

## Results of Primary Total Knee Arthroplasty in Patients on Chronic Psychotropic Medications

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### INTRODUCTION:

Psychotropic medications are commonly used to treat a variety of conditions including depression, anxiety, and attention deficit disorder. The aim of this study was to determine significance of psychotropic medications in patients undergoing primary TKA (Total Knee Arthroplasty) with respect to postoperative opioid use, complications, patient-reported outcome measures (PROMs) and satisfaction.

### METHODS:

This is a retrospective cohort study of 514 consecutive patients undergoing primary TKA. 114 patients (22%) were excluded due to preoperative opioid usage, 6 were lost to follow-up leaving 394 patients for review. 133 (34%) were on psychotropic medications preoperatively and were compared to the remaining 261 (66%) patients not on psychotropics. Clinical data, satisfaction (Likert score), Knee Society (KS) scores, WOMAC, PROMIS-10, Forgotten Joint Score (FJS-12), KOOS, JR., post-operative opioid medication usage, and complications were compared.

### RESULTS:

Study cohort (psychotropic medications) had significantly lower post-operative KS Function, KS Knee, FJS-12, KOOS, JR., WOMAC, and PROMIS-10 Physical and Mental Health scores compared to the control group (82.88 vs 88.88,  $p<0.001$ ; 87.78 vs 92.52,  $p<0.001$ ; 61.44 vs 74.34,  $p<0.001$ ; 82.53 vs 87.83,  $p=0.00$ ; 81.73 vs 89.66,  $p<0.001$ ; 50.43 vs 53.55,  $p=0.029$ ; 52.28 vs 56.12,  $p=0.014$ , respectively). Study group had a lower overall satisfaction score (Likert scale 1-5) and lower percentage of patients either satisfied or very satisfied (4.55 vs 4.79,  $p<0.001$ ; 92.0% vs 97.24%,  $p=0.03$ , respectively). Postoperative opioid usage was significantly greater in the study group at both 4-8 week and 12-month follow-up (52.76% vs 13.33%,  $p<0.001$ ; 5.51% vs 0.39%,  $p=0.002$ , respectively). There were no differences in complications and revisions between the groups.

### DISCUSSION:

Patients on psychotropic medications should be educated on the risk of increased opioid consumption, diminished satisfaction, and lower PROMs following primary TKA. Given the large number of patients on psychotropic medications undergoing TKA, additional studies are needed to further improve clinical outcomes in this group.

### SIGNIFICANCE:

This project addresses the impact that preoperative psychotropic medication use may have on the outcomes of patients undergoing primary TKA.

**Table 1.** Post-operative Patient Metrics

	Pre-operative Psychotropic Medication Use	Control	T-Test/Fisher Exact Test (p)
Degrees Active Extension	0.29 (0-15) SD= 1.62	0.22 (0-10) SD= 1.13	0.65
Degrees Active Flexion	119.59 (85-135) SD= 7.18	120.00 (85-140) SD= 6.84	0.59
KS Function Score	82.88 (40-100) SD= 16.08	88.88 (45-100) SD= 14.72	<0.001
KS Knee Score	87.78 (44-100) SD= 11.81	92.52 (48-100) SD= 8.81	<0.001
FJS-12	61.44 (0-100) SD= 30.60	74.34 (4.2-100) SD= 26.02	<0.001
KOOS, JR.	82.53 (37-100) SD= 15.54	87.83 (42-100) SD= 13.77	0.0011
WOMAC	81.73 (21-100) SD= 18.49	89.66 (42-100) SD= 12.46	<0.001
PROMIS-10 Global Physical Health	50.43 (29.6-67.7) SD= 8.77	53.55 (37.4-67.7) SD= 6.95	0.029
PROMIS-10 Global Mental Health	52.28 (28.4-67.6) SD= 9.99	56.12 (41.1-67.6) SD= 7.22	0.014
Satisfaction (Likert 1-5)	4.55 (1-5) SD= 0.76	4.79 (2-5) SD= 0.52	<0.001
% of Patients either Satisfied or Very Satisfied at most recent f/u	92.0% (115/125)	97.24% (247/254)	0.032
% of Patients on opioid medication at 4-8 week follow-up	52.76% (67/127)	13.33% (34/255)	<0.001
% of patients on opioid medication at 1 year follow-up	5.51% (7/127)	0.39% (1/255)	0.0023