

The Effect of the IPACK Block on Pain Following Primary TKA: A Double Blinded, Prospective, Randomized Trial

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Introduction: Regional anesthesia is utilized to minimize postoperative pain following total knee arthroplasty (TKA). The purpose of this study was to determine if preoperative infiltration of local anesthetic between the popliteal artery and posterior capsule of knee (IPACK) controlled posterior knee pain following TKA.

Methods: IRB approval was obtained and a power analysis was performed. Patients were randomized into one of two treatment arms: 1) continuous adductor canal block (ACB) with IPACK block (IPACK Group), or 2) continuous ACB with sham subcutaneous saline injection (No IPACK Group). Only the anesthesiologist performing the block was aware of randomization status. Following surgery, a blinded medical assessor recorded opioid consumption, pain scores, and gait distance.

Results: There were 35 people in the IPACK group and 34 in the NO IPACK group. There was no difference demographically between the groups. In the Post Anesthesia Care Unit (PACU), the average ($P=0.0122$) and worst ($P=0.0168$) pain scores at rest were statistically (but not clinically) significant, with lower scores in the IPACK group. There was no difference in the pain scores during physical therapy ($P=0.2080$). There was no difference in opioid consumption in the PACU ($P=0.7928$), or at 24 hours ($P=0.7456$). There was no difference in pain scores on POD 1 in the morning (a.m.) ($P=0.4597$) or evening (p.m.) ($P=0.6273$), nor was there any difference in walking distance ($P=0.5197$). There was also no difference in length of stay in the PACU ($P=0.9426$) or hospital ($P=0.2141$).

Conclusions: The IPACK group had lower pain scores at rest in the PACU, but this was not clinically significant. The routine use of the IPACK Block is not supported by the results of this study. There may be use of the IPACK block as a rescue block in patients who have contraindications to a standard multimodal treatment regimen or in patients with chronic pain or opioid dependence.