

Nonsteroidal Anti-Inflammatory Drugs Decrease the Risk of Manipulation after Total Knee Arthroplasty

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INTRODUCTION: Arthrofibrosis is a major post-operative complication of TKA associated with a decreased range of motion (ROM) and postoperative pain. Manipulation under anesthesia (MUA) is a minimally invasive treatment option for arthrofibrosis. Previous literature has examined the effects of perioperative medications on arthrofibrosis and MUA rate. Our study expands on the influence of post-operative NSAID use and the rate of MUA and establishes a time frame for the benefit of NSAID use as a preventative measure for arthrofibrosis.

METHODS: This is a retrospective study of all primary TKA patients from 2017-2021. Data collection included prescriptions within 90 days of operation, MUA procedures, and patient demographics. The primary outcome of the study was an MUA procedure within 90 days of surgery. Fisher's exact test was used to evaluate the associations and all significant associations were assessed in a multivariable logistic regression.

RESULTS: 23,091 primary TKAs were included. Mean age was (65.4), BMI (30). Our cohort was mostly female (61%). 22,782 (98.6%) TKAs had a post-operative NSAID prescription and 53% had a refill. We found that 1,254 (5.3%) of patients had a MUA post TKA. Patients who were prescribed NSAIDs had a significantly lower incidence of MUAs (N=1215, 5.3%) compared to those who did not have an NSAID prescription (N=39, 12.6%) ($p<0.0001$). After multivariable adjustment, including preoperative deep vein thrombosis prophylaxis use, post-operative NSAID use was associated with a reduced risk of manipulation (OR=0.358 95%CI 0.25-0.51; $p<0.001$).

DISCUSSION AND CONCLUSION: This research found that post-operative NSAID use was associated with a reduced risk of MUA highlighting the potential of NSAID in mediating the risk of arthrofibrosis. Additionally, reduced risk was not seen in patients prescribed more than 4 weeks of NSAIDs, suggesting a 4-week cutoff for NSAID use as a threshold for the benefit of reduced MUA risk.