



# Medical marijuana

## Information for physicians

**Note:** This is primarily intended to inform physicians treating patients  $\geq$  age 18 years for whom a recommendation for medical use of marijuana is being considered.

“Cannabis” is used interchangeably with “marijuana.” Cannabinoids refer to chemical components of cannabis (i.e., THC or cannabidiol [CBD], including synthetic versions).

### Effectiveness

- There is **substantial evidence** that cannabis or cannabinoids are effective for:
  - Treatment of chronic pain in adults - primarily neuropathic pain.<sup>1,2</sup>
  - Treatment of chemotherapy-induced nausea and vomiting.<sup>1</sup>
  - Improving patient-reported multiple sclerosis (MS) spasticity symptoms.<sup>1,2</sup>
  - Treatment of drug resistant seizures with CBD in children and young adults with 2 rare, severe forms of epilepsy: Dravet syndrome<sup>3</sup> and Lennox-Gastaut syndrome.<sup>4</sup>
- There is **moderate evidence** that cannabis or cannabinoids are effective for:
  - Treatment of short-term sleep outcomes (associated with obstructive sleep apnea, fibromyalgia, chronic pain, MS).<sup>1</sup>
- There is **limited evidence** that cannabis or cannabinoids are effective for<sup>1</sup>:
  - Increasing appetite/decreasing weight loss associated with HIV/AIDS.
  - Improving provider-measured MS spasticity symptoms.
  - Improving Tourette syndrome symptoms.
  - Improving anxiety symptoms (in context of assessment of social anxiety symptoms).
  - Improving post-traumatic stress disorder (PTSD) symptoms.
- There is **no or insufficient evidence** that cannabis or cannabinoids are effective for all other diseases and conditions, due to lack of published clinical trials.<sup>1</sup>

### Side effects

- From clinical trials, the following side effects were reported significantly more often among participants receiving cannabinoids than among controls: dizziness, disorientation /confusion, euphoria, dry mouth, drowsiness/somnolence, nausea, fatigue/asthenia.<sup>2</sup>

### Drug interactions

**Note:** The lack of a cited interaction does not preclude the possibility that a drug interaction exists (and no studies have yet reported an interaction with that particular drug).

- There is evidence of clinically important drug-drug interactions between cannabis or cannabinoids and the following medications: chlorpromazine, clobazam, clozapine, CNS depressants (e.g., barbiturates, benzodiazepines), disulfiram, hexobarbital, hydrocortisone, ketoconazole, MAO inhibitors, phenytoin, protease inhibitors (indinavir, nelfinavir), theophylline, tricyclic antidepressants and warfarin.<sup>5</sup>

## General risks of marijuana use

**Note:** These mainly represent evidence from studies of recreational cannabis users focused on adverse health effects. Only content areas where there is “substantial” research evidence are presented. Furthermore, *the studies informing the evidence statements below are “observational” in design, thus, for most of these statements, causality cannot be clearly established* (e.g., cannabis use and schizophrenia may “travel together” rather than represent a causal relationship). Thus, these findings should be extrapolated with caution, especially in the context of medical marijuana use.

- There is **substantial evidence**:
  - That cannabis use is associated with increased risk of motor vehicle crashes.<sup>1,5</sup>
  - That cannabis users, including adolescent and young adult users, can develop cannabis use disorder.<sup>5</sup>
  - That adolescent and young adult cannabis users are more likely than non-users to use and be addicted to illicit drugs in adulthood.<sup>5</sup>
  - That frequent cannabis users are more likely than non-users to have memory impairment (lasting a week or more after last use).<sup>5</sup>
  - That THC intoxication can cause dose-related acute psychotic symptoms.<sup>5</sup>
  - That cannabis use is associated with development of schizophrenia, with highest risk among most frequent users.<sup>1,5</sup>
  - That frequent cannabis smoking is associated with chronic bronchitis.<sup>1,5</sup>
  - That cannabis smoke contains many of the same cancer-causing chemicals as tobacco smoke<sup>5</sup>; however, there is mixed evidence as to whether cannabis smoking is associated with lung cancer.<sup>5</sup>
  - That THC crosses the placenta and into fetuses of women who use cannabis during pregnancy<sup>5</sup>; and THC is present in breast milk and passes into breastfeeding infants.<sup>5</sup>

## References

1. National Academy of Sciences, Engineering, and Medicine. 2017. The Health Effects of Cannabis and Cannabinoids: The Current State of Evidence and Recommendations for Research. Washington, DC: The National Academies Press. <https://doi.org/10.17226/24625>.
2. Whiting PF, Wolff RF, Deshpande S, et al. Cannabinoids for Medical Use: A Systematic Review and Meta-Analysis. JAMA 2015;313:2456-2473.
3. Devinsky O, Cross JH, Laux L, et al. Trial of Cannabidiol for Drug-Resistant Seizures in the Dravet Syndrome. N Engl J Med 2017;376:2011-2020.
4. Thiele EA, Marsh ED, French JA, et al. Cannabidiol in patients with seizures associated with Lennox-Gastaut syndrome (GWPCARE4): a randomized, double-blind, placebo-controlled phase 3 trial. Lancet 2018;391:1085-1096.
5. Colorado Department of Public Health and Environment. Monitoring Health Concerns Related to Marijuana in Colorado: 2016. [www.colorado.gov/cdphe/marijuana-health-report](http://www.colorado.gov/cdphe/marijuana-health-report)

## More information

[www.colorado.gov/cdphe/categories/services-and-information/marijuana](http://www.colorado.gov/cdphe/categories/services-and-information/marijuana)

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