

**Official title:** How Many Opiates Should we Prescribe for Pain in Patients Undergoing Knee Arthroscopies and ACL Reconstructions?

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## **Knee Arthroscopy**

Dichotomous variables were compared using either a chi-square 149 test or Fisher exact test. Continuous variables were compared using independent sample t-tests. Results were reported as a mean  $\pm$  standard deviation. The primary outcome for this study was the total number of tablets utilized after surgery. All patients were prescribed 20 tablets of oxycodone. Our hypothesis was that patients provided with the option of whether or not to fill a prescription for an opioid medication would use fewer opioid tablets than patients automatically prescribed opioid medications following their procedure. A prior study by Gardner et al.<sup>1</sup> reported that patients take an average of eight tablets following knee arthroscopy with partial meniscectomies. We determined that cutting the number of tablets in half would represent a meaningful reduction in opioid utilization. Therefore, using the reported standard deviation from the prior study, a mean of four tablets utilized by the paper prescription group, a group size of 40 patients per group, and setting the type I error rate at 5%, we had 85% power to detect a difference. We therefore set a goal of accruing a minimum of 45 patients in each group to account for attrition.

Secondary variables included analyzing the number of days opioids were taken following surgery, overall levels of pain control, and assessment for side effects from the narcotics between groups. Patients were also grouped together and the same follow up variables were assessed for the group as a whole. Binary logistic regression modeling was used to assess for preoperative demographics and risk factors associated with increased narcotic utilization. Grouping for the binary logistic regression modeling was determined post-hoc using the pill count that satisfied 86% of patients' narcotic requirements. All statistical analyses were performed using SPSS (Version 23).

## **ACL Reconstruction**

Dichotomous variables were compared using either a chi-square test or Fisher exact test. Continuous variables were compared using independent sample t-tests. Results were reported as a mean  $\pm$  standard deviation. The primary outcome for this study was the total number of tablets utilized after surgery. Our null hypothesis was that there would be no difference in the number of opioid tablets utilized between the two groups. Studies published prior to the onset of this trial found that patients took an average of 28-38 tablets of either oxycodone or hydrocodone after ACL reconstruction.<sup>2,3</sup> We determined that reducing the number of opioids consumed by half would represent a clinically meaningful reduction in opioid utilization. Therefore, using the reported standard deviations from the aforementioned study, a mean of 14 tablets in the 30-tablet group, setting the type I error rate at 5%, and the power to detect a significant difference at 90%, we needed to enroll at least 31 patients per group. We therefore set the goal of accruing at least 30 patients in each group.

Furthermore, risk factors for increased opioid used after surgery were assessed by performing univariate and multiple linear regression modeling, treating the number of tablets used after surgery as a continuous variable. All independent variables with  $p < 0.1$  were included in the multiple regression analysis. All statistical analyses were performed using SPSS (Version 23).

## **References**

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for Prescribing Recommendations and Community Safety. *JB JS Open Access*. 2018;3(4):e0033.

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