

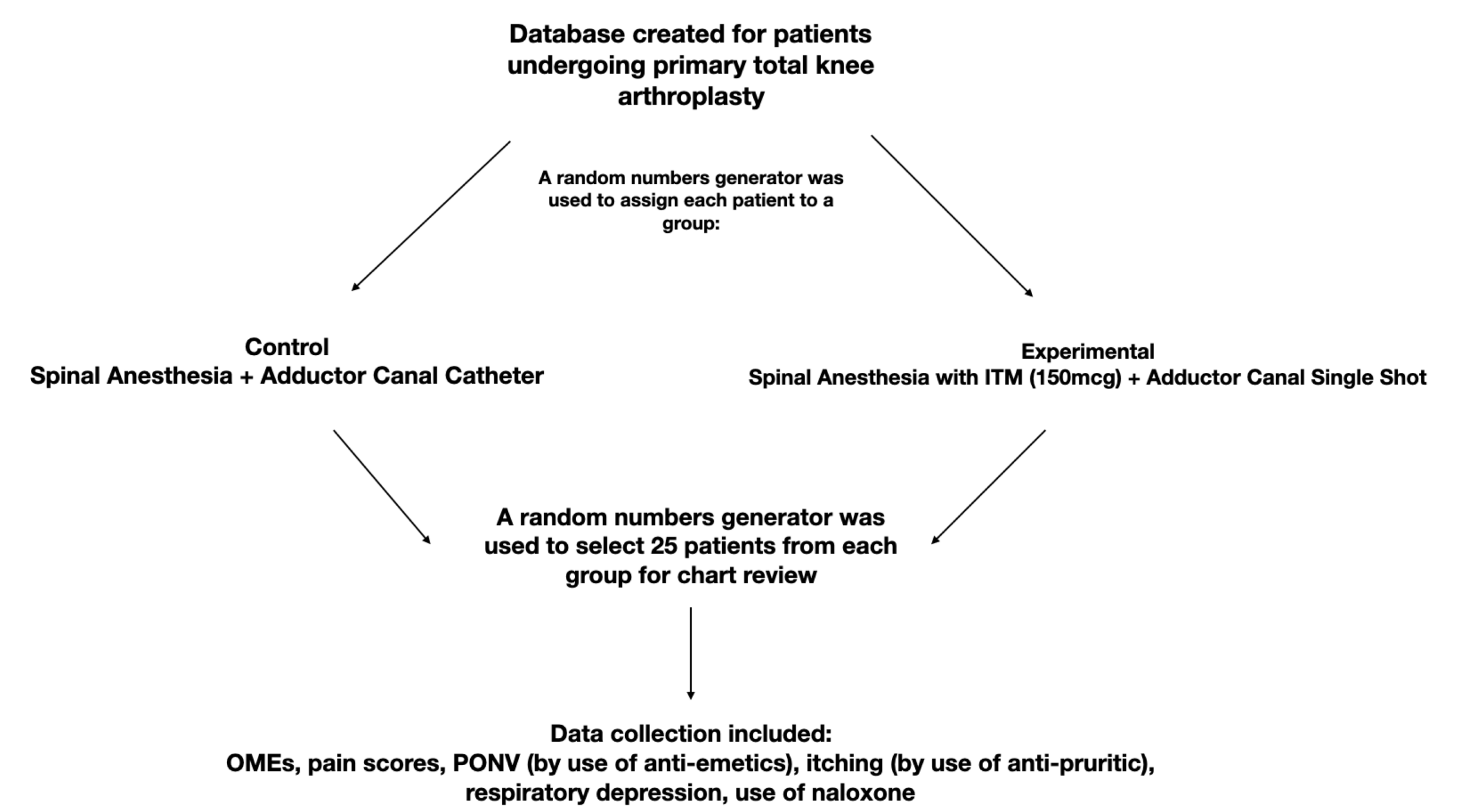
Intrathecal Morphine Improves Post-Operative Analgesia in Patients Undergoing Primary Total Knee Arthroplasty
A Retrospective Case Series



PRESENTING AUTHOR:
Jacelyn Peabody Lever, PhD
4th Year Medical Student, UAB MSTP

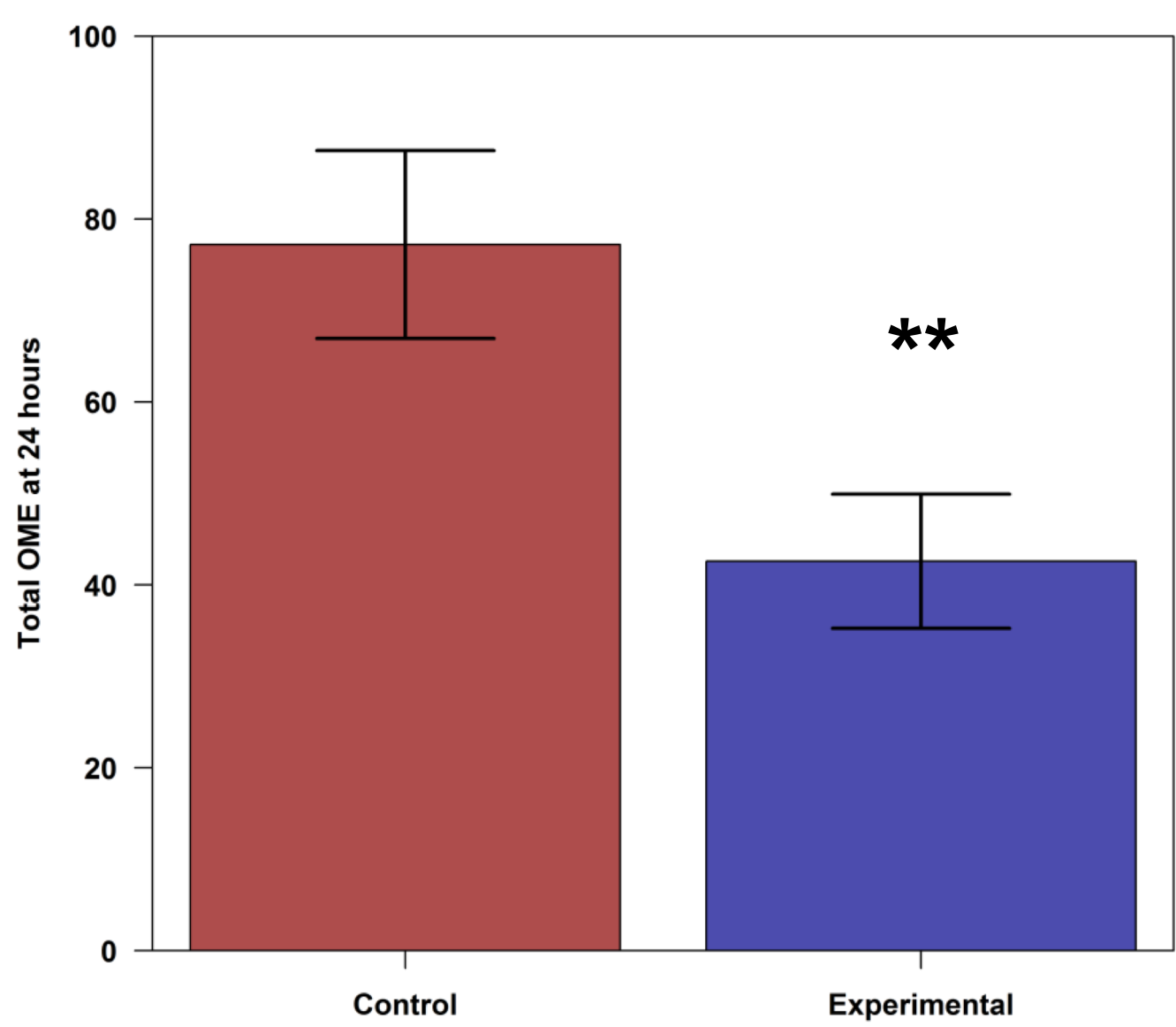
BACKGROUND: *Total knee arthroplasty is one of the most common surgical procedures performed in the United States today.* Early ambulation, which can only be achieved with adequate post-operative analgesia, is a crucial end-point that contributes to improved functional outcomes and decreases the risk of major post-operative complications. At present, a clear superior mode of pain control does not exist.

METHODS



RESULTS

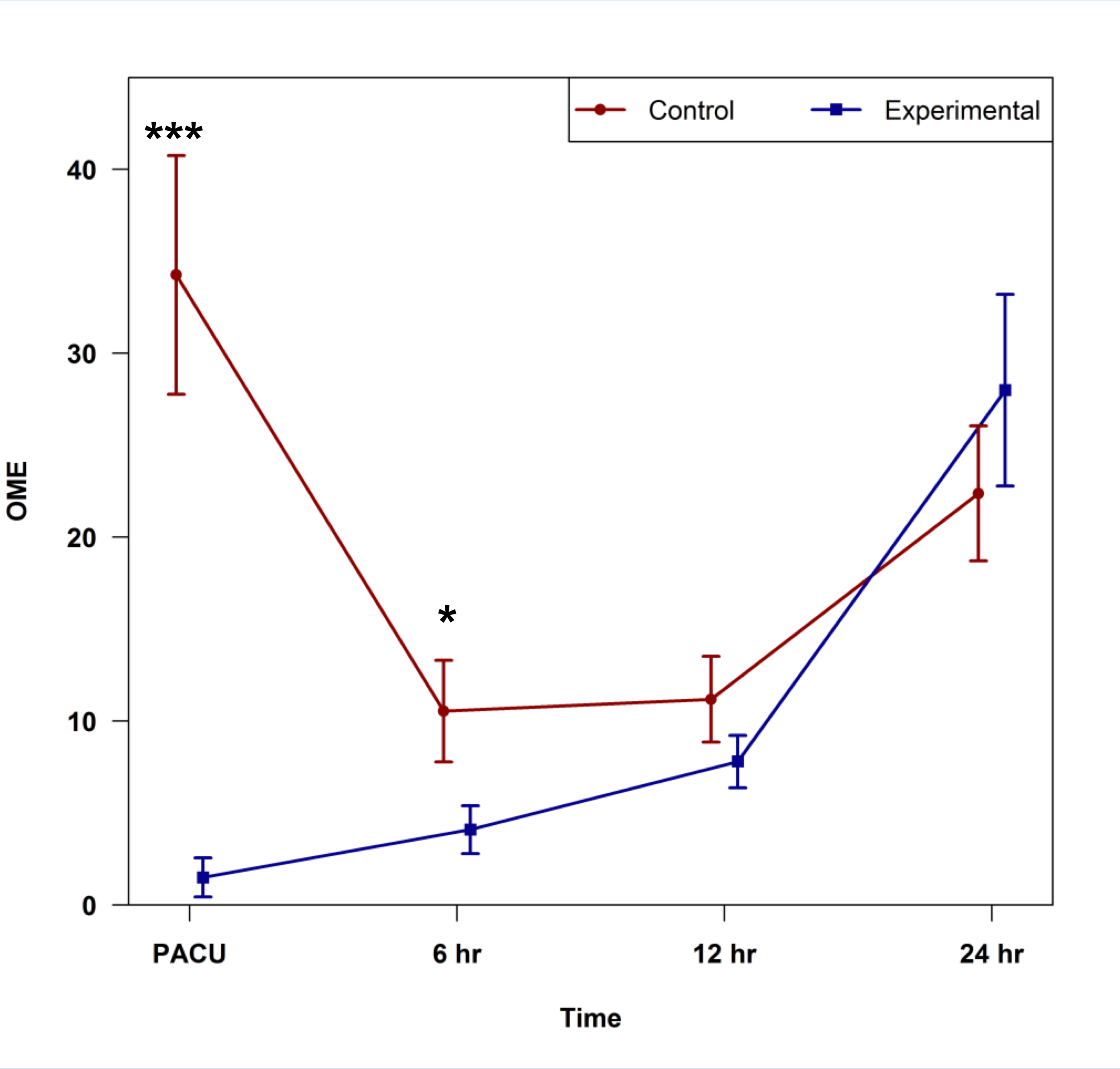
Figure 2. Cumulative OME use at 24 hours by group



OME, Oral morphine equivalents.
The experimental intrathecal morphine group had significantly less total OME use in 24 hours compared with control group (p <.009)

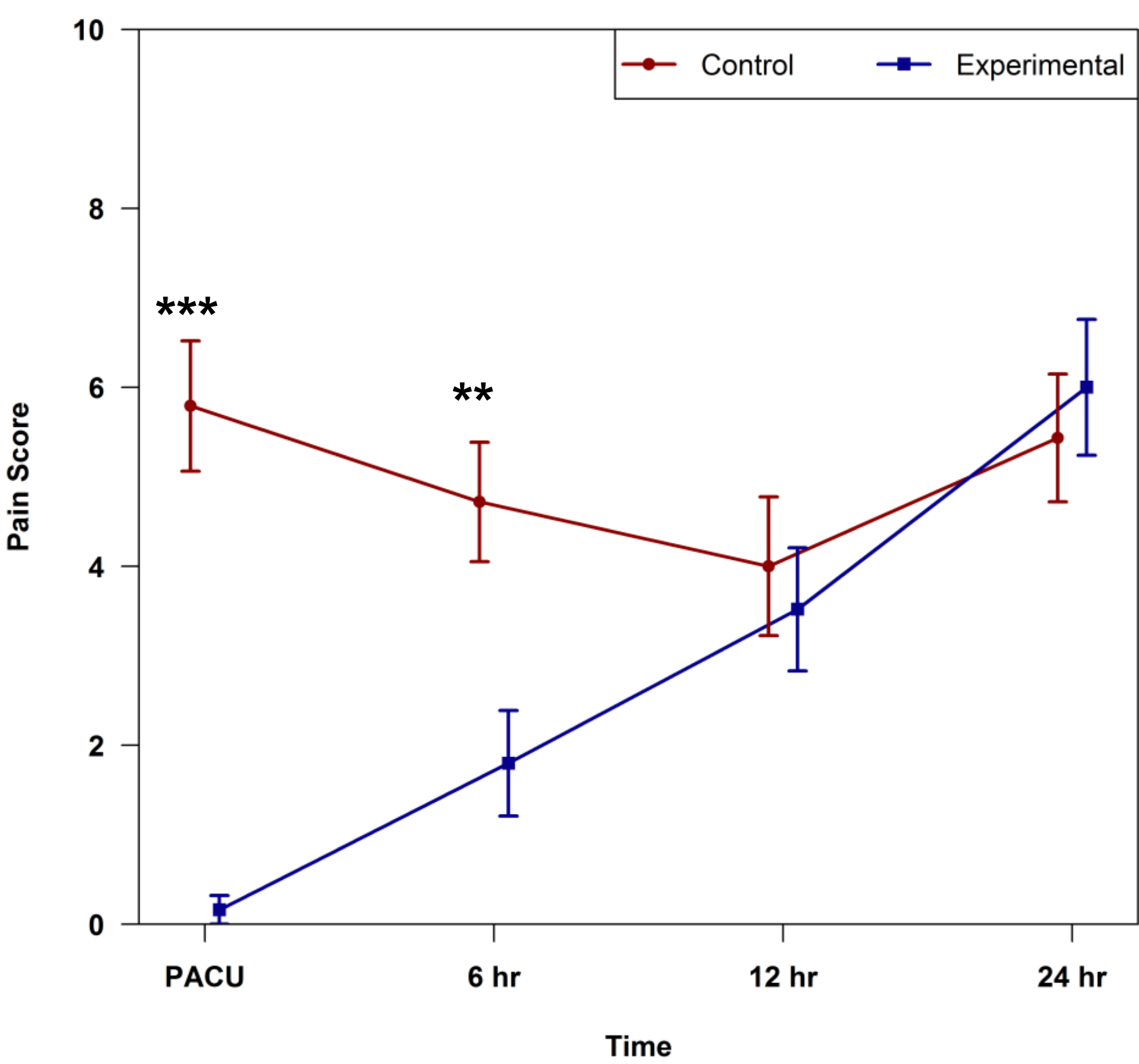
Intrathecal morphine improves post-operative analgesia following total knee arthroplasty.

Figure 1: OME Use Over Time by Group



OME, Oral morphine equivalents.
In the immediate post operative period and at 6 hours the experimental intrathecal morphine group had significantly less OME use in PACU (p< 0.001) and at 6 hours (p <0.04) compared with the control group.

Figure 3. Pain score over time by group



In the immediate post operative period (PACU) and at 6 hours, the experimental group had significantly lower pain scores in PACU (p < 0.001) and at 6 hours post-op (p = 0.002);

Table 1. Study outcomes by group.

	Control (n = 25)	Experimental (n = 25)	p*
OME, mean (SE)			
PACU	34.26 (6.49)	1.50 (1.06)	< 0.001
6 hr	10.54 (2.76)	4.10 (1.30)	0.040
12 hr	11.19 (2.33)	7.80 (1.42)	0.220
24 hr	22.38 (3.67)	27.99 (5.21)	0.383
24 hr (cumulative)	77.21 (10.28)	42.59 (7.33)	0.009
Use of antiemetic, N (%)	8 (32.0%)	7 (28.0%)	0.999
Pain score, mean (SE)			
PACU	5.79 (0.73)	0.16 (0.16)	< 0.001
6 hr	4.72 (0.67)	1.80 (0.59)	0.002
12 hr	4.00 (0.77)	3.52 (0.69)	0.645
24 hr	5.43 (0.71)	6.00 (0.76)	0.591
Ambulation distance at 24 hours (feet), mean (SE)	67.56 (12.91)	98.88 (11.82)	0.080
Length of stay (hours), mean (SE)	37.96 (5.42)	33.20 (3.45)	0.462

* p-value from two-sample t-test (OME, pain, ambulation, length of stay) or chi-square test (use of antiemetic).



Jacelyn Lever PhD,
Promil Kukreja MD PhD,
Charlotte Streetzel MD,
Scott Mabry MD,
Roland Short MD,
Joel Feinstein MD,
Kathy Brazeel CRNA,
Diana Cerice BSN,
Hari Kalagara MD