

Pulling the Trigger Sooner: Patients Pursue Subsequent Contralateral Total Joint Arthroplasty With Lower Preoperative Pain

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INTRODUCTION: Severe osteoarthritis is a painful and disabling condition that is commonly managed with total hip (THA) or knee (TKA) arthroplasty. A subset of patients present with bilateral osteoarthritis and undergo staged total joint arthroplasty (TJA). Their decision to proceed with the second surgery is likely influenced by their initial TJA and we hypothesize they may not wait until their pain is as severe.

METHODS: This retrospective study included patients who underwent staged bilateral THA or TKA between 2018-2023 and used a web-based home therapy program. Daily Visual Analog Scale (VAS) pain scores (0-10) were tracked from 30 days preoperatively to 90 days postoperatively for all patients. Mean pre- and post-operative pain score plateaus were described and compared after the first and second operation. Patient-reported (PROMs) and hospital-related outcomes were also collected and compared. Finally, optimal interval between surgeries that led to the greatest pain improvement were also identified.

RESULTS: A total of 193 staged bilateral THA patients (64 years, 54% female) and 280 staged bilateral TKA patients (70 years, 55% female) were included. Patients had higher preoperative pain scores (THA: First Surgery=6.7 vs Second Surgery=5.4; TKA: 5.7 vs 4.7) and greater postoperative pain improvement (THA: -5.3 vs -4.0, TKA: -3.8 vs -2.2) after their first TJA ($p<0.05$) (**Figure 1**). In addition, they were more often discharged home (THA: 89% vs 82%, TKA: 88% vs 80%) and had higher rates of Emergency Department (THA: 11% vs 6%, TKA: difference not significant) or Urgent Care visits (THA: difference not significant, TKA: 5% vs 1%) visits after their first procedure ($p<0.05$). Furthermore, they had worse preoperative PROMs and lower improvement in outcomes after their initial operation ($p<0.05$). VAS pain improvement was greatest in those waiting 3-6 months between THA and 6-12 months between TKA ($p<0.05$).

DISCUSSION AND CONCLUSION: Pain scores improved significantly after staged bilateral TJA for all patients. However, those undergoing their second contralateral surgery had lower preoperative pain scores and better PROMs, leading to less overall pain relief and functional improvement compared to the first procedure. The greatest pain improvement occurred when the second operation was performed >3 months after first THA and >6 months after first TKA.

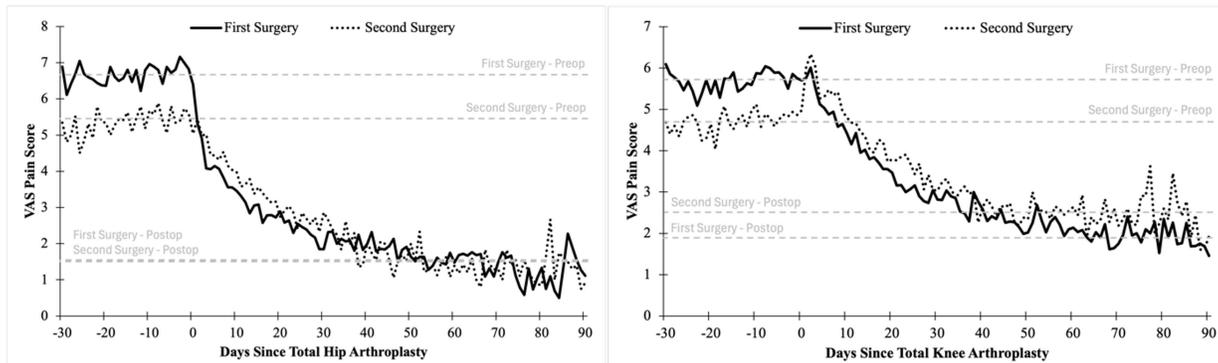


Figure 1. 30-Day Preoperative to 90-Day Postoperative Changes in Visual Analog Scale (VAS) Pain Scores Among First and Second Total Hip Arthroplasty (Left Panel) and Total Knee Arthroplasty (Right Panel) Patients.