



#6736 Genicular nerve blocks for arthroscopic anterior cruciate ligament reconstruction surgery: a randomized controlled trial

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INTRODUCTION

The purpose of this study is to investigate the potential analgesic benefits of adding the genicular nerve block to our institutional standard regimen of peripheral nerve blocks for ACL surgery, which includes an adductor canal block (ACB) and interspace between the popliteal artery and capsule of the posterior knee block (IPACK).

METHODS

- Approved by Hospital for Special Surgery (HSS) Institutional Review Board (IRB #2022-1962) and registered on ClinicalTrials.Gov (NCT05720949)
- 192 patients were enrolled and randomized to either the control group (ACB and IPACK blocks) or the intervention group (ACB, IPACK and Genicular blocks)
- 191 patients were observed in the post anesthesia care unit (PACU) and contacted up to 7 days postoperatively and analyzed for **primary outcome of opioid consumption during the first 24 hours**
- Secondary outcomes included opioid consumption up to 7 days postoperatively, Numeric Rating Scale pain scores, satisfaction, adverse events, success and duration of analgesic blocks, readiness for discharge, and length of stay

Table 1. Demographics		
	Intervention	Control
Age, median (IQR)	26.03 (22.21, 29.72)	26.51 (21.90, 30.08)
BMI, median (IQR)	24.58 (22.88, 28.01)	23.95 (22.12, 25.87)
Sex, n (%)		
Male	58 (61)	57 (59)
Female	37 (39)	39 (41)
Race, n (%)		
White	63 (66)	59 (61)
Asian	14 (15)	17 (18)
Black or African American	2 (2)	5 (5)
Other	13 (14)	10 (10)
Unknown	3 (3)	3 (3)
Ethnicity, n (%)		
Hispanic/Latino	13 (14)	12 (13)
Not Hispanic/Latino	80 (84)	81 (84)
Other	2 (2)	3 (3)

Table 2. Cumulative Opioid Consumption									
Intervention					Control				
Event	N	Mean	Median	Min, Max	N	Mean	Median	Min, Max	P-value*
PACU	95	6.92	7.5	0, 30.0	96	9.30	7.5	0, 30.0	0.037
IV PACU	95	0.79	0	0, 15.0	96	2.34	0	0, 15.0	0.008
24 hours	86	19.90	15	0, 97.5	89	21.50	22.5	0, 67.5	0.17
48 hours	83	34.04	30	0, 142.5	88	36.31	33.75	0, 105.0	0.34

There were significantly **more opioid-free patients** over the study period (20% vs 8%, p = 0.035) in the intervention group.

Addition of the **genicular nerve block** to ACB and IPACK for ACL reconstruction surgery with bone-tendon-bone autograft significantly **lowers pain at rest and opioid consumption in the PACU.**

Results

- NRS pain at rest was **significantly lower** in the intervention group in the PACU (p=0.004).
- Patient satisfaction with pain management was **significantly higher** in the intervention group in the PACU (p=0.002) and 48 hours postoperatively (0.001).

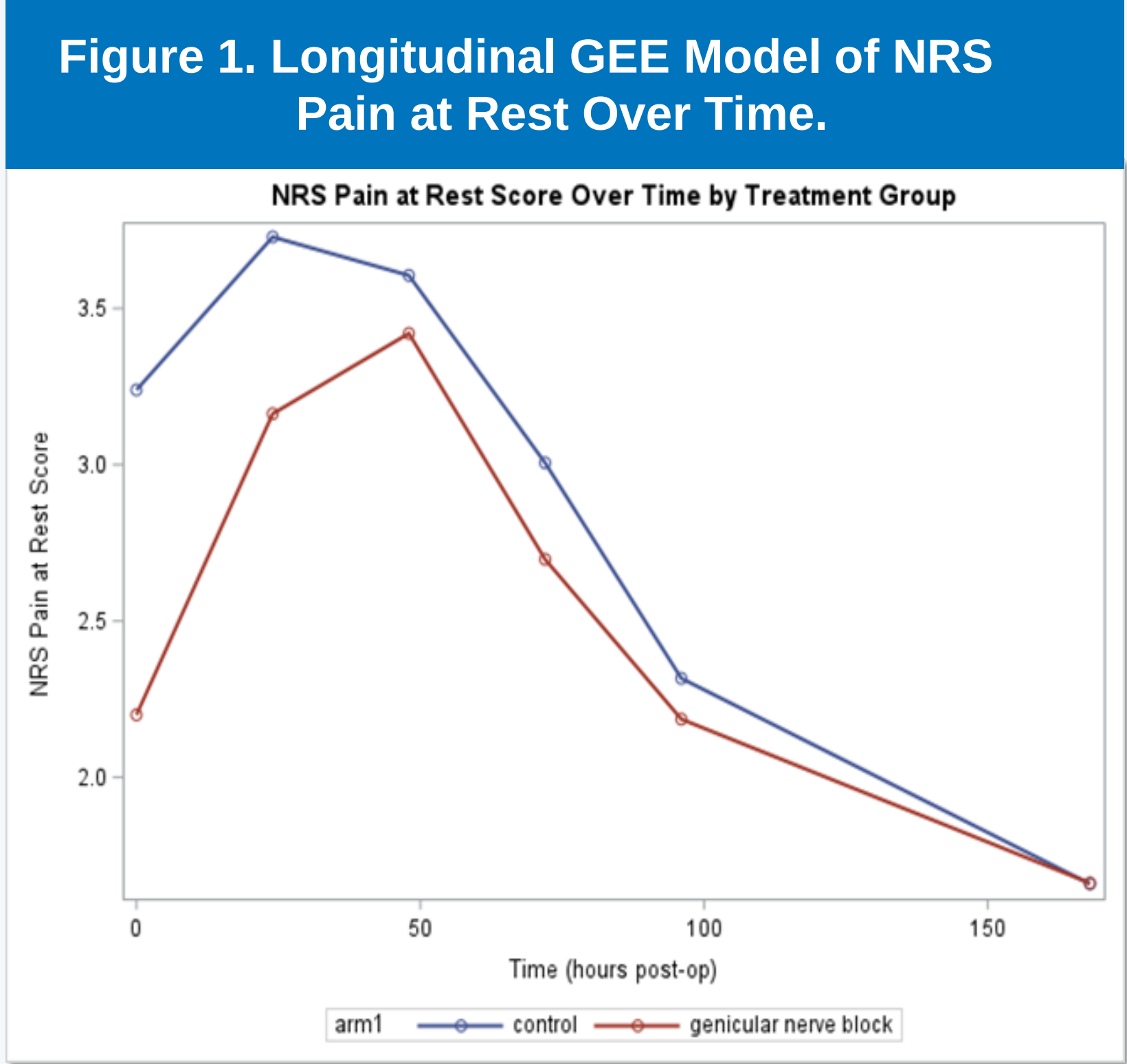


Table 3. Patient Satisfaction with Pain Management

	Intervention				Control				
Satisfaction	N	Mean	Median	Min, Max	N	Mean	Median	Min, Max	P-value
PACU	95	9.39	10	5, 10	96	8.70	10	0, 10	0.002
24 hours	86	8.88	9.5	5, 10	89	8.43	9	0, 10	0.19
48 hours	83	9.16	10	5, 10	88	8.40	9	0, 10	0.001

DISCUSSION

Our results suggest that the genicular nerve block is a potentially effective modality to aid in the over reliance of opioid use for ambulatory surgery.

Abstract & References →

