

# Liposomal Bupivacaine via Femoral Nerve Block in the Adductor Canal for Total Knee Arthroplasty

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## OBJECTIVE

To compare the postoperative analgesic effect of liposomal bupivacaine (LB) 133 mg admixed with bupivacaine hydrochloride (HCl) 50 mg (LB133-ADMIX group) versus bupivacaine HCl 50 mg (BUP50 group) when administered via femoral nerve block in the adductor canal (ACB) in participants undergoing primary unilateral total knee arthroplasty (TKA)

## CONCLUSIONS

- 1
- In this phase 3 study investigating ACBs with LB 133 mg vs bupivacaine HCl 50 mg, LB 133 mg resulted in significant reductions in both pain and opioid consumption from 0 to 96 hours after surgery
- 2
- The concurrent reductions in pain and opioid consumption are notable because they are interdependent variables, and participants had lower pain scores without higher opioid consumption
- 3
- This study was designed to isolate the effects of the ACB study intervention by use of a simplified pain management protocol
- 4
- LB 133 mg was well tolerated, with a similar safety profile to bupivacaine HCl 50 mg

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REFERENCES: 1. Fillingham YA et al. *J Arthroplasty*. 2022;37(9):1691-1696. 2. Fillingham YA et al. *J Arthroplasty*. 2022;37(10):1906-1921 e1902.

## BACKGROUND

- Clinical practice guidelines recommend use of regional nerve blocks such as ACB for TKA<sup>1</sup>
  - ACBs can provide postoperative analgesia with reduced opioid consumption and contribute to improved recovery compared with femoral nerve blocks by preserving quadriceps strength after surgery<sup>2</sup>
- LB is a formulation of the local anesthetic bupivacaine that enables gradual release of bupivacaine for prolonged periods of analgesia
- More data are needed to determine the impact of LB admixed with bupivacaine HCl via ACB for TKA on pain intensity scores and opioid consumption

## METHODS

### STUDY DESIGN

- This phase 3, multicenter, randomized, double-blind, active-controlled study (NCT05139030) enrolled 2 cohorts (Figure 1)

Figure 1. Study design.

