



#2349241: Variability in Peripheral Nerve Block Preference in Total Hip Arthroplasty: Influences and Surgeon–Anesthesiologist Dynamics

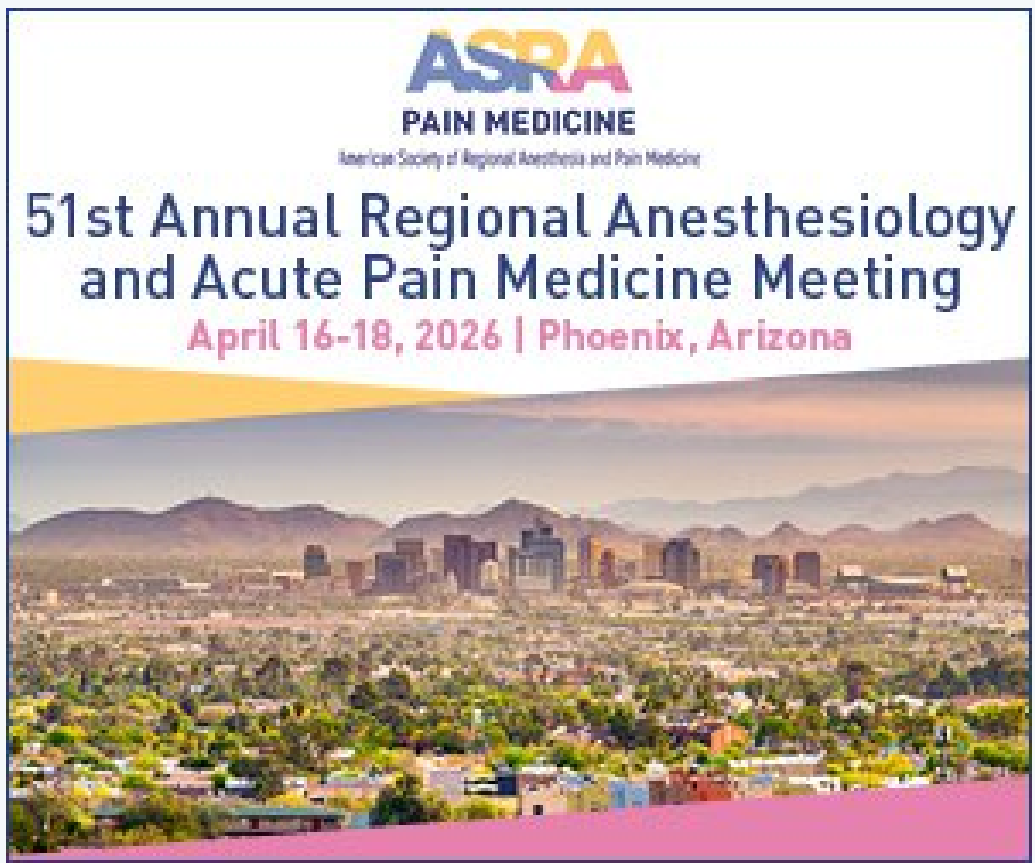
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INTRODUCTION

- Peripheral nerve blocks (PNBs) are recommended in consensus guidelines (e.g., ICAROS) for their safety and analgesic benefits in total hip arthroplasty (THA).
- Evidence regarding analgesic efficacy, safety, and motor-sparing properties remains mixed.
- How surgeon preference, patient characteristics, and interdisciplinary collaboration shape PNB selection is not well understood.
- This study evaluated factors influencing anesthesiologists’ PNB choices for THA and characterized patterns of surgeon–anesthesiologist collaboration.

METHODS

- IRB approved #2025-1183
- Voluntary, anonymous REDCap survey distributed to attending anesthesiologists at a high-volume orthopedic center (July–August 2025).
- Respondents rated the influence of patient-, provider-, and system-level factors on PNB selection using 5-point Likert scales.
- Responses summarized with descriptive statistics; associations explored with sex, age, and experience.
- 11 follow-up interviews conducted to qualitatively assess themes related to block selection, dosing strategies, and interdisciplinary communication.

Table 1. Participant Demographics (n = 49)

Characteristic	Response, N (%)
Sex	
Female	9 (18.37)
Male	40 (81.63)
Years Worked at Institution	
1–4 years	12 (24.49)
5–9 years	9 (18.37)
10–14 years	7 (14.29)
15+ years	21 (42.89)
Age Range	
30–39	10 (20.41)
40–49	14 (28.57)
50–59	13 (26.53)
60+	12 (24.49)

The selection of PNB is primarily driven by surgeon and patient considerations rather than logistical constraints.

Figure 1. Influence Factors Rated as Important or Very Important (n = 49)

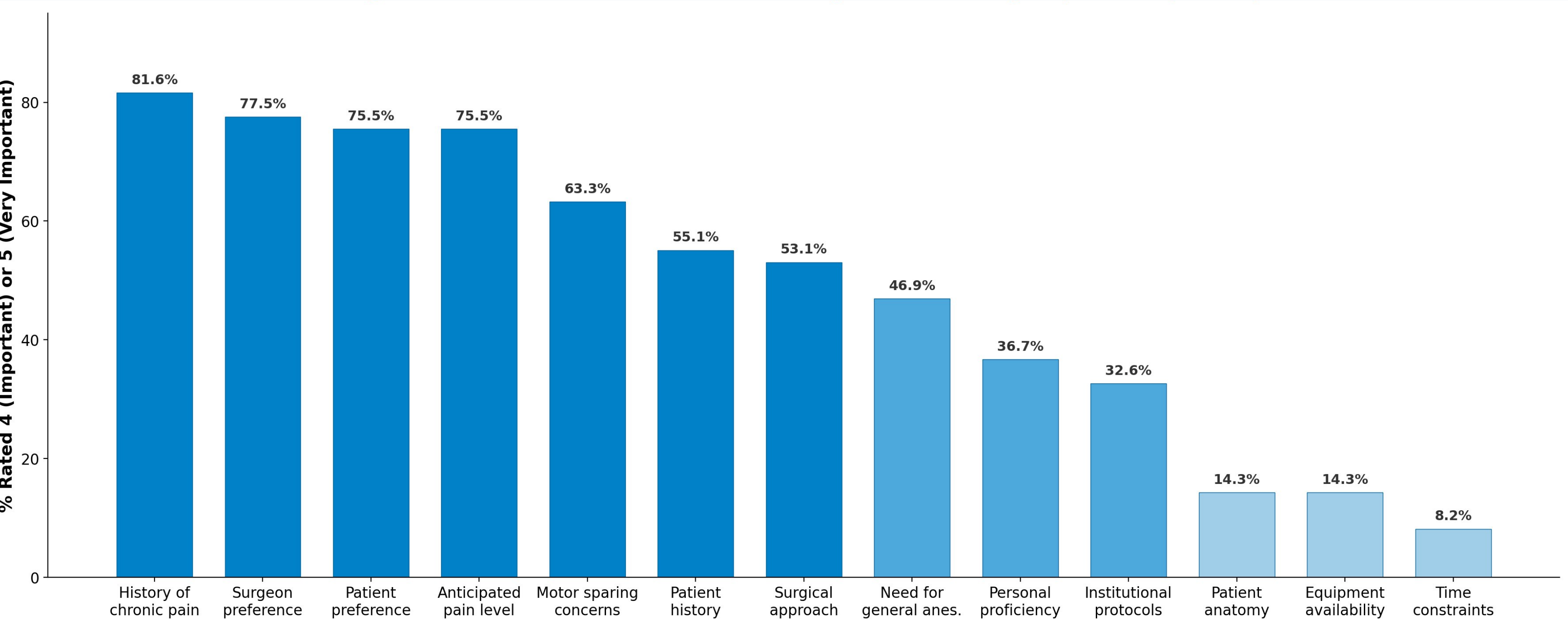


Table 2. Key Interview Themes and Representative Quotes (n = 11)

Theme	Representative Quote
Commonly used blocks and volume/concentration preferences	"I pretty much always do one of the motor sparing ones, like PENG and SIFI, as opposed to a lumbar plexus."
Inconsistent performance and lack of standardization	"Blocks for THA are inconsistently performed—it's quite variable. There should be a standardized approach."
Local anesthetic volume and concentration adjustments	"My choices are efficacy and providing effective analgesia while balancing the risk of toxicity."
Reference and guideline use	"I rely entirely on my own experience. [Guidelines] don't standardize concentration or volume."
Interdisciplinary collaboration	"We have to trust each other. Surgeon preference is crucial in deciding whether to do a PNB."
Selective block use based on PAI or opioid tolerance	"Surgeons vary in how effectively they perform PAI. Patient intolerance to opioids shapes my decision-making."

RESULTS

- 49 anesthesiologists completed the survey (70% response rate).
- Most influential factors (mean ± SD):
 - Surgeon preference: 4.31 ± 0.92
 - History of chronic pain: 4.27 ± 1.06
 - Patient preference: 4.20 ± 0.98
- Least influential: time constraints, patient anatomy, equipment availability.
- 55.1% reported modifying block choice based on periarticular injection (PAI) use, most commonly forgoing PNBs when surgeons routinely used PAI.
- Nearly 60% reported “often” or “always” collaborating with surgeons on block planning.
- Female respondents rated surgeon preference and anticipated pain level higher.
- Less-experienced anesthesiologists rated importance of general anesthesia need higher.
- Interviews highlighted considerable variability in dosing practices and skepticism toward existing guidelines.

DISCUSSION

- At this high-volume THA center, PNB selection is driven primarily by surgeon and patient considerations rather than logistical constraints.
- PAI use frequently influences block decisions, and substantial practice variability underscores the need for individualized approaches.
- These findings support the development of standardized, collaborative decision-making frameworks integrating patient-specific factors and surgical approach to reduce unwarranted variability and optimize analgesia.

References

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