

## **The Effects of Periarticular Infiltration in the Setting of Prosthetic Joint Infection of the Knee**

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### **INTRODUCTION:**

Prosthetic joint infection (PJI) is a serious complication after total knee arthroplasty (TKA). Intraoperative periarticular injection (PAI) of local anesthetics is commonly used during primary TKA to improve postoperative pain control, but its use in infection-related revision TKA is controversial due to concerns about increasing infection risk. This study evaluated whether use of PAI in revision TKA for PJI improves postoperative pain control without increasing reinfection and readmission rates.

### **METHODS:**

We performed a retrospective review of 358 patients who underwent revision TKA for PJI between 2015 and 2023, all under general anesthesia. Intraoperative PAI was administered in 136 patients, while 222 did not receive PAI and served as controls. Postoperative pain scores and opioid consumption (morphine milligram equivalents, MME) were recorded at 24, 48, and 72 hours, and reinfection rates were assessed at 90 days and 1-year post-surgery. Readmission and reinfection rates were assessed at 90-days and 12-month post-op.

### **RESULTS:**

Pain scores did not significantly differ between the PAI and no-PAI groups at 24, 48, or 72 hours. However, patients who received PAI required significantly less opioid in the first 24 hours (mean 93 vs 132 MME,  $p = 0.0048$ ) compared to controls. There were no significant differences in reinfection rates at 90 days (2.9% with PAI vs 5.4% without,  $p = 0.31$ ) or at 1 year (1.5% vs 2.3%,  $p = 0.71$ ).

**DISCUSSION AND CONCLUSION:** Intraoperative PAI during revision TKA for PJI reduced early postoperative opioid requirements without increasing the risk of reinfection. These findings support the safe use of PAI as an adjunct to optimize postoperative pain control and reduce opioid exposure in this high-risk population.