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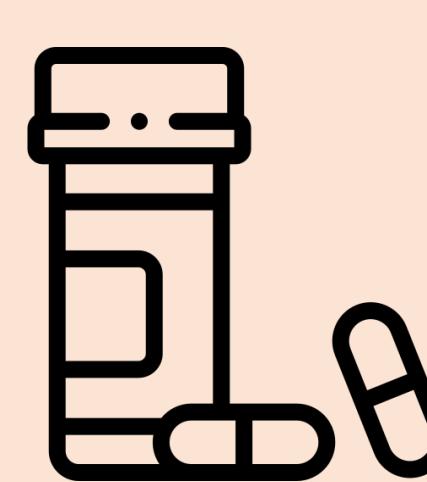
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Cannabis use is on the rise, and extensive use can modulate efficacy of prescription painkillers.



After tonsillectomy, pain is the main driver for ED visits. Effects of cannabis use on post-tonsillectomy pain management remains unclear.



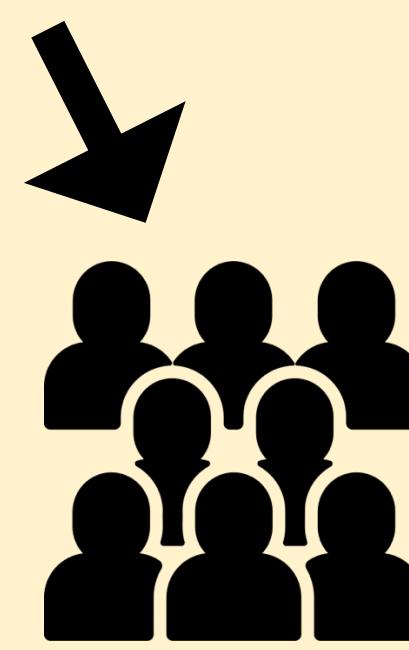
How do cannabis-related disorders affect the likelihood of receiving analgesics and ED presentation after tonsillectomy?



2,821 adults >18 with cannabis related disorders (CRD)



TriNetX database with 118 million patients nationwide: tonsillectomy 2010-2024



2,695 propensity-matched adults >18 without CRD

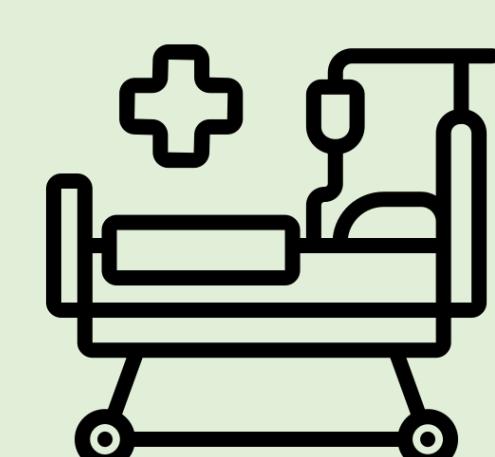
Outcomes: opioid versus non-opioid post-op prescriptions and post-op healthcare visits

**Patients with CRD were:**

LESS likely to receive any analgesics, including opioids, at all time intervals.



LESS likely to present to follow-up visits at all time intervals.



MORE likely to present to the ER at 2-6 weeks and 6-12 weeks post-op.

## Introduction

- Cannabis is the most commonly used recreational drug in the US, with over 42 million adult users in 2022. Cannabis use disorder is prevalent amongst 17% of users and can be further expanded to cannabis dependence under cannabis-related disorders (CRD).
- Cannabis use has been shown to increase perioperative pain perception and opioid analgesic need, but it remains understudied in the field of otolaryngology.
- Tonsillectomy is a very common surgery in the US with intense pain being the most frequently reported post-operative complaint. Traditionally post-operative is treated with opioids, whose usage has not been comprehensively investigated in CRD patients.

**Objective:** Assess postoperative opioid analgesic usage and healthcare utilization among CRD patients following tonsillectomy.

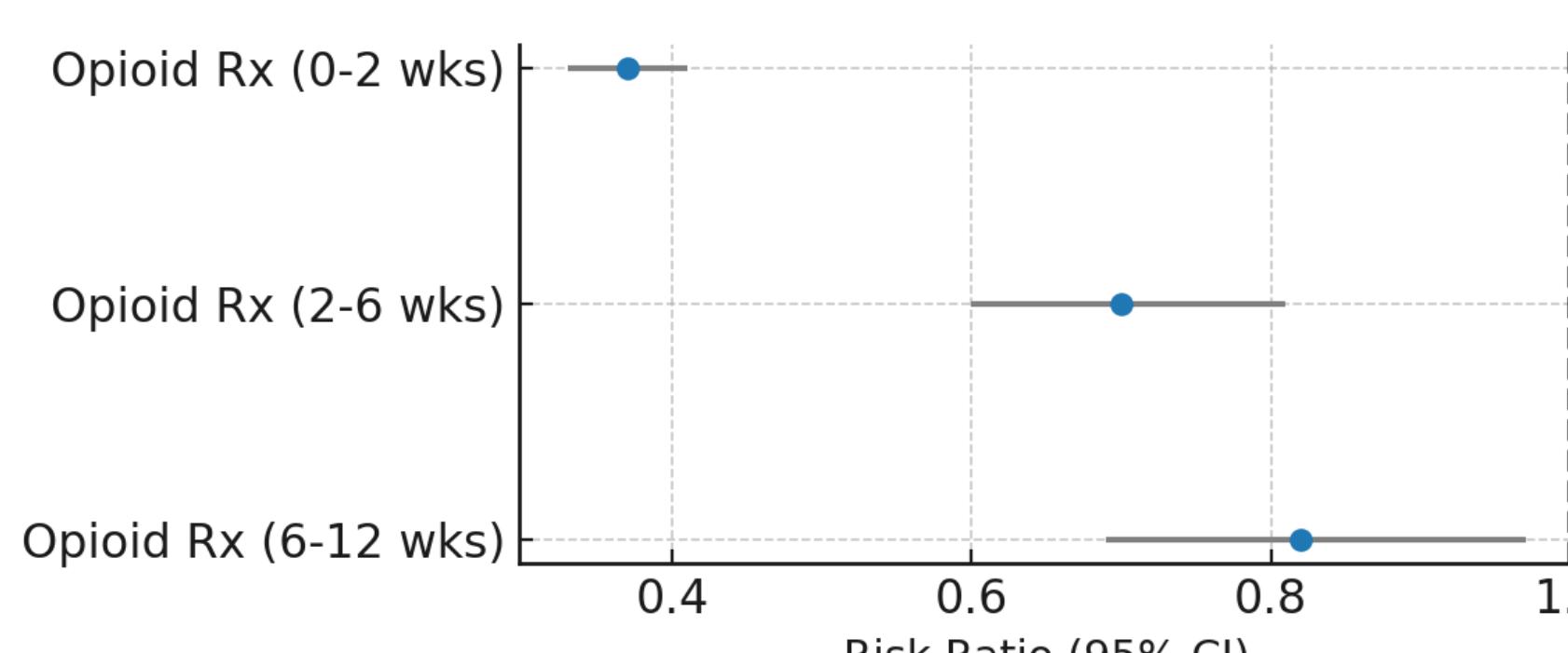
## Methods and Materials

- Setting:** TriNetX US Network, providing deidentified EMR data for 118m patients from 66 HCOs.
- Population:** Adults (≥18 years) who underwent tonsillectomy between Jan 2010 to Aug 2024.
- Exposure:** Diagnosis of cannabis dependence or abuse (CRD) in one year prior to surgery.
- Cohorts:** CRD vs. no CRD; 1:1 propensity score matched for age, sex, race/ethnicity, pain and mental health diagnoses, substance use, pre-operative analgesics, and healthcare utilization prior to surgery.
- Outcomes:**
  - Primary: Postoperative opioid prescriptions at 0–2, 2–6, and 6–12 weeks.
  - Secondary: Prescriptions for non-opioid analgesics/NSAIDs, ED Visits, and postoperative OP follow-up.
- Analysis:** Comparative frequency of outcomes; relative risk (RR), 95% CI; statistical significance at  $p < 0.05$ .

**Table 1.** Pre-matched cohort characteristics.

Characteristics n (%)	CDA n=2,700	No CDA n=408,510	p-value
Age at Index (Mean ± SD)	23.7 +/- 10.6	11.2 +/- 12.0	<0.001
Female	1515 (58.0%)	193,887 (50.6%)	<0.001
Black	400 (15.3%)	50,587 (13.2%)	0.001
White	1,828 (70.0%)	241,457 (63.0%)	<0.001
Asian	28 (1.1%)	7,957 (2.1%)	<0.001
Hispanic	322 (12.3%)	77,975 (20.3%)	<0.001
Mood disorders	1,551 (59.4%)	15,030 (3.9%)	<0.001
Nicotine dependence	844 (32.3%)	5,372 (1.4%)	<0.001
Alcohol related disorders	334 (12.8%)	1,239 (0.3%)	<0.001
Opioid related disorders	155 (5.9%)	681 (0.2%)	<0.001
Cocaine related disorders	80 (3.1%)	216 (0.1%)	<0.001
Morbid Obesity	282 (10.8%)	9,832 (2.6%)	<0.001
Diabetes mellitus	142 (5.4%)	4,170 (1.1%)	<0.001
Hypertensive diseases	344 (13.2%)	11,519 (3.0%)	<0.001

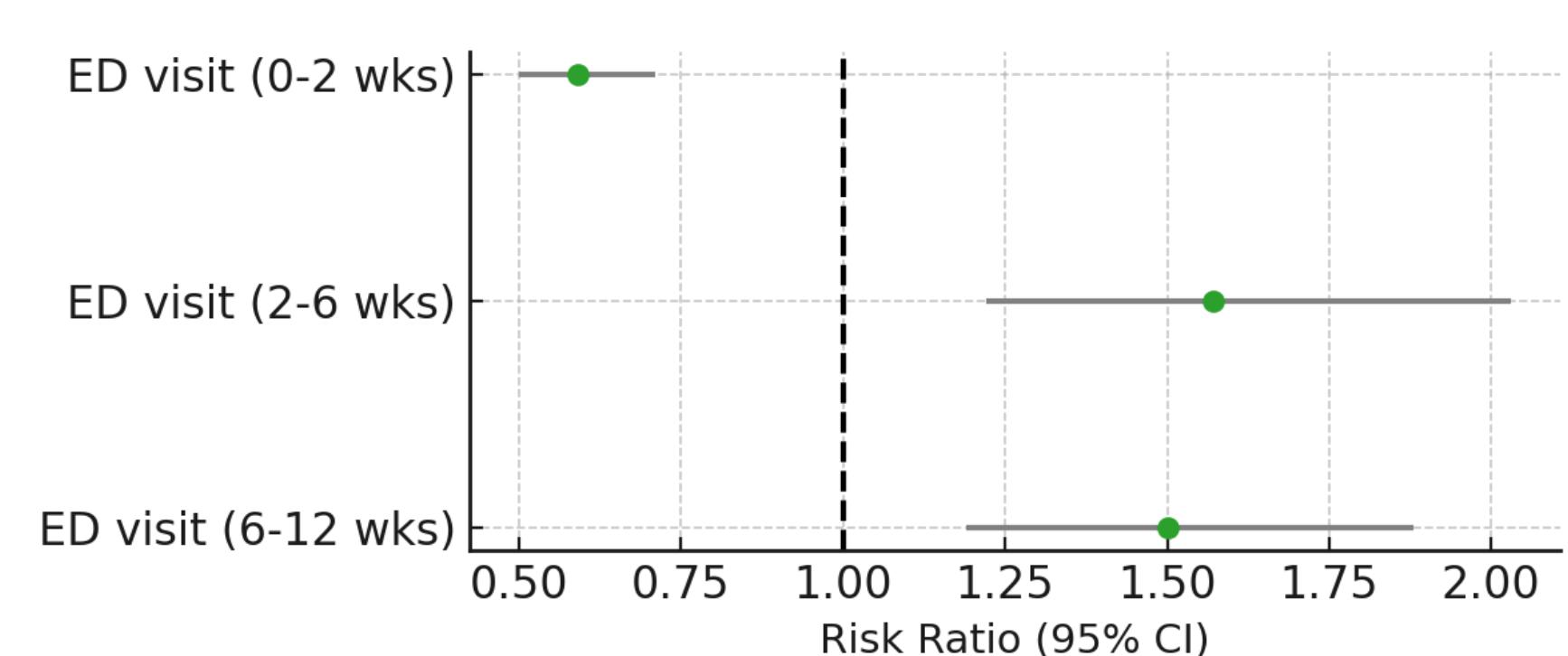
**Result #1.** CDA patients were less likely than NCDA controls to receive any opioid prescriptions within 2 weeks, 2–6 weeks, and 6–12 weeks post-tonsillectomy.



**Figure 1.** Opioid prescriptions received by CDA patients compared to NCDA patients after specified timeframes post-tonsillectomy. Error bars signify 95% confidence intervals.

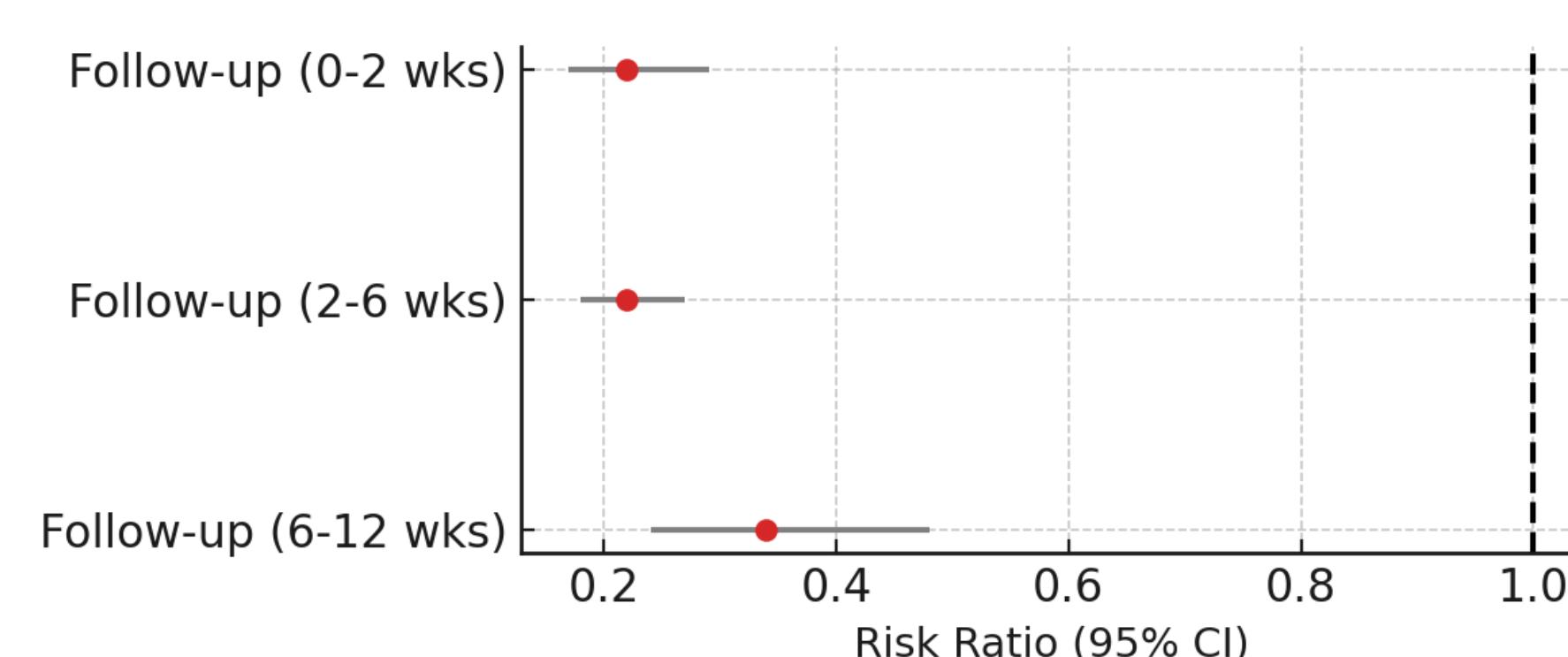
## Results

**Result #2.** CDA patients were more likely than NCDA counterparts to cite present to the ED after 2 weeks post-tonsillectomy ( $p < 0.001$ ).



**Figure 2.** ED visits reported by CDA patients compared to NCDA patients after specified timeframes post-tonsillectomy. Error bars signify 95% confidence intervals.

**Result #3.** CDA patients were less likely than NCDA controls attend follow-up healthcare appointments within 2 weeks, 2–6 weeks, and 6–12 weeks post-tonsillectomy.



**Figure 3.** Adherence to follow-up visits completed by CDA patients compared to NCDA patients after specified timeframes post-tonsillectomy. Error bars signify 95% confidence intervals.

## Discussion

- Patients with CDA are less likely to receive pain prescriptions after tonsillectomy, including opioids. Combined with increased post-op ED presentations, this may indicate that CDA patients experience inadequate pain treatment.
- It is key to provide tailored yet equitable pain management strategies for patients with CDA.

## References

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