

# Does a Postoperative Colonoscopy Increase the Risk for Hip and Knee Prosthetic Joint Infection: A Systematic Review and Meta-Analysis

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## INTRODUCTION:

Prosthetic joint infections (PJI) are a serious complication of hip and knee total joint arthroplasty (TJA), leading to increased morbidity, mortality, re-operations, and strain on healthcare systems. Hematogenous spread from remote sites is a common cause of PJI, prompting guidelines recommending antibiotic prophylaxis for several procedures. However, evidence on whether colonoscopies increase PJI risk post-TJA remains conflicting. This study is the first systematic review and meta-analysis to assess the risk of PJI following colonoscopy in patients with TJA.

## METHODS:

A systematic search of Embase, MEDLINE, CINAHL, and CENTRAL was conducted following predefined criteria. Cohort studies comparing patients who underwent colonoscopy post-TJA with those who did not were included. Data on cohort demographics, colonoscopy timing, and PJI rates were extracted. Random-effects models and the generic inverse variance method were used for meta-analyses.

## RESULTS:

Five cohort studies ( $n = 293,238$ ) met the inclusion criteria. Pooled data showed no significant increase in PJI risk at three-months (OR = 0.86; 95% CI, 0.73–1.02;  $P = 0.08$ ), six-months (OR = 1.01; 95% CI, 0.81–1.27;  $P = 0.92$ ), nine-months (OR = 1.15; 95% CI, 0.88–1.51;  $P = 0.29$ ), or one-year (OR = 1.06; 95% CI, 0.86–1.31;  $P = 0.58$ ) post-colonoscopy. Independent risk factors, including diabetes, rheumatoid arthritis, chronic kidney disease, alcohol abuse, tobacco use, pulmonary disease, male sex, and post-traumatic arthritis, significantly increased PJI risk

## DISCUSSION AND CONCLUSION:

Postoperative colonoscopies do not significantly increase PJI risk in TJA patients. While postoperative colonoscopies do not appear to pose a significant risk for all patients, identifying and modifying risk factors in those scheduled for colonoscopies may help reduce PJI rates and improve overall outcomes.

