

Introduction

- Total knee arthroplasty (TKA) volume may reach 3.5 million annually in the United States by 2030, yet 16–33% of patients develop chronic postoperative pain (CPOP), a figure higher after revisions.
 - This pain undermines mobility, sleep, and prolongs opioid use.
- Conventional treatments—analgesics, physiotherapy, injections, genicular radio-frequency ablation-often fail.
- Percutaneous Saphenous Nerve Peripheral Nerve Stimulation (PNS) delivers reversible, opioid-sparing analgesia.
 - We report an 80-year-old with refractory post-revision CPOP who achieved durable, medication-free relief after a 60-day PNS trial.

Case Presentation

An 80-year-old man with coronary artery disease, obstructive sleep apnea, diabetes mellitus, hypertension, hyperlipidemia, congestive heart failure, and prior pulmonary embolism underwent left TKA followed by four revisions. He reported sharp, “sand-paper” left knee pain (numeric rating scale [NRS] 8/10), worst on prolonged standing and mornings, limiting ambulation to cane-assisted household distances. On examination, He has tenderness on the lateral side of the left knee. Medications and Physical therapy afforded minimal benefit.

Interventions:

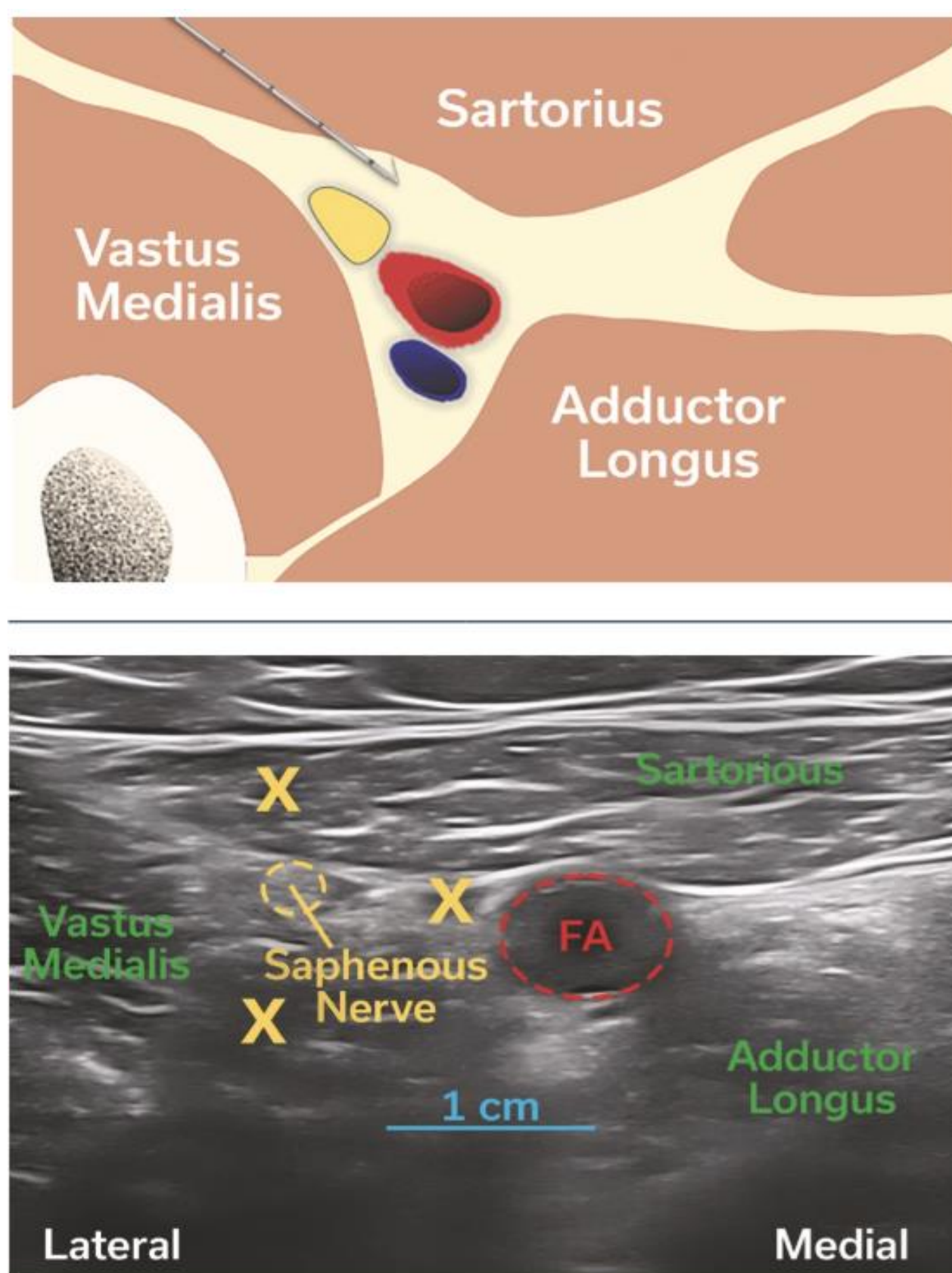
Genicular RFA produced >70 % relief for 8 months; a second RFA one year later was ineffective.

A percutaneous Saphenous PNS lead was placed under ultrasound guidance. The stimulator was programmed for patient-controlled analgesia and removed as scheduled after 60 days.

Figure 1
Postoperative X-ray showing total knee arthroplasty (TKA) components in proper alignment



Figure 2
Ultrasound and anatomical illustration of the adductor canal showing the saphenous nerve, femoral artery (FA), and surrounding musculature



Outcomes

Within one week, the patient reported >80 % pain reduction (NRS ≤2/10), normalized gait without a cane, and the ability to climb stairs and shop unassisted. All analgesics were discontinued. These gains persisted for 10 months after lead removal.

Discussion

Up to 25 % of TKA recipients suffer persistent pain despite intact implants. Genicular RFA gives brief relief—analgesia wanes by 6–12 months, and repeat treatments underperform. Saphenous-nerve PNS offers stronger, longer control: prospective data show 73 % pain reduction and opioid tapering at six months, with no device complications.

Our 80-year-old has— >80 % pain reduction, opioid cessation, ten months of farm work.

According to recent ASPN guidelines, PNS is strongly recommended for refractory pain following TKA (Level 1A evidence)

References

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