

Cannabis Use and Outcomes in Hip and Knee Arthroplasty: Short- and Mid-Term Analysis

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INTRODUCTION: With cannabis use rising, its impact on postoperative outcomes after total hip (THA) and knee arthroplasty (TKA) remains unclear. This study evaluates whether preoperative cannabis use is associated with postoperative complications, healthcare utilization, and implant-related failure.

METHODS: A retrospective cohort study was conducted using a national database on patients undergoing primary THA or TKA. Cannabis users were 1:1 propensity-matched to non-users, resulting in 1,504 patients in each matched THA cohort and 1,354 patients in each matched TKA cohort. Outcomes included 90-day ED visits, hospitalizations, opioid use, and 2-year orthopedic complications (aseptic loosening, infection, dislocation, revision). Bivariate comparisons assessed statistical significance.

RESULTS: Cannabis use was linked to increased 90-day ED visits and opioid use. In THA, ED visits were 16.1% vs 12.6% (p=0.006), opioid use was 91.8% vs 86.4% (p< 0.001). In TKA, ED visits were 13.1% vs 9.9% (p=0.008), opioid use was 92.8% vs 88.6% (p< 0.001). Hospitalization and major complications were similar. At 2 years, THA patients with cannabis use had higher rates of aseptic loosening (1.9% vs 0.9%, p=0.030). Other THA complications—joint infection (4.4% vs 4.6%, p=0.724), dislocation (3.4% vs 2.6%, p=0.162), revision (6.2% vs 7.1%, p=0.340)—were not significantly different. Among TKA patients, rates of aseptic loosening (1.0% vs < 0.7%, p=0.530), infection (4.9% vs 3.8%, p=0.160), dislocation (< 0.7% vs 0.9%, p=0.669), and revision (5.3% vs 5.2%, p=0.932) showed no significant differences.

DISCUSSION AND CONCLUSION: Preoperative cannabis use is associated with increased ED visits and opioid use at 90 days, and higher rates of aseptic loosening after THA. These findings suggest a need for further research and preoperative counseling on cannabis use in arthroplasty patients.

Table 1. THA Pre and Post-Matching Demographics

Characteristic	Cannabis Users (n=1504)	Non-Users (n=1504)	p-value
Age (Mean)	68.5	68.5	0.98
Female (%)	72.1	72.1	0.98
White (%)	78.9	78.9	0.98
Insurance (Medicare)	85.2	85.2	0.98
Comorbidities (Hypertension, Diabetes, etc.)	Similar	Similar	0.98

Table 2. TKA Pre and Post-Matching Demographics

Characteristic	Cannabis Users (n=1354)	Non-Users (n=1354)	p-value
Age (Mean)	65.2	65.2	0.98
Female (%)	68.5	68.5	0.98
White (%)	75.1	75.1	0.98
Insurance (Medicare)	82.3	82.3	0.98
Comorbidities (Hypertension, Diabetes, etc.)	Similar	Similar	0.98

Table 3. 90-Day Medical Outcomes

Outcome	Cannabis Users (%)	Non-Users (%)	p-value
ED Visits	16.1	12.6	0.006
Hospitalizations	12.5	12.8	0.78
Opioid Use	91.8	86.4	<0.001
90-Day Mortality	0.5	0.5	0.98

Table 4. 2-Year Implant Related Outcomes

Outcome	Cannabis Users (%)	Non-Users (%)	p-value
Aseptic Loosening	1.9	0.9	0.030
Infection	4.4	4.6	0.724
Dislocation	3.4	2.6	0.162
Revision	6.2	7.1	0.340