



Superficial Cervical Plexus Block and Quality of Recovery after Thyroidectomy: A Randomized Controlled Trial



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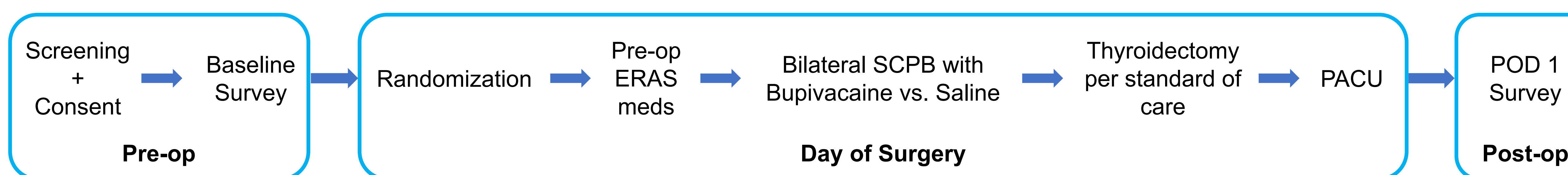
BACKGROUND

- Thyroid surgery involves a midline neck incision with 90% of patients requiring opioids within the first 24h of surgery¹
- Enhanced Recovery After Surgery (ERAS) pathways promote protocolized multimodal analgesia
- Superficial cervical plexus blocks (SCPBs) reduce pain scores and opioid consumption in patients undergoing thyroidectomy
- However, this evidence was generated prior to current ERAS practices
- Patient-centered outcome tools such as the “Quality of Recovery-40” (QoR-40) Survey² capture global pictures of recovery

OBJECTIVES

- **Primary** - Compare Quality of Recovery-40 (QoR-40) scores on Post-Operative Day (POD) 1 in patients who receive bilateral SCPB with bupivacaine versus saline prior to thyroid surgery with general anesthesia
- **Hypothesis:** Bupivacaine group will demonstrate superior recovery scores
- **Secondary** - Between group comparisons of:
 - Opioid consumption in post-anesthesia care unit (PACU) and on POD 1
 - Incidence of postoperative nausea and vomiting (PONV) in PACU and POD 1
 - Need for rescue analgesia or antiemetic in PACU
 - PACU length of stay

METHODS

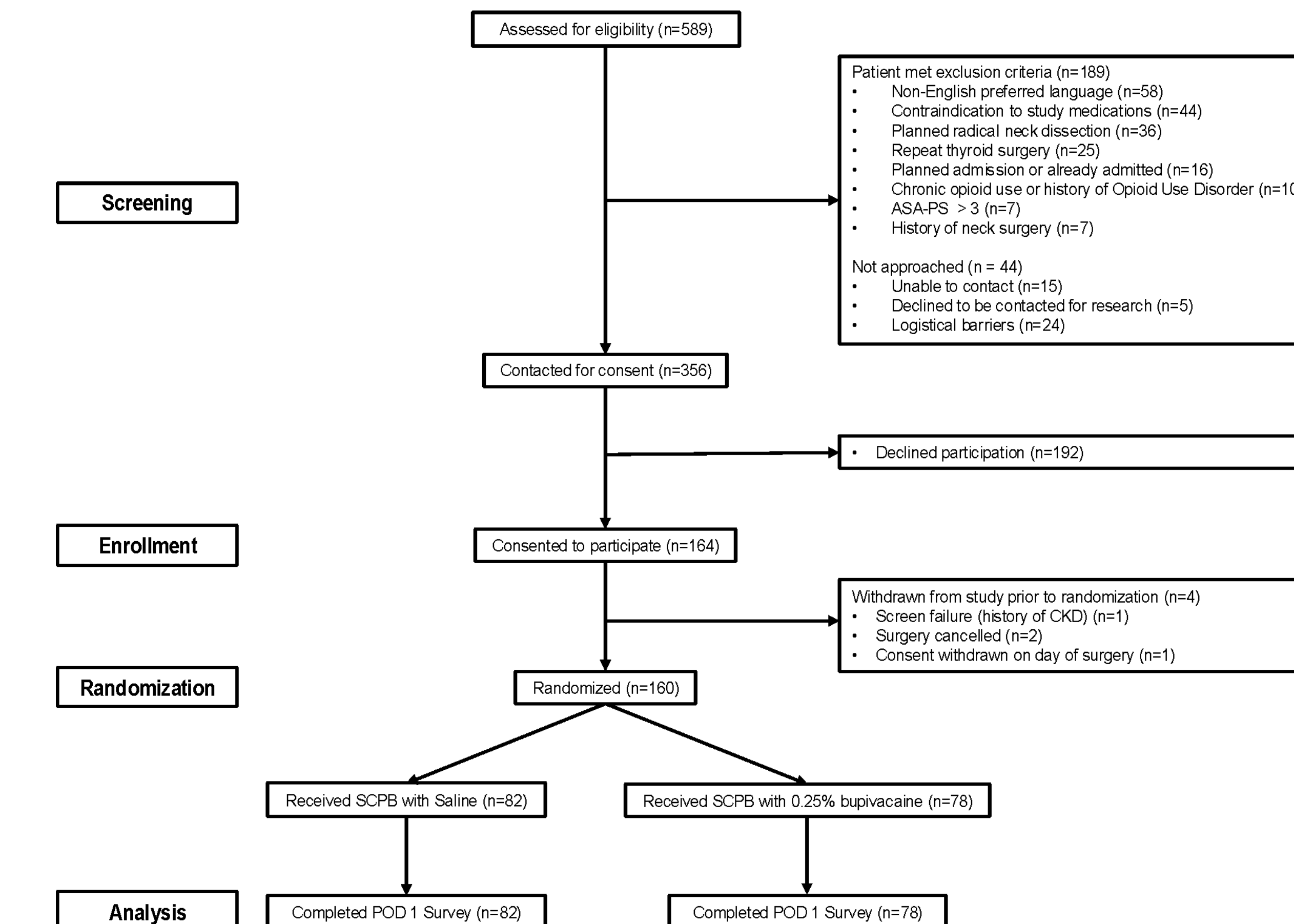


- Inclusion Criteria: age 18+, ASA I-III, undergoing ambulatory hemi- or total thyroidectomy
- Exclusion Criteria: non-English speaking, repeat thyroid surgery, planned radical neck dissection, planned post-operative admission, contraindication to study medications, pregnancy

YNHHS Enhanced Recovery After Surgery Pathway for Thyroidectomy		
Pre-Op	Intra-Op	Post-Op
<ul style="list-style-type: none"> - PO Acetaminophen 1000 mg - PO Celecoxib 200 mg 	<ul style="list-style-type: none"> - TIVA with propofol and remifentanyl - Incisional local anesthetic by surgeon - IV Dexamethasone 10 mg - Risk based prophylactic anti-emetics 	<ul style="list-style-type: none"> - PO Acetaminophen 650 mg + PO Ibuprofen 600 mg q6h for first several post-operative days - 5 tablets of Oxycodone 5 mg for breakthrough pain

- Bilateral Superficial Cervical Plexus Blocks with ultrasound guidance were performed by blinded anesthesiologists

ENROLLMENT



RESULTS

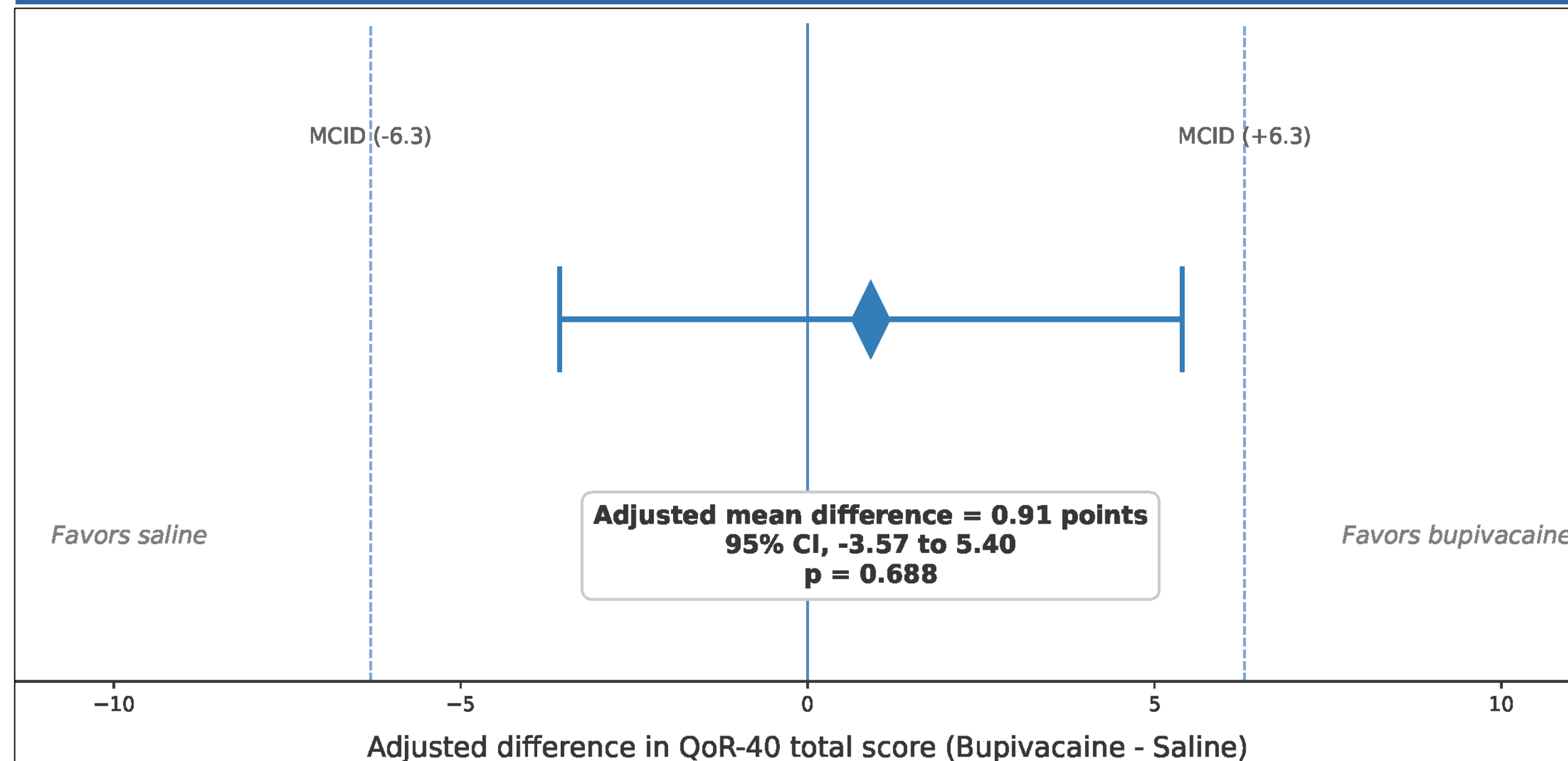


Figure 1. No significant between group differences in POD1 QoR-40 Scores
Multivariable linear regression model adjusted for baseline QoR-40 score, gender, ethnicity, race, body mass index, American Society of Anesthesiologists physical status classification, and surgical procedure type.

- No significant differences in demographic characteristics
- No significant differences in intraoperative management characteristics

Table 1. Postanesthesia Care Unit Outcomes

Outcomes	Bupivacaine (n=78)	Saline (n=82)	p-value
Rescue Analgesia Administered, no. (%)	29 (37)	41 (50)	0.10
Rescue Analgesia Total (MME), median [IQR]	0 [0, 8]	2 [0, 20]	0.017
Phenol Throat Spray Used, no. (%)	29 (37)	29 (35)	0.8
Nausea Incidence, no. (%)	3 (4.3)	7 (9.2)	0.3
Not documented	8	6	
Vomiting Incidence, no. (%)	1 (1.3)	2 (2.4)	> 0.9
Antiemetic Administered, no. (%)	3 (3.8)	13 (16)	0.011
Length of stay (min), median [IQR]	132 [106, 183]	118 [89, 173]	0.2

Reported from Pearson's chi-square and Wilcoxon rank sum tests. Nausea and vomiting occurrence was documented in nursing flowsheets IQR, Interquartile Range; MME, Morphine Milligram Equivalent; SD, Standard Deviation

CONCLUSIONS

- Bilateral SCPBs with bupivacaine did not improve quality of recovery after thyroidectomy when added to a multimodal analgesic regimen.
- Bilateral SCPBs with bupivacaine was associated with decreased total amount of opioids and antiemetics administered in the PACU.

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