

Sequential Neuraxial and Peripheral Nerve Catheter Strategy for Complex Regional Pain Syndrome After Neuroma Resection: A Case Report

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Why this matters

- Neuropathic pain after peripheral nerve injury is often opioid-refractory and disabling
- CRPS features:
 - Allodynia
 - Vasomotor instability
 - Motor dysfunction
 - Sensory abnormalities³
- Surgical patients frequently have poor analgesia and medication intolerance
- Regional anesthesia offers targeted, opioid-sparing control

Patient

- **57-year-old man** with CRPS of right foot
- Baseline pain **10/10** despite high-dose gabapentin
- Opioids ineffective even at high doses → discontinued

Anesthetic Strategy

- Combined spinal-epidural
- General Anesthesia
- No further systemic opioids after fentanyl used for induction



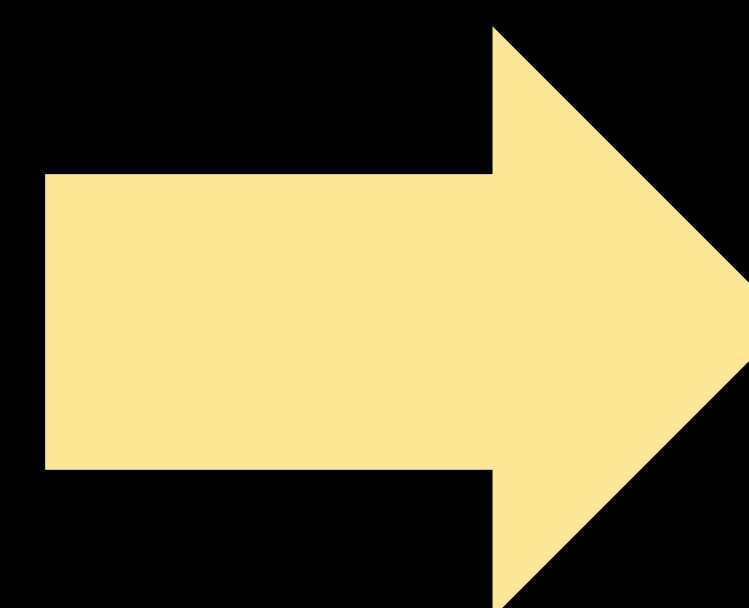
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51st Annual Regional Anesthesiology
and Acute Pain Medicine Meeting

April 16-18, 2026 | Phoenix, Arizona



Opioid-free recovery and dramatic pain relief. CRPS pain refractory to opioids can be controlled with a sequential regional anesthesia strategy.



Postoperative Course

Phase 1: Epidural Analgesia

- PCEA: hydromorphone + bupivacaine
- Pain ↓ to 1/10
- significant sympathectomy following intrathecal bupivacaine evident by color change of the patient's affected foot.

Phase 2: Transition Strategy

- POD2 epidural paused → pain returned
- Sciatic nerve catheter placed
- 15 mL 0.25% bupivacaine bolus
- 0.2% ropivacaine @ 8 mL/hr
- Pain ↓ to 0/10
- Epidural removed

Discharge

- POD3 with continuous nerve block pump

Outcomes

- ✓ Pain: 10/10 → 0/10
- ✓ Opioid-free hospitalization
- ✓ Durable analgesia across transitions

Discussion

- CRPS pain can be controlled perioperatively without opioids
- Sequential neuraxial → peripheral strategy maintains analgesia
- Foot color change highlights sympathetic role in CRPS

Clinical Implications

This regional-first pathway may be a reproducible framework for:

- CRPS
- Opioid-refractory neuropathic pain
- High-risk pain patients undergoing limb surgery