

# Evaluating Acute Pain Disparities in Rural Illinois

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## Background

With increased emphasis on opioid minimization strategies and improved perioperative outcomes related to pain management, there is increased demand for ultrasound guided regional anesthesia. The adductor canal block is one of the preferred methods of analgesia in total knee arthroplasty, a frequently performed procedure in rural Illinois. Frequently this block is utilized in place of the femoral nerve block to reduce patient falls. It also provides adequate pain control while simultaneously improving pain management strategies and perioperative outcomes. We aimed to evaluate patients undergoing total knee arthroplasty in 2020 at this location to check for disparities in acute pain care based on demographic factors and hypothesized that there would be no significant differences in access across said groups.

## Methods

From January 1st through December 31st of 2020, we evaluated retrospective data, specifically demographic characteristics of 739 total knee arthroplasties performed at this location. Of those, 589 (79.7%) received an adductor canal block or femoral nerve block, 72 (20.3%) received no nerve block, and 78 patients were eliminated due to missing demographic data. We evaluated the differences in our patient groups with a T-test and hypothesized that demographic characteristics of patients do not affect the type nor quality of treatment a patient receives.

## Results

With respect to Black/African American and Hispanic, Latin(a/o), & Latinx patients, there appeared to be no statistically significant disparities in acute pain care for patients undergoing TKA. For all factors, the p-value was greater than 0.05, and we accept the null

## Results (Cont.)

hypothesis that there is no significant difference between the means and conclude that a significant difference does not exist. However, female patients were less likely than their male counterparts to receive a nerve block. Older patients (>65) appeared to favor TKA without nerve blocks, whereas younger patients favored nerve blocks for TKA.

## Conclusion

Male patients were more likely to receive acute pain interventions for TKA, as were Black and Hispanic patients, and those under the age of 65. This raises the question about acute pain care for patients older than 65 or identify as female, and the perioperative discussion(s) held regarding acute pain management strategies prior to surgery.

Figure 1: Breakdown of Demographics by Treatment Group

		TKA with Adductor or Femoral	TKA without Block	P value
Number of Patients (N)		589	72	
Gender	Female	54.07%	60.56%	0.31*
	Male	45.93%	39.44%	
Race	Black or African American	1.38%	0.0%	0.55*
	Hispanic, Latin(a/o), & Latinx	1.79%	0.0%	
	White	96.83%	90.1%	
	Other	0.0%	9.9%	
Age (Bucket)	0-18	1.38%	0.0%	0.45**
	19-65	46.21%	35.2%	
	> 65	52.41%	64.8%	

\*Chi square, chi Stat IS NOT > Chi Crit, so we ACCEPT H0 the result is not significant at  $p < .05$

\*\*T-test done using numeric age value, not groups. The result is not significant at  $p < .05$

## Contact Information

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