



Does The Use Of Peripheral Nerve Blocks Affect Outpatient Total Hip And Knee Arthroplasty Outcomes?

Clayton W. Wing, MD¹; Raji Naamani, MD²; Sumayya Aboobacker, MBBS²; Behnaz Hatami, MD²; Dan S. Ubl, MPH³; Bryan D. Springer, MD¹; Alberto E. Ardon, MD²; Cameron K. Ledford, MD¹

¹Department of Orthopedic Surgery, Mayo Clinic, Jacksonville, FL; ²Department of Anesthesiology and Perioperative Medicine, Mayo Clinic, Jacksonville, FL; ³Robert D. and Patricia E. Kern Center for the Science of Health Care Delivery, Mayo Clinic, Rochester, MN

50th Annual Regional
Anesthesiology and Acute
Pain Medicine Meeting

May 1-3, 2025 | Orlando, FL

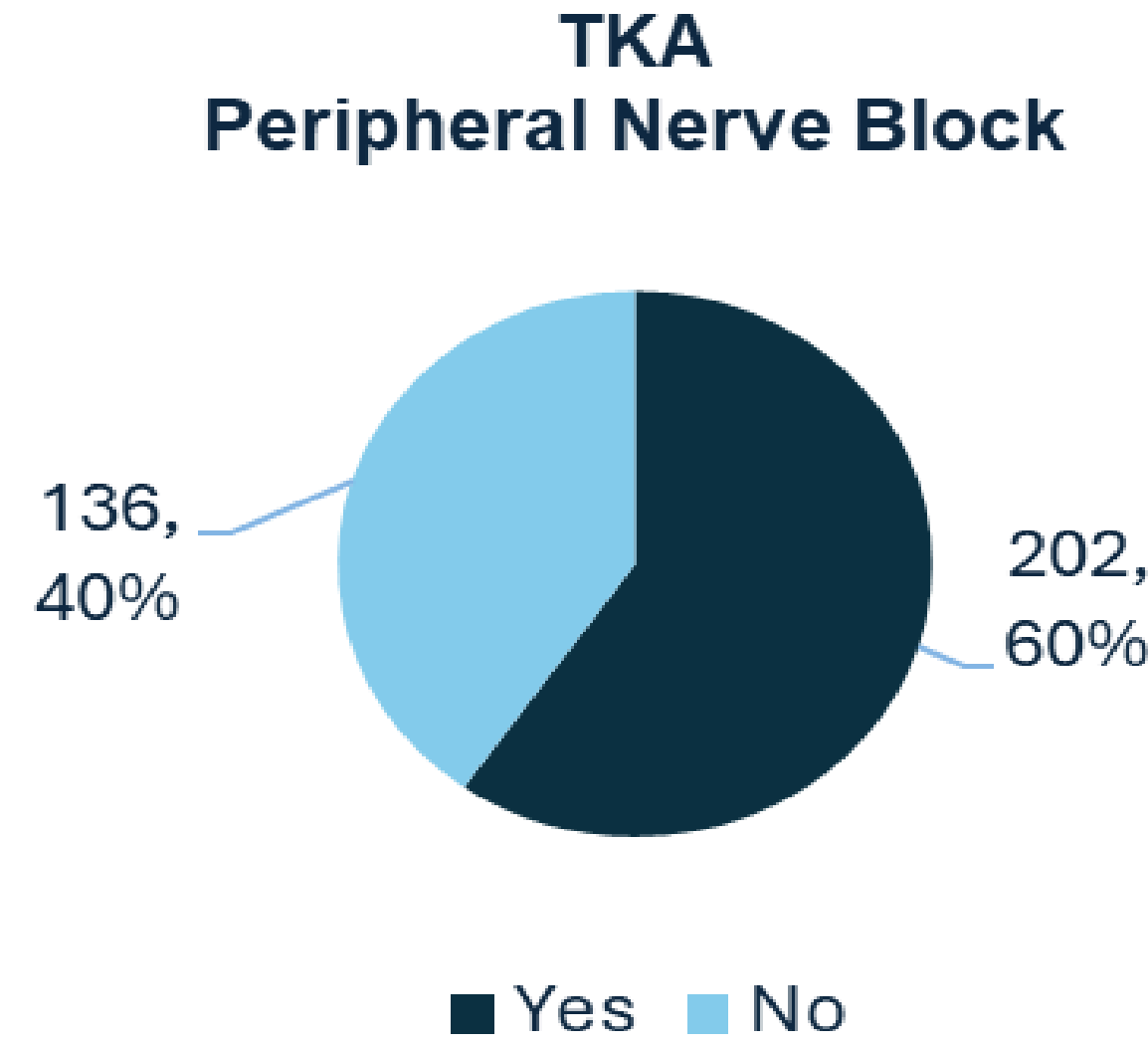
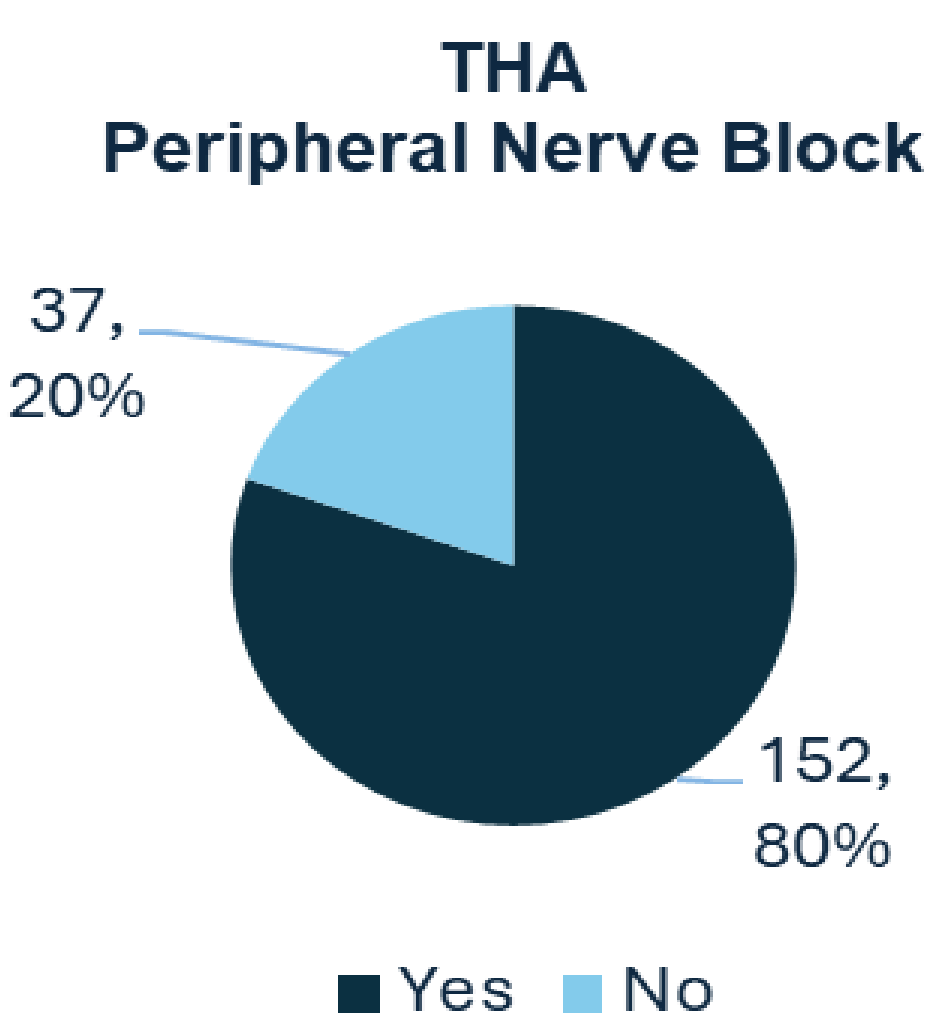
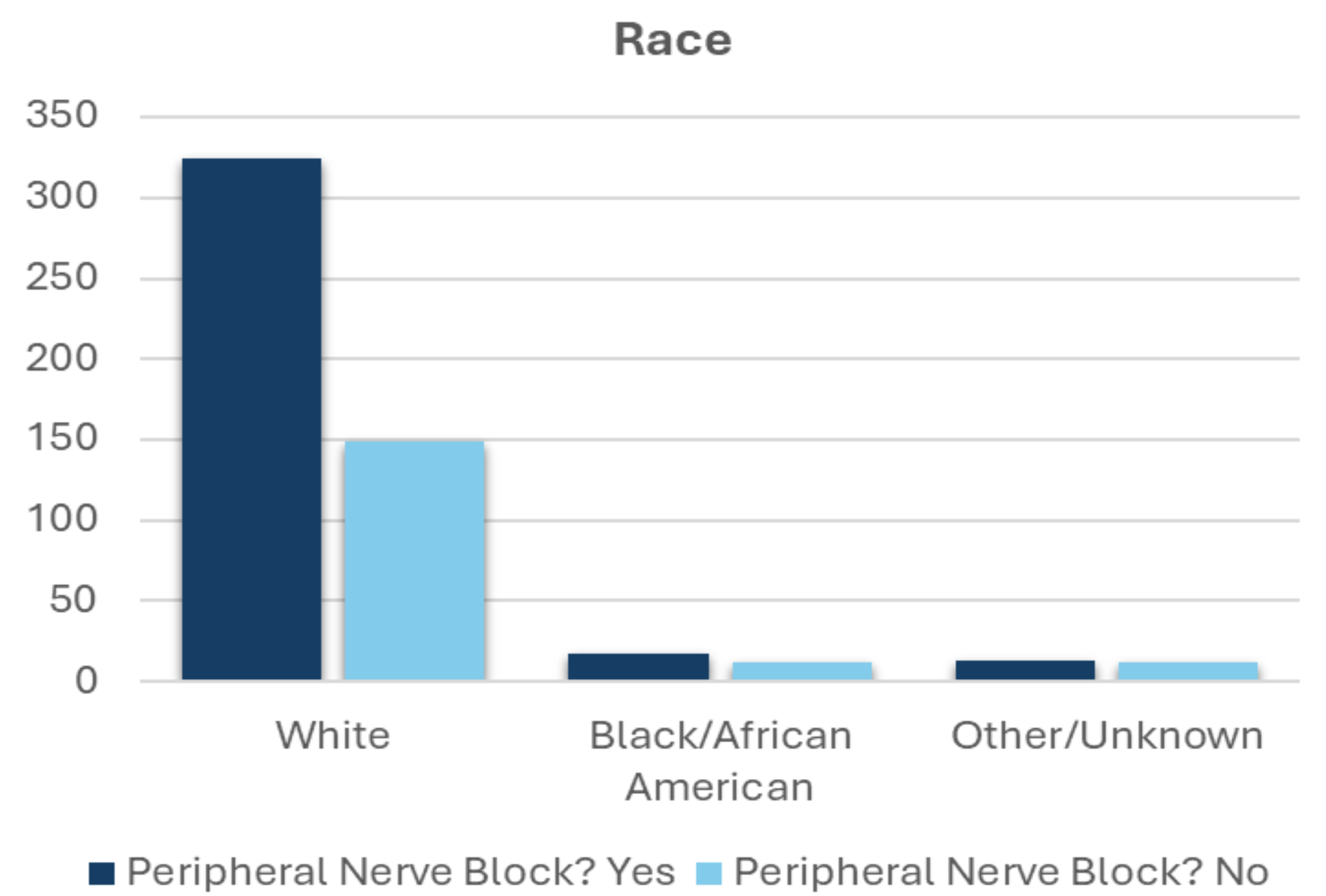
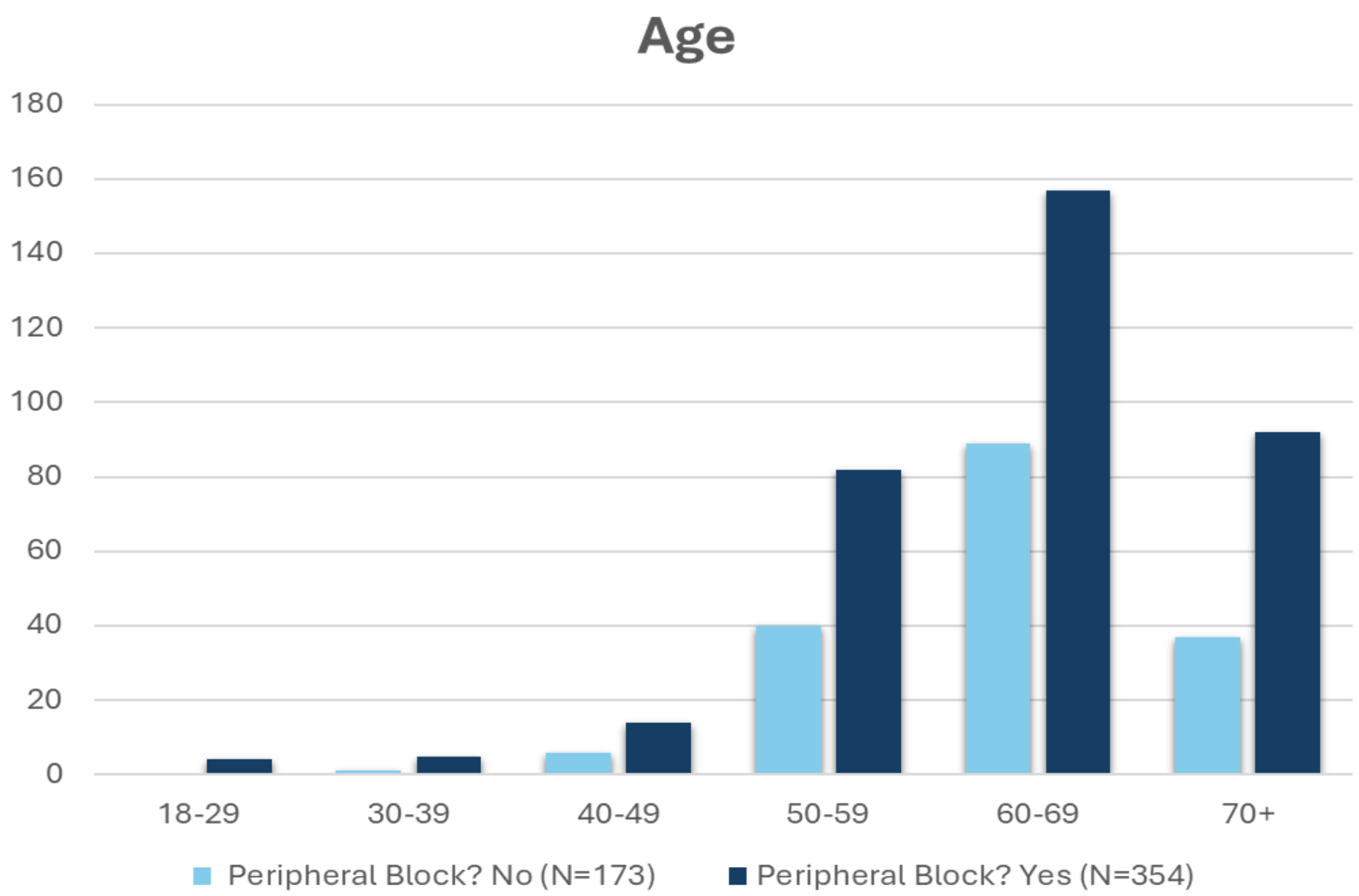


INTRODUCTION

Regional anesthetic techniques are commonly utilized in outpatient total joint arthroplasty (TJA) to enhance recovery and reduce pain. However, anesthesia practices can vary significantly due to factors such as a patient’s candidacy for regional anesthesia, surgeon preferences, and institutional protocols. This study aims to compare the impact of peripheral nerve blocks (PNBs) on acute and 90-day outcomes in patients undergoing outpatient (<24h stay) total hip arthroplasty (THA) and total knee arthroplasty (TKA). The goal is to evaluate the effectiveness of PNBs in improving postoperative outcomes in these surgical populations.

METHODS

Institutional review board (IRB) approval was obtained from the Mayo Clinic IRB. A retrospective review of 527 patients (189 THAs, 338 TKAs) was performed, including 354 patients of whom received a PNB. All patients received periarticular injections and multimodal analgesia. Intraoperative and post-anesthesia care unit (PACU) narcotic usage (oral morphine milligram equivalents, OME), numerical pain scores, first ambulation distance, length-of-stay (LOS), 90-day complications (readmissions or reoperations) and hip and knee osteoarthritis outcome scores (HOOS/KOOS) were compared. Pearson Chi-Square and Fisher’s Exact tests evaluated categorical variables and Wilcoxon-Mann-Whitney tests evaluated continuous variables.



RESULTS

There were no significant differences in baseline values between the two groups. The mean patient age was 63.7 years, 56% were male, 89.8% were Caucasian, mean body mass index was 32.0 kg/mg² and 90.5% of patients had a spinal anesthetic. 80% of THAs received a paravertebral block (PVB), and 60% of TKAs received adductor canal block (ACB). PNBs performed in TJA patients resulted in no significant differences in intraoperative or postoperative OME or pain scores. PNB resulted in no difference in LOS (11.0 vs 10.6 hrs., p=0.9985), mean ambulation distance (153.5 vs 149.6 feet, p=0.6655) or 90-day complications. However, HOOS/KOOS scores were higher for PNB patients (79.4 vs 86.1, p=0.0027).

Table 1. Perioperative Outcomes by Peripheral Nerve Block Status

	Total (N=527)		
Peripheral Nerve Block?	Yes (N=354)	No (N=173)	P-Value
Intra-op OME (Mean (SD))	1.1 (4.28)	1.1 (3.88)	0.7901
Post-op OME (Mean (SD))	10.7 (12.84)	12.6 (12.49)	0.0617
Post-op Pain Score (Mean (SD))	2.4 (1.90)	2.6 (1.99)	0.2334
Length of Stay (hr) (Mean (SD))	10.6 (2.40)	11.0 (3.51)	0.9985
First Ambulation Distance (ft) (Mean (SD))	149.6 (63.15)	153.5 (71.85)	0.6655
90-d Readmission	Yes	2 (0.6%)	0 (0.0%)
	No	352 (99.4%)	173 (100.0%)
Pre-op HOOS/KOOS Scores (Mean (SD))	50.0 (14.25)	48.7 (12.91)	0.3193
Post-op HOOS/KOOS Scores (Mean (SD))	79.4 (15.14)	68.1 (15.68)	0.0027

CONCLUSIONS

The use of peripheral nerve blocks (PNBs) did not result in any significant immediate improvement in postoperative outcomes. While there may be a potential association between PNBs and better scores on the Hip Disability and Osteoarthritis Outcome Score (HOOS) and Knee Injury and Osteoarthritis Outcome Score (KOOS) among patients undergoing outpatient total hip arthroplasty (THA) and total knee arthroplasty (TKA), further research is necessary to fully understand and clarify this relationship.

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