

Continuous Erector Spinae Plane Blocks to Treat Pain Following PCNL: A Randomized, Triple-Masked, Placebo-Controlled Trial

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INTRO

- PCNL causes significant postoperative pain
- Single-shot ESPB works, but duration may be limited
- Unknown: Does adding continuous infusion improve outcomes?

METHODS

- Randomized, triple-masked, placebo-controlled
- n = 50 adults undergoing ambulatory unilateral PCNL
- All received single-injection ESPB + catheter
- Randomized to:
 - **Active:** Bupivacaine infusion
 - **Placebo:** Saline infusion
- Primary Outcomes: pain scores + opioid use (POD 0-2)

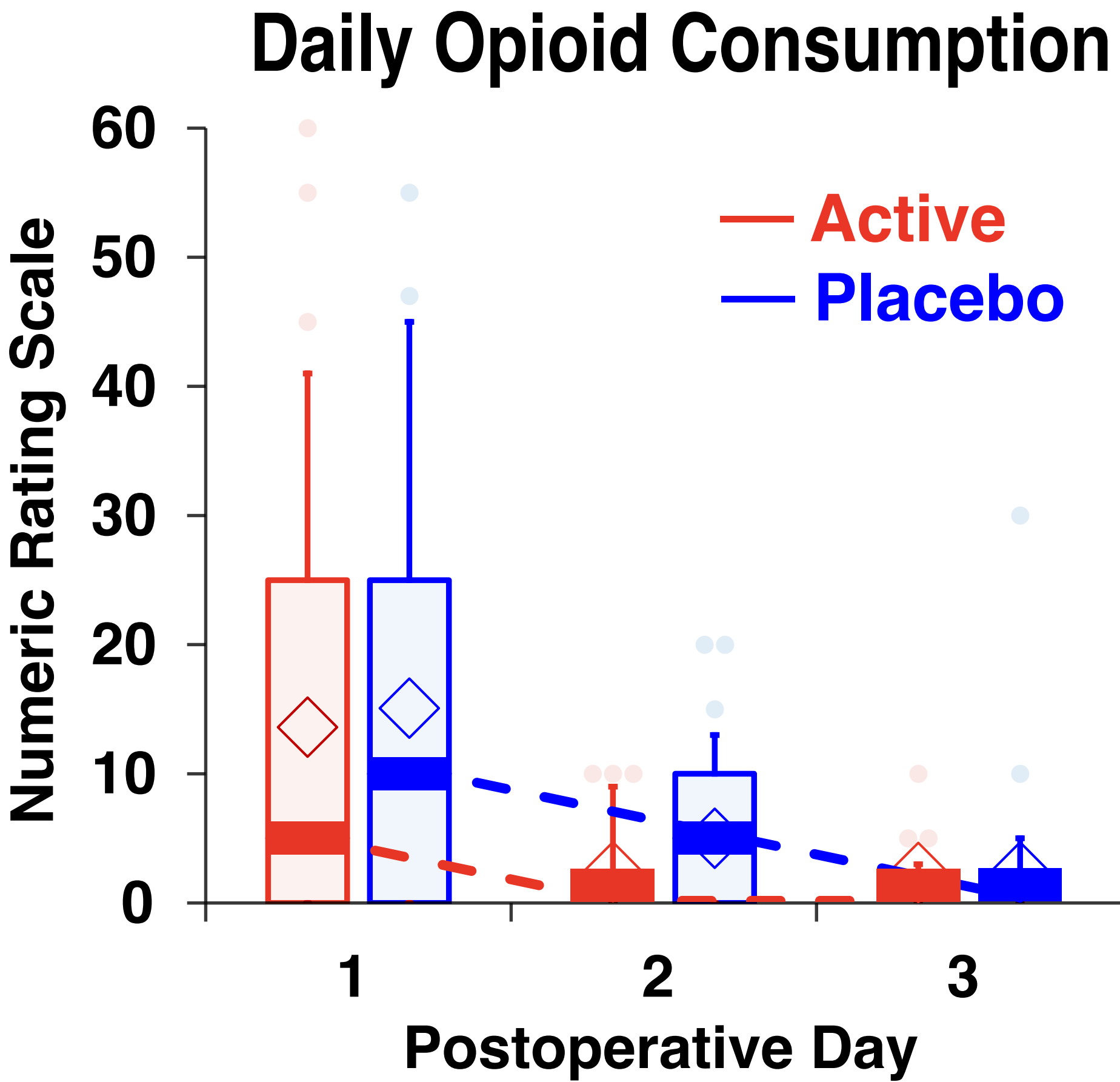
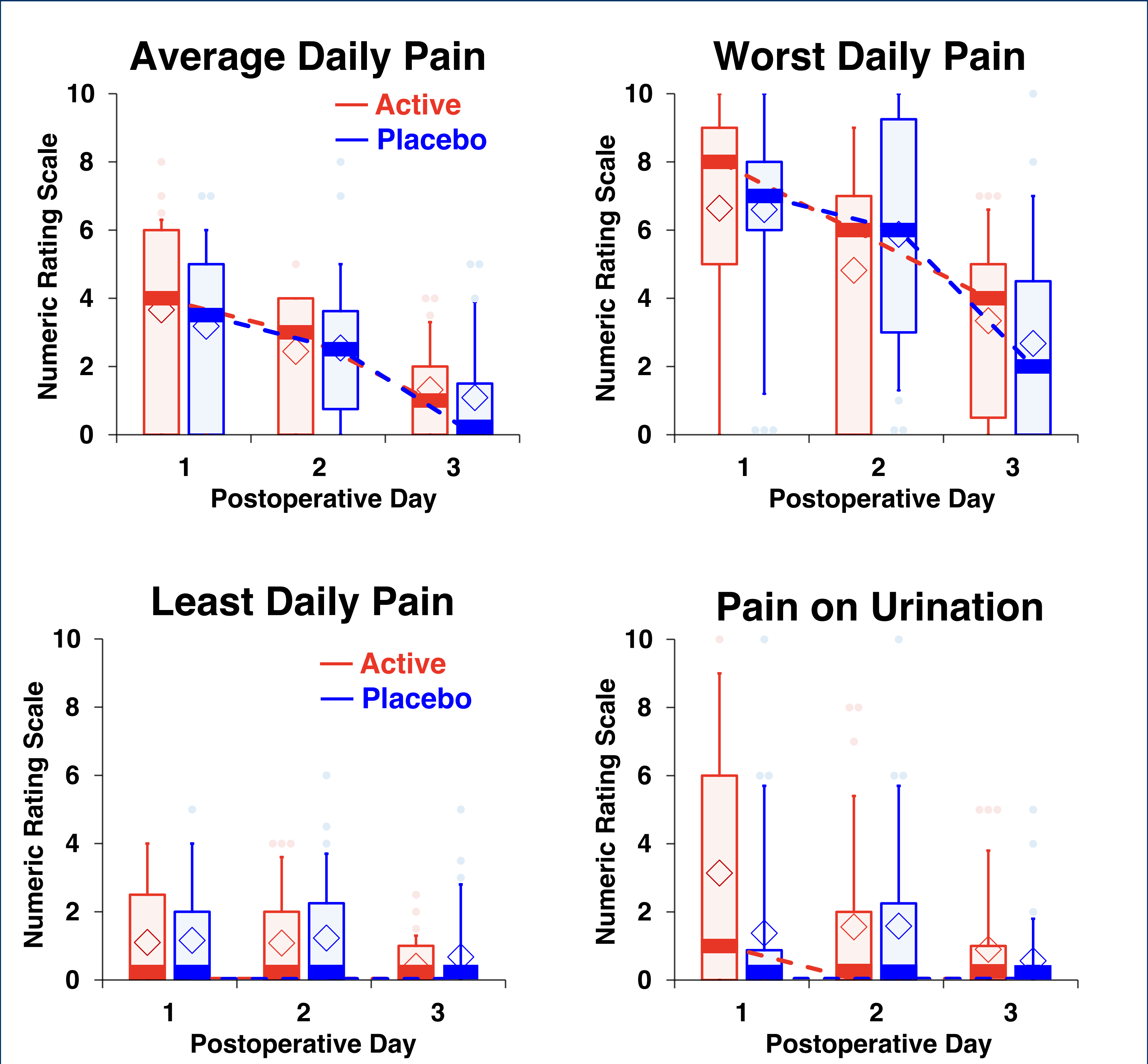
RESULTS

- **50 participants enrolled; successful catheter placement in 100%**
- Groups well balanced; no covariate adjustment required
- **Primary Outcomes (POD 0–2)**
- No difference in average pain scores
 - ACTIVE: 3.5 [2.0–4.5]
 - PLACEBO: 3.0 [1.3–4.5]
 - $p = 0.538$
- No difference in cumulative opioid consumption
 - ACTIVE: 10 [0–25] mg
 - PLACEBO: 15 [0–30] mg
 - $p = 0.358$

Secondary Outcomes

- No differences in:
 - Maximum daily pain
 - Time to first opioid use
 - Opioid avoidance (32% vs 44%)
 - Sleep disturbance
 - Pain interference (BPI)
 - Readmissions (1 per group)
- No catheter dislodgements observed

Adding a continuous ESPB infusion to a single-injection ESPB *did not reduce* postoperative pain or opioid consumption after ambulatory PCNL



DISCUSSION

- Adding continuous ESPB to single-injection ESPB **did not improve analgesia or reduce opioid consumption**
- No signal of benefit across secondary outcomes
- Findings suggest limited value of routine continuous infusion in ambulatory PCNL when single-shot ESPB is used



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ABSTRACT TEXT

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