

## **A Comparison of Continuous Femoral Nerve Catheter versus Adductor Canal Block for Postoperative Pain Management following Total Knee Arthroplasty**

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**Introduction:** Pain following total knee arthroplasty (TKA) can be a significant barrier to recovery following surgery. Historically, femoral nerve catheters have been used effectively to control pain following TKA, however, concern regarding muscle weakness and falls have led to increased utilization of sensory blocks, such as the adductor canal block and its effects on the saphenous and infrapatellar sensory nerves. The goal of this study was to assess whether differences exist between patients receiving femoral nerve catheters versus adductor canal blocks following TKA.

**Methods:** Fifty consecutive patients who had received an adductor canal block were compared to fifty consecutive patients who had received a femoral nerve catheter. Both groups received spinal epidural anesthesia intra-op, and were given the same combination of opioid medications post-op. Inclusion criteria: patients aged 35-85, unilateral TKA, surgery for degenerative osteoarthritis. Exclusion criteria: allergies to study medications, bilateral TKA, ICU admission post-op. Outcomes measures were collected on post-op days 1-3 during therapy. Measures included VAS pain scores, range of motion, ambulation distance, length of stay, and peri-op complications. Groups were statistically similar with respect to demographic information.

**Results:** Length of stay was reduced in patients receiving adductor canal blocks compared to those receiving femoral nerve catheters. The mean length of stay in the adductor canal block and femoral nerve catheter groups were 2.69 and 3.04 respectively. A two-sample t-test was performed to evaluate differences in mean length of stay and found a significant effect ( $t=2.47$ ,  $df=96$ ,  $p=0.0152$ ). All other outcomes were equal with the exception of range of motion in the femoral catheter group, which was found to be significantly greater on postoperative day one ( $t = 4.62$ ,  $df = 88$ ,  $<0.0001$ ), but not upon discharge.

**Conclusions:** Our study highlights that adductor canal blocks are equivalent to continuous femoral nerve catheters with respect to pain, mobilization and post-op complications, while functioning to decrease length of stay following TKA.