

Implications of Peri-Operative Cannabis Use In Adolescents and Young Adults

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Background

Massachusetts legalized cannabis use for both medical and recreational use in 2014. Since then, adolescent recreational and medicinal use of cannabinoids has increased. In the summer of 2016, it was noted there were an increased number of requests, by surgical patients in the Postoperative Anesthesia Care Unit (PACU) as to when they could resume using cannabis. This lead us to question our current practice.

Collecting the Evidence

Evidence Database Search	Pub med, CINAHL, Google Scholar, Cochrane Data Base
Total Electronic Search Yields	23 articles
Search Terms	Cannabis, marijuana, postoperative pain, cannabinoids, preoperative care, pain, tetrahydrocannabinol (THC), acute pain, adolescents, young adults
Exclusion Criteria	Literature older than 5 years, non-English, literature that looked at the efficacy of cannabinoids in pain management
Number Included	13
Number Excluded	10
Evidence Critique Tool	John's Hopkins Evidence Based Practice Tool
Hierarchy of Evidence Tool	
• Level 2	1
• Level 3	7
• Level 5	5
Clinical Experts	Jean Solodiuk, Pain Treatment Service

Clinical Practice Question

In adolescents and young adults (AYA) (P) does the habitual use of marijuana (I) vs. no (C) use increase the need for pain management interventions postoperatively (O)?

Key Sources of Evidence

Literature Review		
Author(s)	Year	Findings
Meeker, J., Ayrian, E., & Mariano, E.	2020	LEVEL 2 A-B <ul style="list-style-type: none"> States with marijuana legalization have noticed an increased risk in opioid overdose mortality. Challenges with application of cannabinoids for pain management include varied heterogeneity including over 100 active cannabinoids in plants and 500 chemical compounds in cannabis plants. There is insufficient data to support the use of cannabinoids for acute pain in the post operative period.
Liu, et al.	2019	LEVEL 3 A-B <ul style="list-style-type: none"> Patients (pts.) on cannabinoids had significantly higher pain scores and poorer quality of sleep in the early postoperative period in comparison to pts with no reported history of cannabinoid use.
Ladha, et al.	2020	LEVEL 3 B <ul style="list-style-type: none"> Weaning cannabis 7 days before surgery if using 2-3X/ day may reduce adverse outcomes during anesthesia. Postoperative opioid requirement may be higher in pts using cannabis. Pts may require more anesthesia to achieve depth of anesthesia. Cannabis withdrawal syndrome (CWS) was noted in patients. Symptoms include: irritability, anger, anxiety, insomnia, decreased appetite, restlessness and altered mood. Physical symptoms include sweating, fever, chills and abdominal pain.
Bauer, et al.	2018	Level 3-B <ul style="list-style-type: none"> Perioperative opioid requirements were significantly higher in the marijuana (MJ) user group (despite lower subjective pain scores). The difference in opioid requirements suggests an interaction between MJ use and opioid tolerance or pain threshold.

Clinical Expertise

Expert	Findings
Jean Solodiuk, PhD, CPNP, Pain Treatment Service	<ul style="list-style-type: none"> The relationship between MJ use and pain management is multifactorial and some patients use MJ for treatment of undiagnosed anxiety Type, reason for use and quality of MJ use can impact postoperative pain

Critical Appraisal of the Evidence

- The evidence was of good quality, however there are conflicting findings
- All research appraised was non-experimental observational studies
- There is a paucity of adolescence and young adult literature related to the use of MJ in the postoperative setting
- Adolescent and young adult research is warranted

Translating Evidence into Practice

The evidence will be used to educate PACU nurses on how to best screen for cannabis use and postoperative care considerations in the PACU setting. Considerations for PACU nurses include the importance of eliciting and quantifying a history of cannabis use, consideration of cannabis weaning, additional postoperative nausea vomiting prophylaxis, anticipated increased postoperative analgesic requirements and maintaining vigilance for cannabis withdrawal syndrome.

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For references please scan here:

