

Medical Marijuana: A Physician's Perspective

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Amendment 2



The graphic features a teal background with a repeating white zigzag pattern. On the left, a dark blue square contains a white plus sign and the text 'NEW APPROACH MISSOURI' in white and teal. To the right, the text 'Vote YES on Amendment 2 November 6th' is displayed in large, bold, black font. At the bottom center, small white text reads 'Paid for by New Approach Missouri, Paul Bocci, Treasurer'.

**NEW
APPROACH
MISSOURI**

**Vote YES on
Amendment 2
November 6th**

Paid for by New Approach Missouri, Paul Bocci, Treasurer

Amendment 2

- Permits state-licensed physicians to recommend marijuana to patients with serious illnesses and medical conditions
 - Patient provided with a “physician certification” stating that they suffer from a qualifying medical condition
 - Certification statements will be submitted to the Department of Health and Senior Services
 - Qualifying patients will be issued an identification card, which must be renewed annually

Amendment 2

- Allows patients to use medical marijuana for treatment under the supervision of a physician
 - Marijuana may be purchased at a licensed dispensary
 - Up to six flowering plants may be cultivated for personal use

Amendment 2

- Qualifying medical conditions
 - Cancer
 - Epilepsy
 - Glaucoma
 - HIV or AIDS
 - Intractable migraines unresponsive to other treatment

Amendment 2

- Qualifying medical conditions (continued)
 - A chronic medical condition that causes severe, persistent pain or persistent muscle spasms
 - Debilitating psychiatric disorders
 - A chronic medical condition that is normally treated with a prescription medication that could lead to physical or psychological dependence
 - Any terminal illness
 - In the professional judgement of a physician, any other chronic, debilitating, or other medical condition

Objectives

- Become familiar with cannabis and cannabinoid products
- Review the benefits, adverse effects, and societal effects of cannabis and cannabinoids
- Share patient perspectives on cannabis use
- Discuss best practices for recommending cannabis

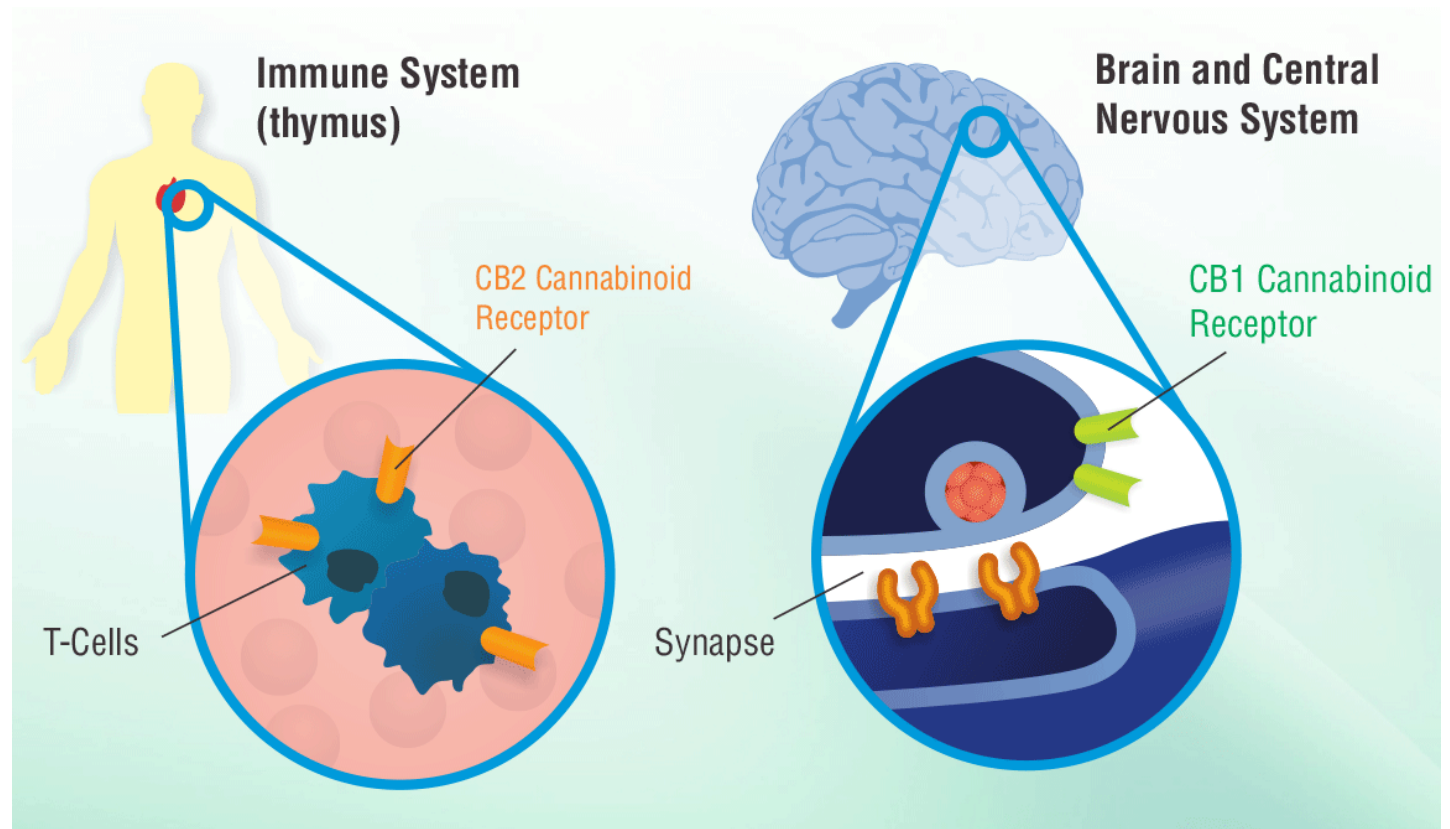
Terminology

Cannabis: A flowering Asian plant with fibrous stalks



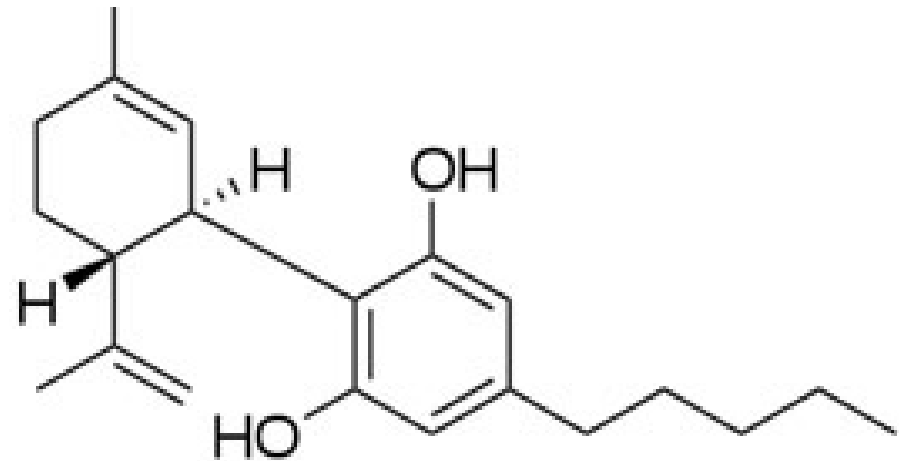
Terminology

Cannabinoid: Any of the various biologically active chemical constituents of hemp or cannabis



Terminology

Cannabidiol (CBD): A nonintoxicating compound found in cannabis and hemp





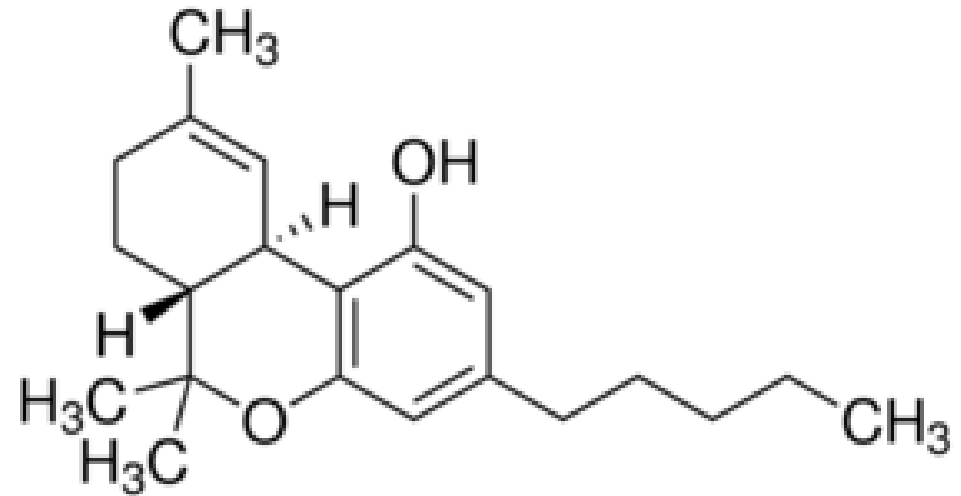
healthspan

High Strength
CBD Oil
250mg



Terminology

Δ -9-tetrahydrocannabinol (THC):
The primary psychoactive
constituent of cannabis



Pharmaceutical cannabinoids

-**Dronabinol** (Marinol, Syndros)

- Synthetic THC
- FDA-approved for the treatment of anorexia and weight loss associated with AIDS, and refractory nausea and vomiting associated with cancer chemotherapy

-**Nabilone** (Cesamet)

- Synthetic THC
- FDA-approved for the treatment of refractory nausea and vomiting associated with cancer chemotherapy

Pharmaceutical cannabinoids

-Cannabidiol (Epidiolex)

- Purified cannabis extract delivered as oral solution
- FDA-approved for the treatment of refractory seizures associated with Lennox-Gastaut syndrome or Dravet syndrome in patients 2 years of age and older

-Nabiximols (Sativex)

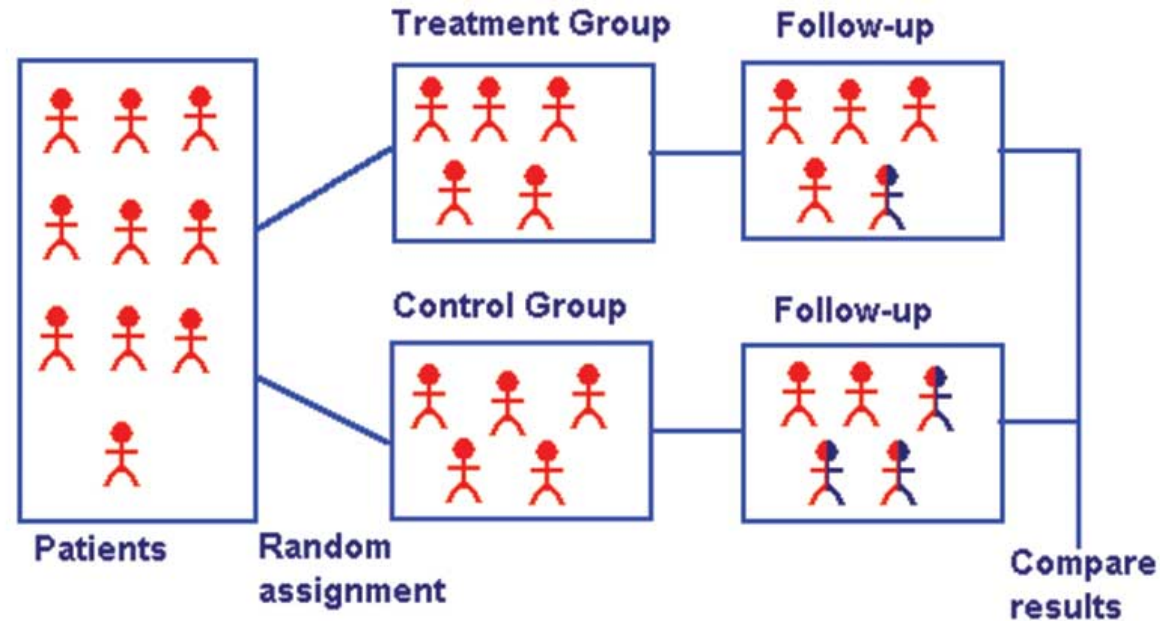
- Cannabis extract delivered as oromucosal spray
- Health Canada-approved for the treatment of moderate to severe spasticity due to multiple sclerosis

Research on cannabis and cannabinoids

- Very limited information available on medical use of cannabis

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Research on cannabis and cannabinoids

- Very limited information available on medical use of cannabis
 - Schedule I controlled substance
 - Very few trials
 - Small number of participants
 - Short duration
 - Difficult to blind
 - Lack of cannabis standardization

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- Most trials employ pharmaceutical cannabinoids

Research on cannabis and cannabinoids

Original Investigation

June 23/30, 2015

Cannabinoids for Medical Use

A Systematic Review and Meta-analysis

Penny F. Whiting, PhD^{1,2,3}; Robert F. Wolff, MD³; Sohan Deshpande, MSc³; [et al](#)

» [Author Affiliations](#) | [Article Information](#)

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- Systematic review and meta-analysis of randomized clinical trials of cannabinoids
- 79 trials with 6462 participants included
- Multiple products and indications investigated

Research on cannabis and cannabinoids



Research on cannabis and cannabinoids



- Comprehensive review of evidence of health effects of cannabis and cannabinoids
- Recommendations for future research

Research on cannabis and cannabinoids

- Chronic pain
- Spasticity
- Nausea and vomiting
- Psychiatric disorders
- Sleep

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Chronic pain

- JAMA, 2015
- 28 trials with 2454 participants comparing cannabinoid to placebo
- Neuropathic pain, cancer pain, fibromyalgia, multiple sclerosis, rheumatoid arthritis, and musculoskeletal problems
- Nabiximols, nabilone, dronabinol, ajulemic acid, and cannabis (oral, oromucosal, smoked, and vaporized)

Chronic pain

“Studies generally suggested improvements in pain measures associated with cannabinoids but these did not reach statistical significance in most individual studies.”

Chronic pain



“There is substantial evidence that cannabis is an effective treatment for chronic pain in adults.”

Spasticity

- JAMA, 2015
- 14 trials with 2280 participants comparing cannabinoid to placebo
- Multiple sclerosis (11 trials) and spinal cord injury (3 trials)
- Nabiximols, dronabinol, nabilone, EPC002A (purified natural THC oral tablet), and cannabis (oral and smoked)
- Outcomes: Changes in spasticity measured by Ashworth scale, numerical rating scale, or global impression of change

Spasticity

“Studies generally suggested that cannabinoids were associated with improvements in spasticity, but this failed to reach statistical significance in most studies.”

Spasticity



“There is substantial evidence that oral cannabinoids are an effective treatment for improving patient-reported multiple sclerosis spasticity symptoms, but limited evidence for an effect on clinician-measured spasticity.”

Nausea and vomiting

- JAMA, 2015
- 28 trials with 1772 participants comparing cannabinoids to placebo or anti-emetic
- Nausea and vomiting due to chemotherapy
- Nabilone, dronabinol, levonantradol, nabiximols, and cannabis (oral and oromucosal)

Nausea and vomiting

“All studies suggested a greater benefit of cannabinoids compared with both active comparators and placebo, but these did not reach statistical significance in all studies.”

Nausea and vomiting



“There is conclusive evidence that oral cannabinoids are effective antiemetics in the treatment of chemotherapy-induced nausea and vomiting.”

Psychiatric disorders

- Very limited information available on the use of cannabinoids in the treatment of psychiatric disorders
- Social anxiety disorder and post-traumatic stress disorder each showed positive response to cannabinoids in single, small trials^{1,2}
- Anxiety and depression evaluated as secondary outcomes in trials of chronic pain and multiple sclerosis³
 - Results generally favorable for anxiety; no improvement or worsening depression

1. Bergamaschi MM, et al. *Neuropsychopharmacology* 2011

2. Jetly RA, et al. *Psychoneuroendocrinology* 2015

3. Whiting PF, et al. *JAMA* 2015

Sleep

- JAMA review identified 20 studies of chronic pain and MS that reported sleep as an outcome; most trials evaluated nabiximols
- Cannabinoids generally produced small improvements in sleep quality and reduced sleep disturbance

Adverse effects

- Immediate effects of cannabis:
 - Euphoria
 - Hallucination
 - Confusion
 - Somnolence
 - Dizziness and impaired motor coordination
 - Impaired short-term memory
 - Dry mouth
 - Tachycardia

Adverse effects

- Cannabis use disorder
- Risk of cannabis use disorder not established among users of medical cannabis
- Risk among recreational users:
 - 9% of all users¹
 - 17% of those who start using during adolescence²
 - 25 to 50% of daily users²

1. Lopez-Quintero C, et al. *Drug and Alcohol Dependence* 2011

2. Hall W, et al. *Lancet* 2009

Adverse effects

- Psychiatric disorders associated with the use of cannabis
 - Schizophrenia and other psychoses
 - Depression and suicidality
 - Anxiety
- Causality not established

Adverse effects

- Respiratory disease
 - Long-term cannabis smoking associated with worse respiratory symptoms and more frequent chronic bronchitis episodes
 - Unclear if occasional cannabis use associated with increased risk of COPD or lung cancer

Adverse effects

-Injury

- Increased risk of motor vehicle collision after cannabis use
- Unclear if cannabis use is associated with occupational injury, overdose injuries, or all-cause mortality

Public health impact

- States that have passed medical marijuana laws have experienced:
 - Increased prevalence of illicit cannabis use and cannabis use disorder¹
 - Increased unintentional marijuana ingestions by young children (Colorado)²
 - Decreased rates of opioid prescribing for Medicaid enrollees³
 - Decreased rates of opioid overdose mortality⁴

1. Hasin DS, et al. *JAMA Psychiatry* 2017

2. Wang GS, et al. *JAMA Pediatrics* 2013

3. Wen H, et al. *JAMA Internal Medicine* 2018

4. Bachhuber MA, et al. *JAMA Internal Medicine* 2014

Patient experiences

Patient experiences

Robert is a 54 year old man who you have seen in clinic for many years. He tells you that he has smoked cannabis recreationally for most of his life. He requests that you complete a Physician Certification form so that he can use cannabis legally. He says, “Look, I could give you some story about how I use marijuana for back pain, but I want to be up front with you.”

Patient experiences

Michelle is a 28 year old woman with a history of generalized anxiety disorder. She takes multiple medications to treat anxiety, but continues to have some symptoms. She tells you that she smokes cannabis on a regular basis, usually in the evenings, to help her relax and to improve her sleep. She requests that you complete a Physician Certification form.

Patient experiences

John is a 52 year old man and is a new patient to your clinic. He has a history of chronic widespread pain and spasticity due to a spinal cord injury. For many years he has taken Percocet and Valium to treat his pain, spasticity, and insomnia. He has been off of those medicines for 6 months, since his physician retired.

After some discussion, John is agreeable to trying new treatment strategies that do not involve controlled substances. Over the next few months he tries several medications, with limited success.

At a follow up visit, John tells you that he has started smoking cannabis, 1-2 puffs every morning and every evening. He finds that his pain is controlled and he is sleeping well. He requests that you complete a Physician Certification form.

Best practices

Best practices

THE JOURNAL OF
**FAMILY
PRACTICE**

Medical Marijuana: A Treatment Worth
Trying? 2016

Best practices

THE JOURNAL OF
**FAMILY
PRACTICE**

- Consider recommending medical marijuana for conditions with evidence supporting its use only after other treatment options have been exhausted

Best practices

THE JOURNAL OF
**FAMILY
PRACTICE**

- Consider recommending medical marijuana for conditions with evidence supporting its use only after other treatment options have been exhausted
- Thoroughly screen potential candidates for medical marijuana to rule out a history of substance abuse, mental illness, and other contraindications

Best practices



**FEDERATION OF
STATE MEDICAL BOARDS**

Model Guidelines for the
Recommendation of Marijuana in Patient
Care, 2016

Best practices



- Establish a patient-physician relationship
- Perform and document an in-person medical evaluation
- Maintain accurate and complete medical records
- Review the benefits and risks of marijuana
- Perform ongoing monitoring
- Do not have a financial relationship with cultivation facilities or dispensaries
- Do not use marijuana while practicing medicine

Summary

- Little evidence exists to guide the medical use of cannabis
- Evidence-supported uses do not correspond to legally qualifying diagnoses or patient expectations
- Cannabinoids may be beneficial in the treatment of
 - Chronic pain
 - Spasticity due to multiple sclerosis
 - Chemotherapy-induced nausea and vomiting
- There are important risks associated with cannabis use

Discussion

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