

**Title:**

Patterns of Postoperative Complications Related to Cannabis and Tobacco Usage in Patients Undergoing Facial Fracture Surgeries

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**Background:**

Cannabis is the third most used controlled substance in the world. Despite its widespread use, there is minimal research investigating cannabis usage in patients undergoing facial fracture surgeries. The purpose of this study was to evaluate patterns of postoperative complications related to marijuana and tobacco usage following facial fracture surgeries.

**Materials and Methods:**

PearlDiver™, a commercially available healthcare database, was used to identify patients with history of cannabis or tobacco use who underwent facial fracture surgeries between 2010-2021. The study population was categorized into groups using ICD-9, ICD-10, and CPT codes and specifically evaluated isolated maxilla and isolated mandibular fractures. A logistic regression was performed to assess the influence of cannabis and tobacco use on postoperative complications.

**Results:**

A total of 26,830 patients met inclusion criteria. For patients reporting cannabis use, 14 (1.0%) had maxilla fractures and 367 (1.5%) mandible fractures. For patients reporting tobacco use, 613 (40%) had maxilla fractures and 11,429 (45.2%) mandible fractures. Patients who reported using cannabis had an increased risk of developing postoperative infection and fracture non-union. Patients who reported using tobacco had an additional increased risk of developing hardware failure, facial abscess, required debridement, and experienced malocclusion and visual disturbance, in addition to postoperative infection and fracture non-union.

**Conclusion:**

Although tobacco use is associated with a greater number of complications compared to cannabis use, using both substances is still associated with increased risk of numerous complications following facial fracture surgeries. Additional studies are necessary to determine timing to stop using these substances to decrease risk of complications.

**Table 1**

	<b>Cannabis Usage</b>		<b>Tobacco Usage</b>	
	OR	95% CI	OR	95% CI
Post-op infection	1.78*	(1.03-2.87)	1.35*	(1.16-2.57)
Fracture non-union	2.27*	(1.51-3.28)	1.46*	(1.29-1.65)
Hardware failure	1.03	(0.57-1.70)	1.15*	(1.01-1.31)
Facial abscess	1	(0.65-1.47)	1.11*	(1.01-1.22)
Debridement	1.13	(0.68-1.77)	1.21*	(1.08-1.36)
Malocclusion	1.25	(0.90-1.69)	1.19*	(1.09-1.29)
Visual disturbance	1.2	(0.92-1.56)	1.14*	(1.07-1.22)

\* p-value < 0.05