

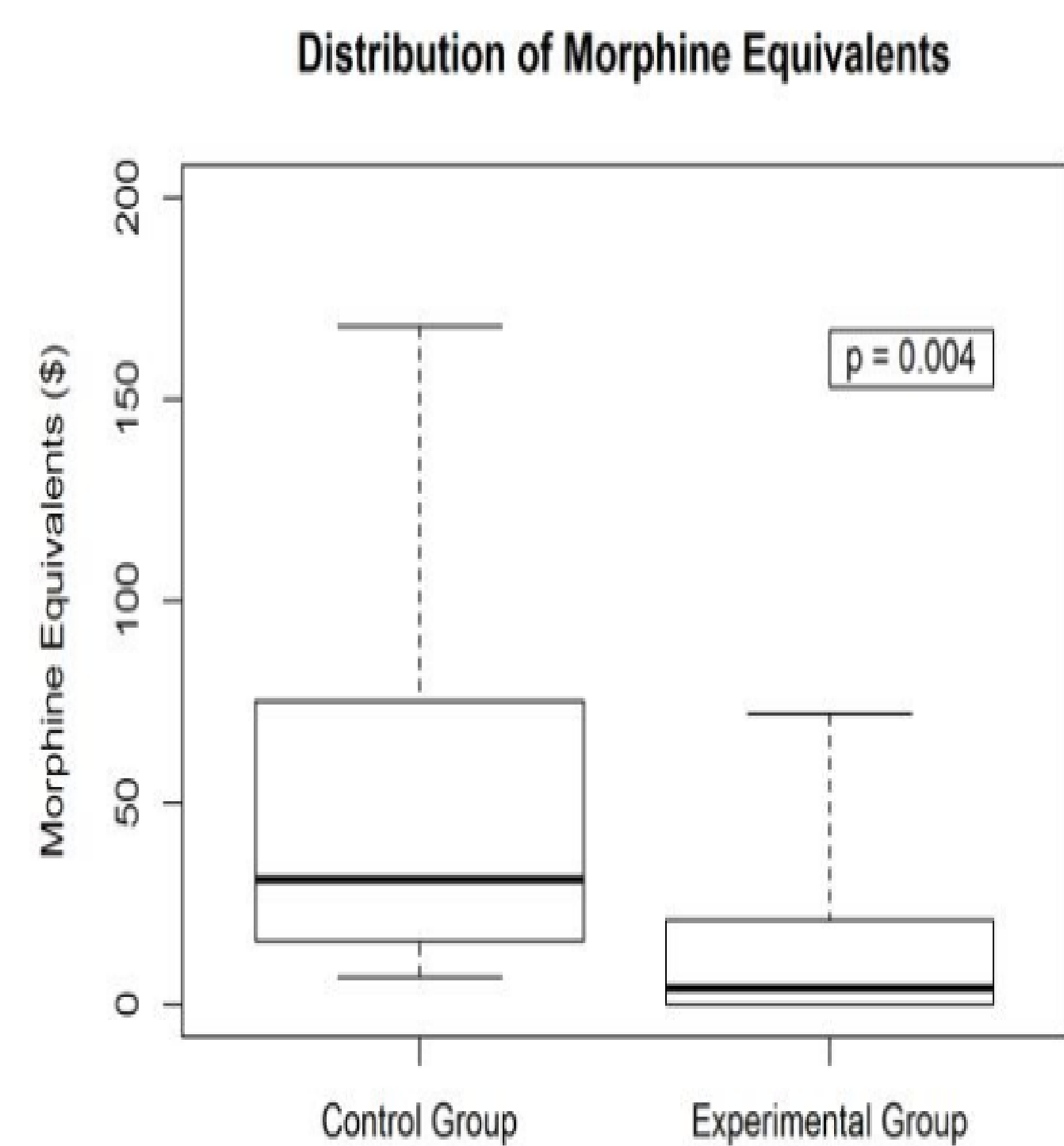
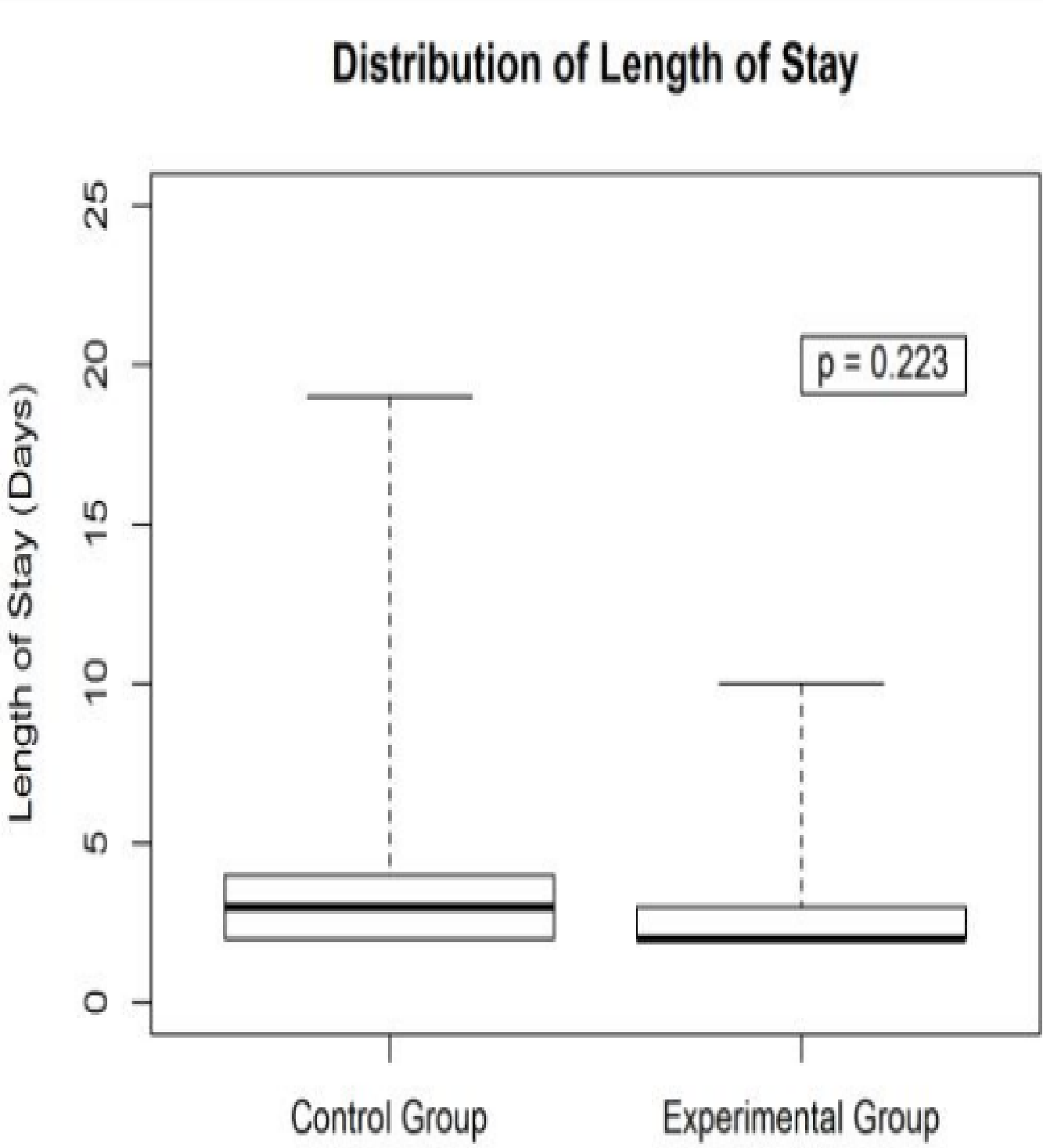
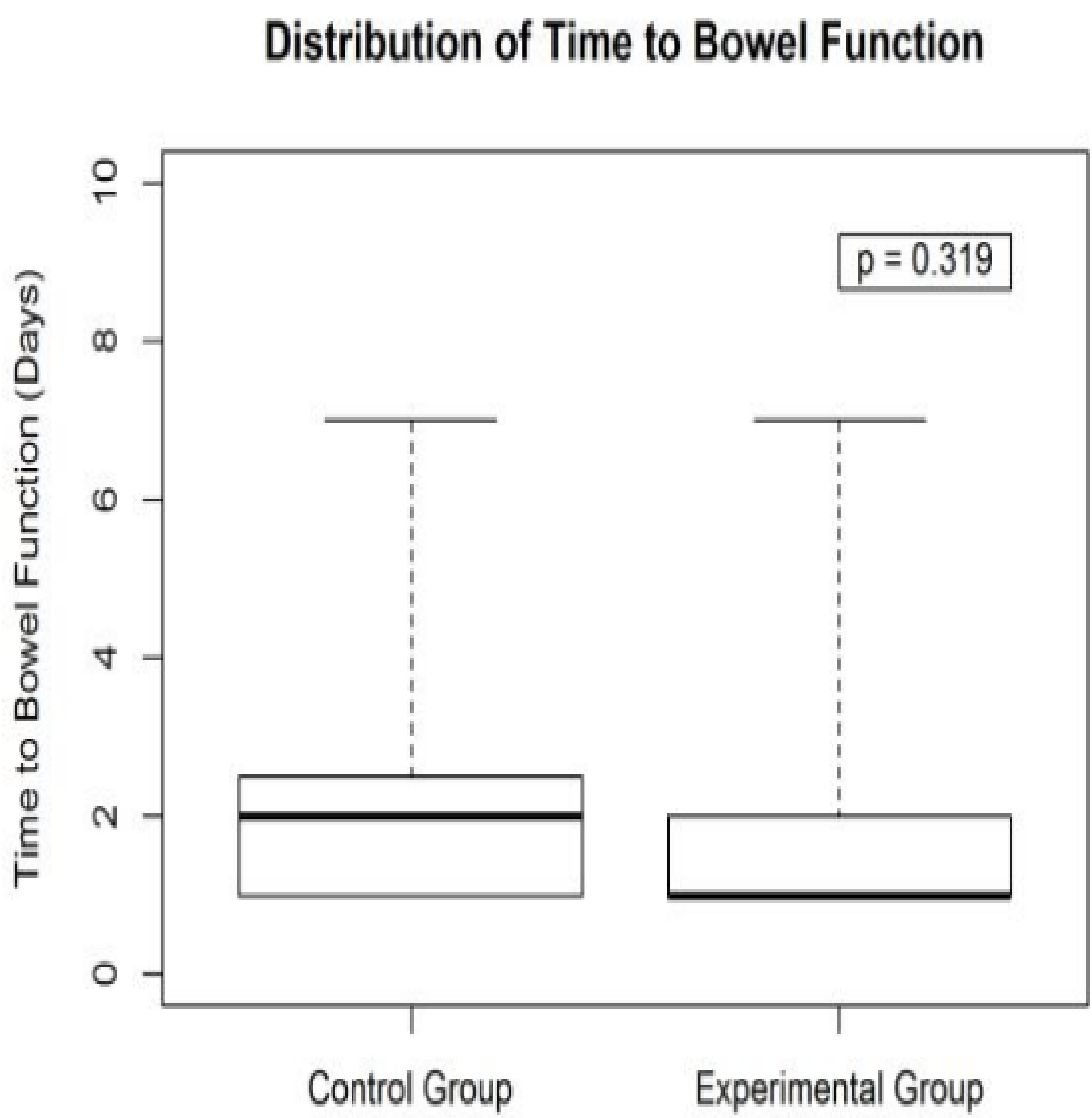
Ridder D., M.D., Almzayyen M., M.D., Stroumpi E., DeLong R. APN, Graumlich J. M.D., Berardi E. MSN, Tsoriades, S., M.D.,

Introduction:

- While the benefits regarding return of bowel function (ROBF) and hospital length of stay (LOS) have been well documented, patient satisfaction levels with pain control has not been assessed in a randomized fashion when limiting opioids as part of an ERAS program after colorectal surgery.

Methods and Procedures:

- A prospective randomized control trial
- Patients undergoing elective colorectal surgical resections.
- All patients were treated with a standardized ERAS protocol except the cohorts were randomized preoperatively to receive standard perioperative opioid pain medicines versus multimodal opioid limited pain care.
- Patients in the control group received a patient controlled analgesia (PCA) pump that was discontinued on post-operative day one. They then received oral and intravenous opioids as needed.
- The experimental group received preoperative multimodal non-opioid pain control as well as a lidocaine infusion intraoperatively. After surgery, they received scheduled non-opioid pain medication with intravenous opioids available as needed.
- The primary outcome measured was patient satisfaction survey scores using a validated questionnaire completed at the time of discharge. Days to ROBF and hospital LOS were also measured. Outcomes were compared using the t-test, Chi-square test, and Wilcoxin rank-sum tests.
- 37 patients were enrolled
 - 17 in the control group
 - 20 in the experimental group



Outcomes

Variables	Cohort (E or C)			P Value
	Total N=37(%)	Control N=17(%)	Experimental N=20(%)	
Length of Stay				
N	36	16	20	0.223 ^W
Median (min - max)	3.0 (2.0 - 19.0)	3.0 (2.0 - 19.0)	2.0 (2.0 - 10.0)	
Mean ± SD	3.7 ± 3.3	4.2 ± 4.2	3.3 ± 2.3	
Missing	1	1	0	
Days to ROBF				
N	36	16	20	0.319 ^W
Median (min - max)	2.0 (1.0 - 7.0)	2.0 (1.0 - 7.0)	1.0 (1.0 - 7.0)	
Mean ± SD	2.0 ± 1.5	2.2 ± 1.6	1.9 ± 1.6	
Missing	1	1	0	
Morphine Equivalents				
N	30	15	15	0.004 ^W
Median (min - max)	17.40 (0.00 - 168.00)	31.00 (7.00 - 168.00)	4.25 (0.00 - 72.00)	
Mean ± SD	31.15 ± 39.67	48.38 ± 46.51	13.92 ± 21.44	
Missing	7	2	5	

^{*}Exact test
^Tt-test; ^CChi-square test; ^WWilcoxon rank-sum test

Survey

Variables	Cohort (E or C)			P Value
	Total N=37(%)	Control N=17(%)	Experimental N=20(%)	
Pain				
N	17	8	9	0.408 ^W
Median (min - max)	8.0 (3.0 - 15.0)	9.5 (3.0 - 14.0)	8.0 (3.0 - 15.0)	
Mean ± SD	8.5 ± 3.8	9.4 ± 3.5	7.7 ± 4.0	
Missing	20	9	11	
Satisfaction				
N	17	8	9	0.529 ^W
Median (min - max)	16.0 (9.0 - 31.0)	16.0 (14.0 - 20.0)	17.0 (9.0 - 31.0)	
Mean ± SD	16.9 ± 4.7	16.3 ± 2.2	17.6 ± 6.3	
Missing	20	9	11	
Q13				
< 5 min.	7 (46.7)	3 (37.5)	4 (57.1)	1.000 ^{C +}
5-10	4 (26.7)	2 (25.0)	2 (28.6)	
10-15	2 (13.3)	1 (12.5)	1 (14.3)	
15-30	1 (6.7)	1 (12.5)	0 (0.0)	
30-45	1 (6.7)	1 (12.5)	0 (0.0)	
Missing	22	9	13	

^{*}Exact test
^Tt-test; ^CChi-square test; ^WWilcoxon rank-sum test

Results:

- Patient characteristics including age, gender, body mass index, and ASA class were not statistically significantly different between groups.
 - Experimental group patients used a median of 4.25 morphine equivalents compared to 48.38 in the control group.
 - Patients in the experimental cohort scored lower on their pain questionnaires (7.7 +/- 4.0 vs. 9.4 +/- 3.5, p = 0.408).
 - In the experimental cohort, patient perception of pain control and satisfaction were improved (p=0.529).
 - Levels of satisfaction were similar between each group.
 - Patients in the experimental cohort had faster mean ROBF (1.9 +/- 1.6 days vs. 2.2 +/- 1.6 days, p = 0.319) and shorter mean hospital LOS (3.3 +/- 2.3 days vs. 4.2 +/- 4.2 days, p = 0.223).
 - There were no significant differences in complications between groups.
- Conclusion:**
- As there is no statistical difference in satisfaction scores between the cohorts, limiting opioids in ERAS pathways may be done without compromising patient satisfaction.



David Ridder, M.D.
General Surgery PGY-3
dridder1116@gmail.com