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
Pub med, CINAHL, Google Scholar, Cochrane Data Base

Total Electronic Search Yields
23 articles

Search Terms
Cannabis, marijuana, postoperative pain, cannabinoids, preoperative care, pain, tetrahydocannabinol (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

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Year</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meeker, J., Ayrian, E., &amp; Mariano, E.</td>
<td>2020</td>
<td>LEVEL 2 A-B • 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.</td>
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<td>Liu, et al.</td>
<td>2019</td>
<td>LEVEL 3 A-B • 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.</td>
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<td>Ladha, et al.</td>
<td>2020</td>
<td>LEVEL 3 B • Wearing 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.</td>
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<tr>
<td>Bauer, et al.</td>
<td>2018</td>
<td>Level 3-B • 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.</td>
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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: