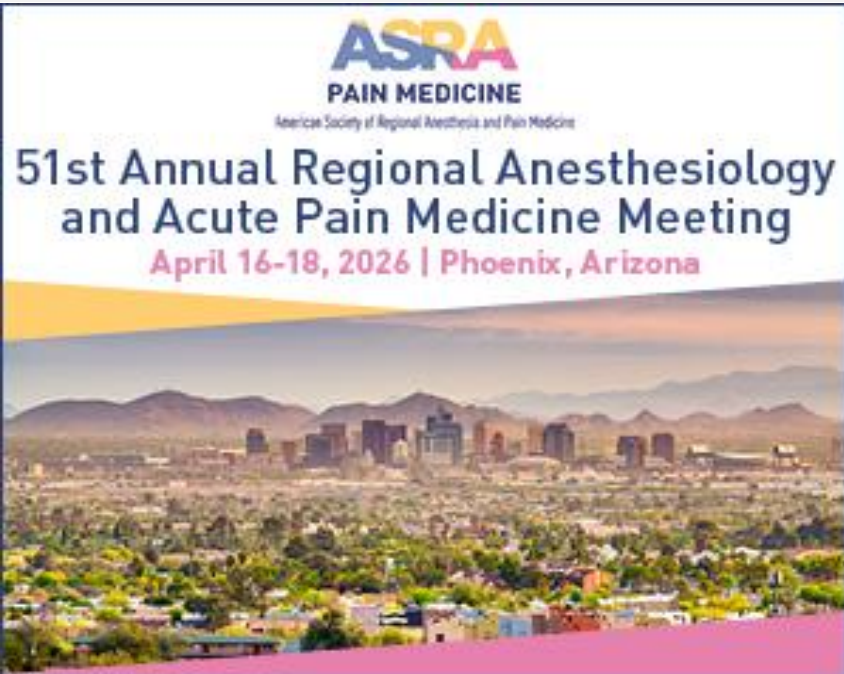




Continuous Peripheral Nerve Blocks in Chronic Lower Extremity Wound Management: A Three Patient Case Series



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INTRODUCTION

Chronic wound pain affects millions and limits participation in dressing changes while increasing opioid exposure (1). Conventional analgesic regimens are often inadequate or poorly tolerated. Continuous peripheral nerve blocks (CPNBs), well established for perioperative and trauma analgesia (2), are underexplored for chronic wound care. Potential benefits include sustained analgesia, opioid sparing effects, and sympathetic blockade that may improve perfusion (3). This case series describes three patients treated with prolonged CPNBs for chronic lower extremity wound pain.

METHODS

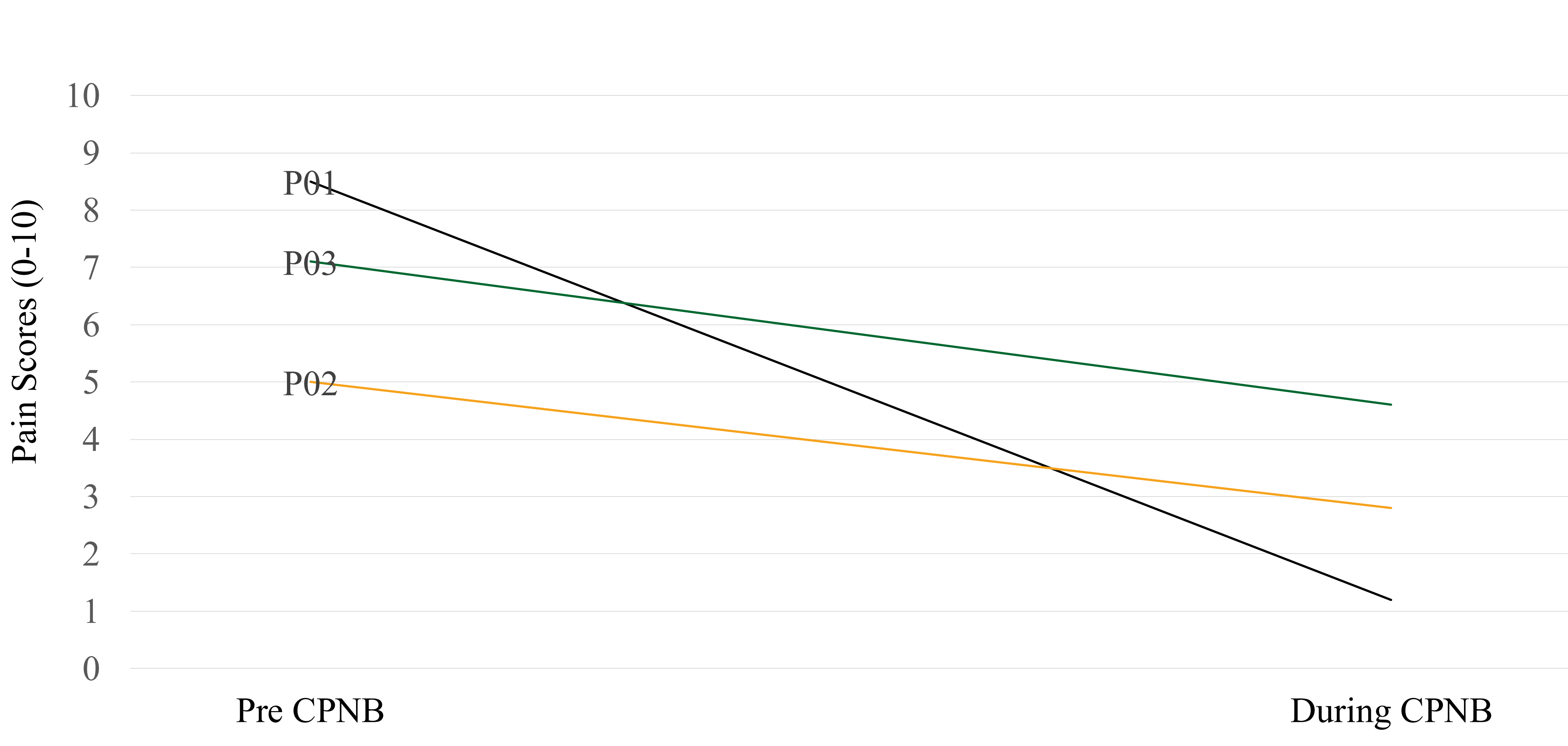
We performed a retrospective review of three adults with chronic lower extremity wounds who received CPNBs for lower extremity wound related pain between 2019 and 2020 at a single academic medical center. Data extracted included block type, infusion characteristics, catheter duration, opioid use (MME/day), pain scores, and dressing change tolerance. All infusions consisted of 0.125% bupivacaine, titrated to balance analgesia and motor function. Additional perineural boluses of 0.5% bupivacaine were administered as needed for dressing changes, procedures, etc. IRB exempt approval obtained.

RESULTS

Three patients (ages 32–68) with chronic lower extremity wounds underwent CPNB therapy using popliteal sciatic, femoral, or saphenous catheters. Infusion duration ranged from 11 to **63 days**. All patients experienced meaningful analgesia, with mean mapped pain scores improving by 4.0 points. One patient had a 69% reduction in opioid requirements (68.0 → 21.1 MME/day), while another maintained adequate analgesia with minimal opioid rescue dosing. The third patient, managed largely outpatient, tolerated weekly debridements without documented opioid administration.

Dressing change tolerance improved notably for one hospitalized patient who had refused bedside care prior to catheter placement. No catheter-related infections, local anesthetic systemic toxicity, persistent motor deficits, or falls were observed. Catheter leakage occurred intermittently and was managed with replacement or adjustment. These observations show consistent pain reduction, reduced opioid reliance for select individuals, and improved procedural tolerance during wound care.

Reduction in Pain Scores During CPNB



DISCUSSION

In this three patient case series, continuous peripheral nerve blocks provided durable analgesia, improved dressing change participation, and reduced opioid exposure during chronic wound care, without major complications. These observations complement emerging evidence supporting prolonged CPNBs for nonoperative chronic pain conditions (2). Further prospective evaluation is needed to standardize infusion protocols, assess functional outcomes, and clarify whether sympathetic blockade–mediated perfusion benefits contribute to improved wound healing environments.

CONCLUSION

Continuous peripheral nerve blocks provided durable analgesia, reduced opioid exposure, and improved participation in dressing changes without major complications in this three-patient case series. These findings support further prospective evaluation of CPNBs as an adjunct in chronic wound management.

REFERENCES

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Patient ID	Pain (pre CPNB → during CPNB)	Δ Pain (during – pre)	MME/day (pre → during)	Δ MME/day (during – pre)
P01	8.5 → 1.2	- 7.2	68.0 → 21.1	- 46.9
P02	5.0 → 2.8	- 2.2	0.0 → 0.4	0.4 (minimal opioid use, < 1 MME/day total exposure)
P03	7.1 → 4.6	- 2.5	Not reliably documented	Not reliably documented, but no opioids administered for debridements.