



Cannabis Ingestion and Children

- Canadian Government legalized cannabis October 2018, while edible products (candy, gummies, baked goods, etc.) became available January 2020 in Ontario
- Children may not feel effects of cannabis for several hours, leading them to consume larger quantities over a shorter period of time compared to adults
- Significant number of children, especially those <5 years of age, require medical care after ingesting cannabis
- Unintentional intoxication most common; though rare, intentional exposure (by caregivers) to promote sleep or decrease activity is sometimes seen
- Hospitalization rates for unintentional exposure almost doubled 2 years after legalization of cannabis in Colorado, with almost half of those exposures being from edibles
- Duration of symptoms after acute cannabis exposure can vary from 4 to 48 hours, depending upon dose ingested
- Differential diagnosis for children is broad as toxicity often presents with an altered LOC which can be seen in hypoglycemia, head injuries, seizures, intussusception, meningitis & electrolyte abnormalities— very important to have high index of suspicion & to ask about potential medicinal, recreational or illegal cannabis use in home

Can you tell the difference?



Cannabis Intoxication: The Facts



- In France, a multi-center study conducted between 2004-2014 examined trends of admissions for unintentional cannabis intoxication in children (Cannabis illegal in France)
- Increasing negative health impact with higher tetrahydrocannabinol (THC) levels
- Average delay between ingestion & hospital presentation was 4.5H +/- 3H
- 71% of children were 18 months old or younger
- 72% of cannabis intoxication occurred within the parental home
- 75% of cannabis intoxication occurred from ingestion
- 86% of children presented with predominantly neurologic symptoms, 35% severe
- 53% of children admitted with comas occurred in the last year of the study (2014) (? from ↑THC concentrations)
- 76% of children had abnormalities in basic metabolic panel blood tests including high glucose levels, metabolic acidosis, hyponatremia & functional kidney failure
- 62% of parents of children presenting to hospital reported cannabis consumption, with 72% being regular users

Cannabis Ingestion in Children: Signs & Symptoms

- Sleepiness, euphoria, irritability, behavioural changes, tachycardia or bradycardia, hypertension, depressed LOC, nausea, vomiting, nystagmus, ataxia, slurred speech, dilated pupils
**patients with acute neurological depression often have dilated pupils with hypotonia & hyporeflexia*
- Infants/Toddlers typically present with altered LOC ranging from mild encephalopathy to coma (coma with apnea or depressed respirations &/or seizures (rare) more likely with larger exposures to cannabis)

Management of Cannabis Ingestion in Children

- Treatment mainly consists of supportive measures (i.e.) airway support & intravenous fluids
**children should be observed for at least 6 hours to ensure symptoms have resolved*
- Children with exposure are more likely to have severe or life-threatening toxicity (i.e.) profound drowsiness with respiratory depression & even coma

Treatment Options Includes:

- Maintain ABC's: Remember children are at ↑risk of aspiration should they require rapid sequence intubation
- Check blood glucose to avoid hypoglycemia
- Give Naloxone if presenting with features of opioid overdose (will not reverse cannabis toxicity)
- Seizures are rare with cannabis toxicity, more common with cross-contamination with other drugs
- **Activated charcoal (AC)** is not recommended for cannabis ingestion in children: a) most symptoms are delayed up to 3H, limiting efficacy of AC, b) most clinical effects are limited & easily treated with supportive care & c) more likely to have altered LOC or vomiting increasing risk of aspiration if AC is given

1. Murti, M. (2017). <https://www.bcmj.org/cohp/pediatric-presentations-and-risks-consuming-cannabis-edibles>

2. Claudet, I. et al. (2017). <https://pediatrics.aappublications.org/content/pediatrics/140/3/e20170017.full.pdf>

3. Vogel, L. (2019). <https://cmajnews.com/2019/06/27/cannabis-edibles-already-harming-kids-new-data-show-cmaj-1095789/>

4. Wang, G.S. (2020). <https://www.uptodate.com/contents/cannabis-marijuana-acute-intoxication>