains variation in practice of Debridement, Antibiotics and Implant retention (DAIR) with regards to modular exchange, remains unclear if superior for outcomes Little evidence on outcomes of DAIR performed by revision vs primary arthroplasty surgeon

AIMS & METHODS

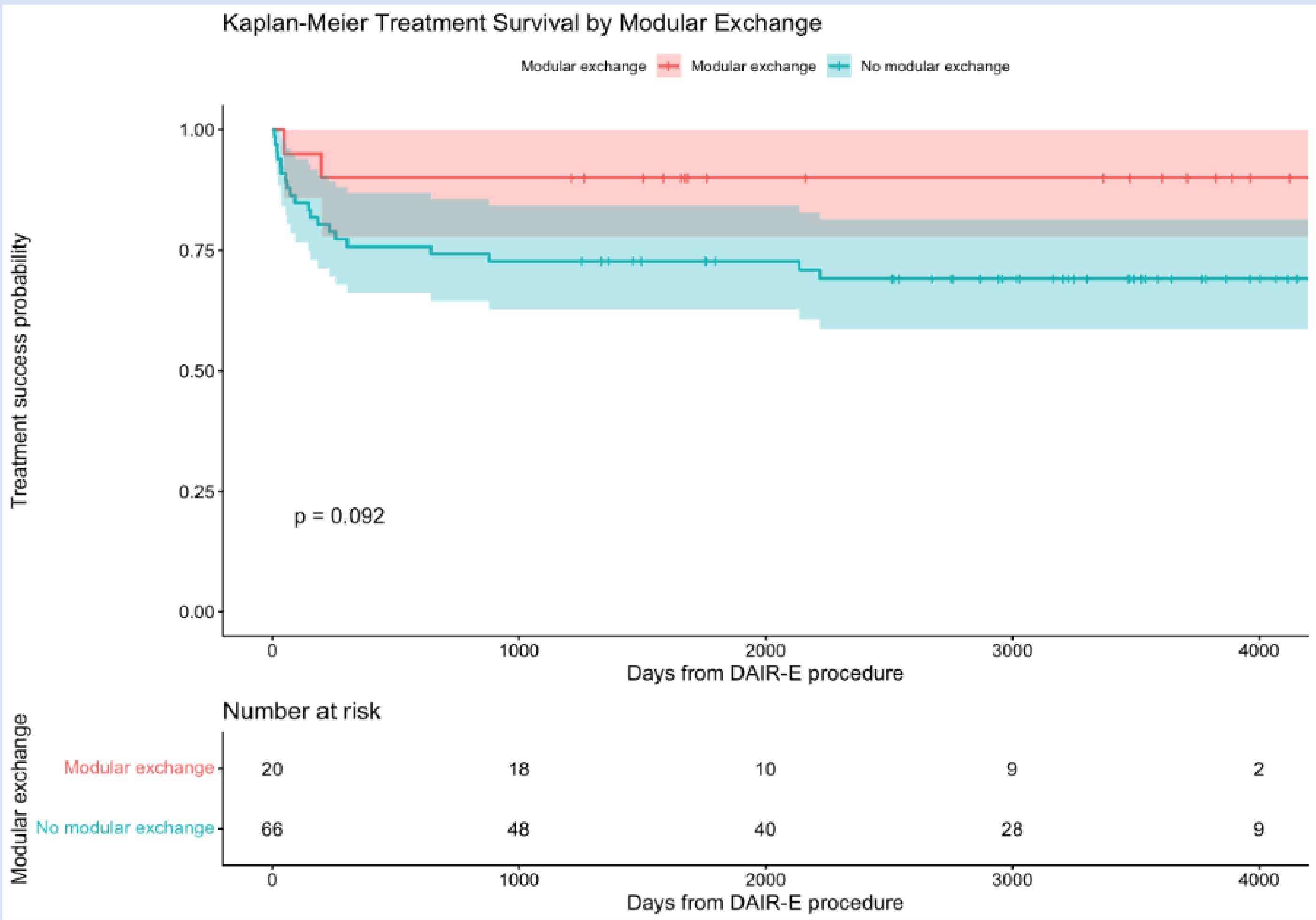
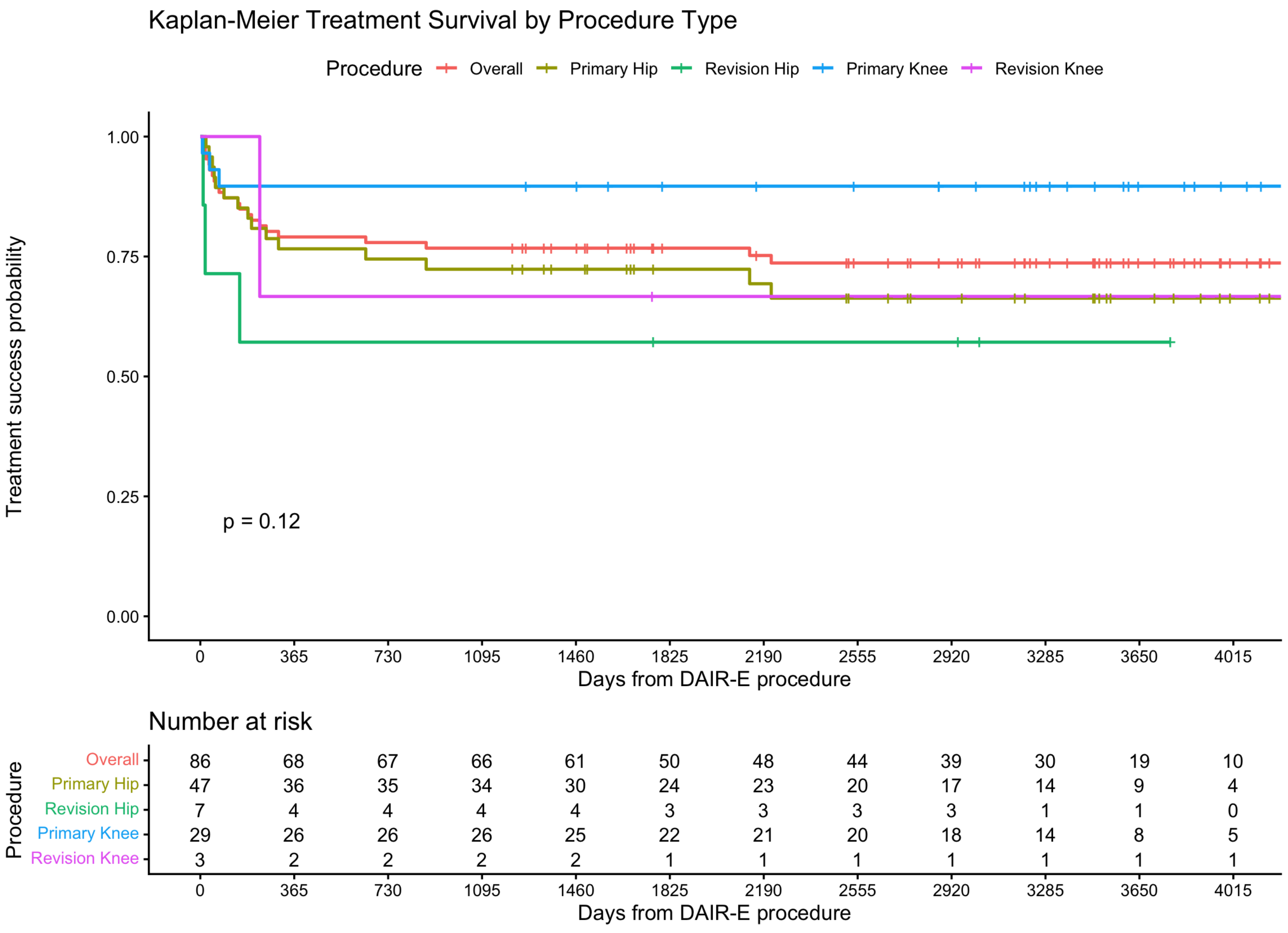
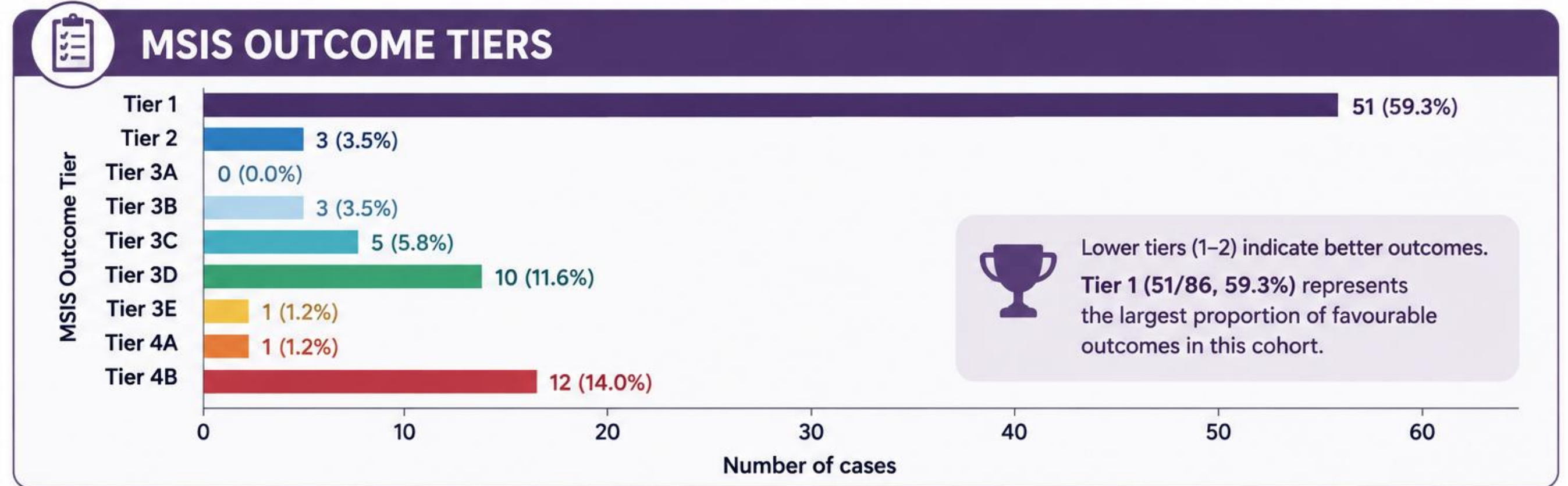
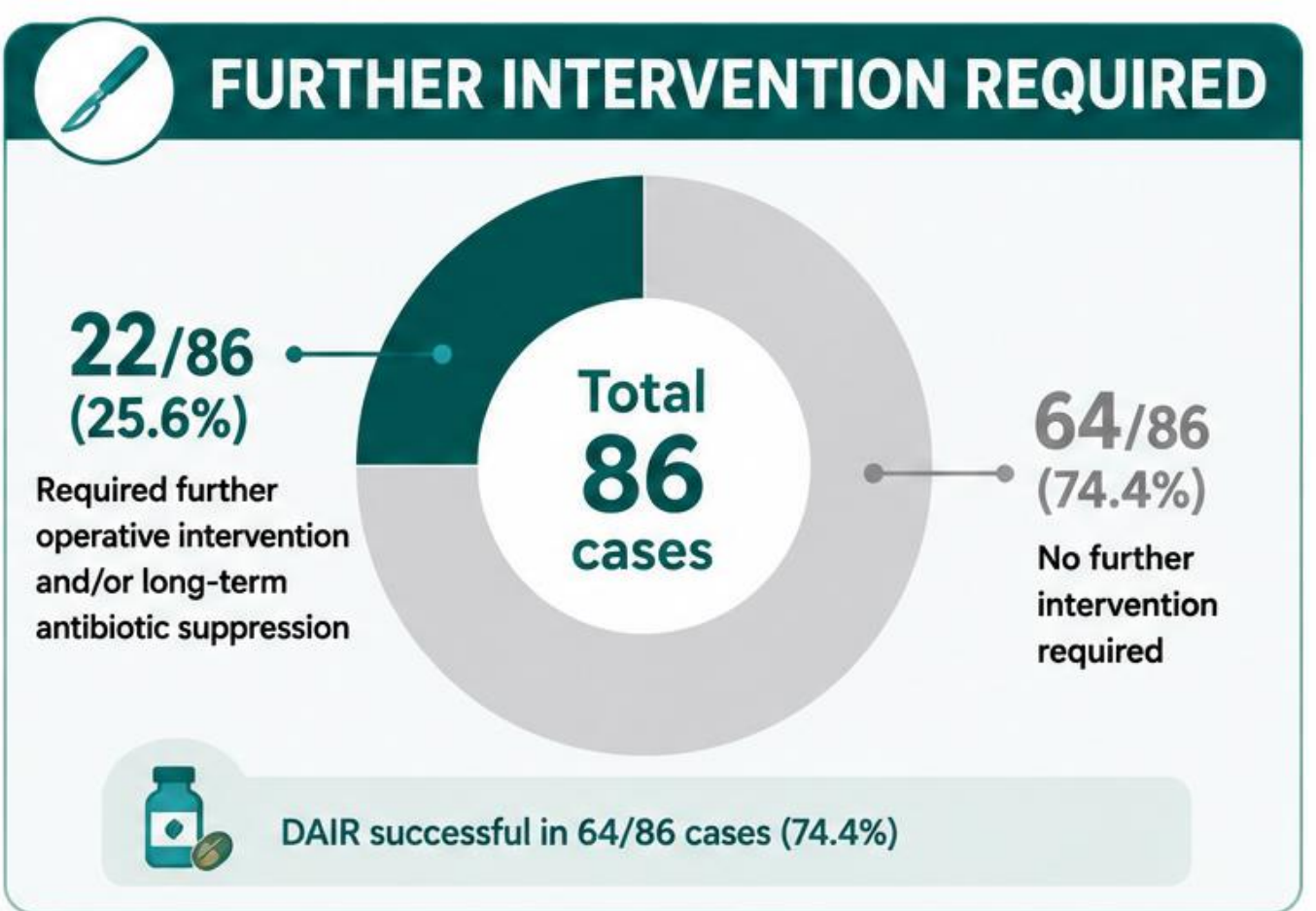
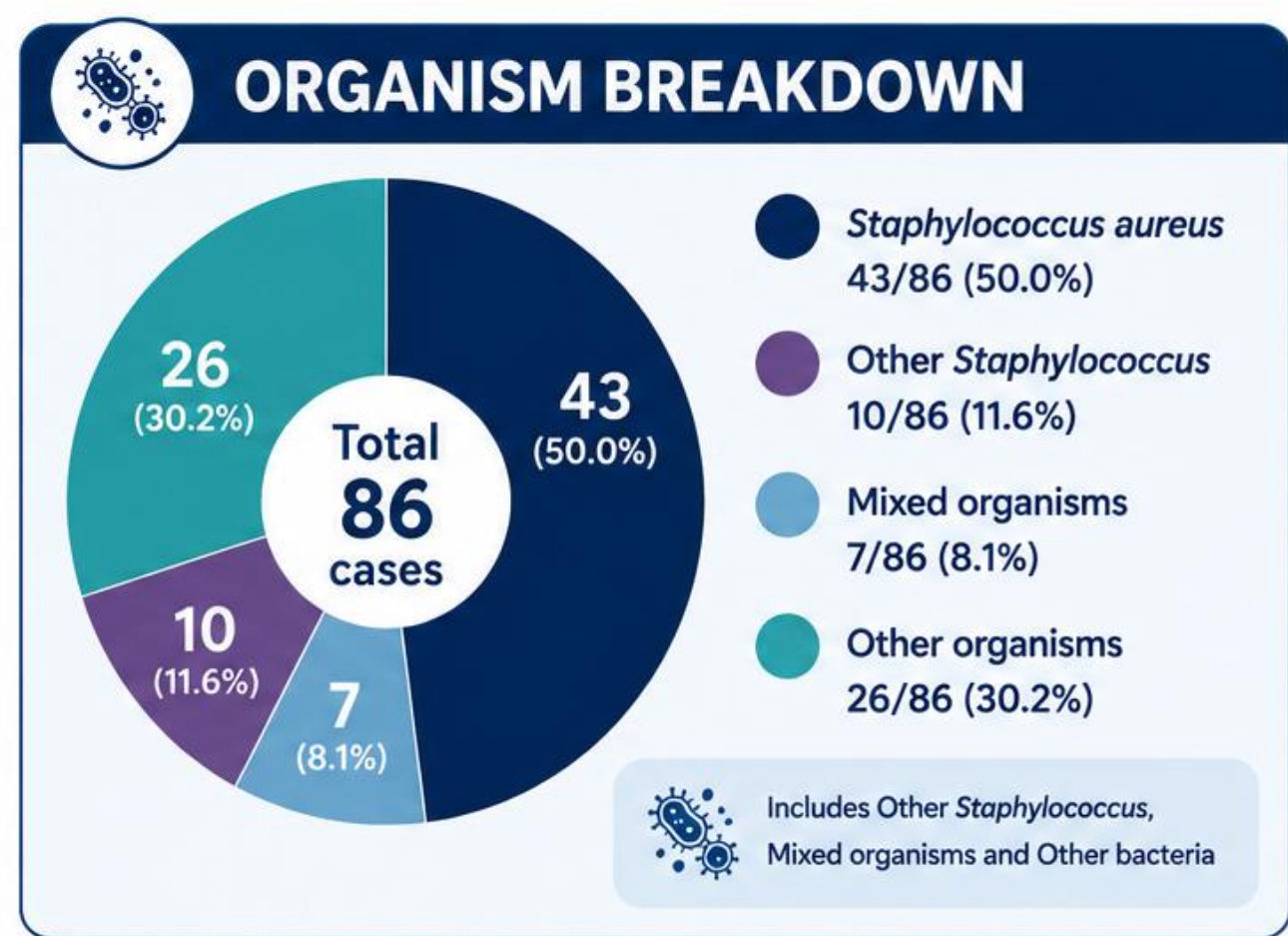
To evaluate the impact of modular exchange, as well as surgeon type on outcomes of DAIR in the management PJI of the hip and knee
A retrospective review of all DAIR cases from 1st January 2011 to 31st December 2023 was performed. Only cases that met the criteria for infected as per Musculoskeletal Infection Society (MSIS) definition were included. Arthroscopic cases were excluded.

Data was collected with a minimum follow up of 2 years and included key demographics, operative details of DAIR, outcomes/further interventions.

Success was defined as being without long-term antibiotics or further operative intervention

RESULTS

SUCCESS vs FAILURE – COHORT CHARACTERISTICS		
VARIABLE	✓ SUCCESS (n=64)	✗ FAILURE (n=22)
Age, years (mean ± SD)	68.8 ± 12.7	66.1 ± 14.3
BMI, kg/m ² (mean ± SD)	31.8 ± 6.6	31.8 ± 7.9
Index procedure to DAIR, days (median [IQR])	28 [17–198]	70 [22–1124]
Symptoms to DAIR, days (median [IQR])	3 [2–9]	3 [2–8]
Modular exchange performed n (%)	28.1% 18/64 (28.1%)	9.1% 2/22 (9.1%)



CONCLUSION

Overall patients who underwent DAIR procedure were likely to have a successful outcome. Those with modular exchange were more likely to have a successful outcome compared to those without exchange. There was no difference in outcome comparing primary arthroplasty and revision arthroplasty surgeons performing DAIR

References

1. British Orthopaedic Association (BOA). 2023. Acute Management of Peri-Prosthetic Joint Infection.
2. Gerritsen M, Khawar A, Scheper H, van der Wal R, Schoones J, de Boer M, et al. Modular component exchange and outcome of DAIR for hip and knee periprosthetic joint infection. Bone Jt Open. 2021 Oct 1;2(10):806-812. <https://doi.org/10.1302/2633-1462.210.BJO-2021-0090.R1>
3. Parvizi J, Tan TL, Goswami K, Higuera C, Della Valle C, Chen AF, Shohat N. The 2018 Definition of Periprosthetic Hip and Knee Infection: An Evidence-Based and Validated Criteria. J Arthroplasty. 2018 May;33(5):1309-1314.e2. doi: 10.1016/j.arth.2018.02.078. Epub 2018 Feb 26. PMID: 29551303.