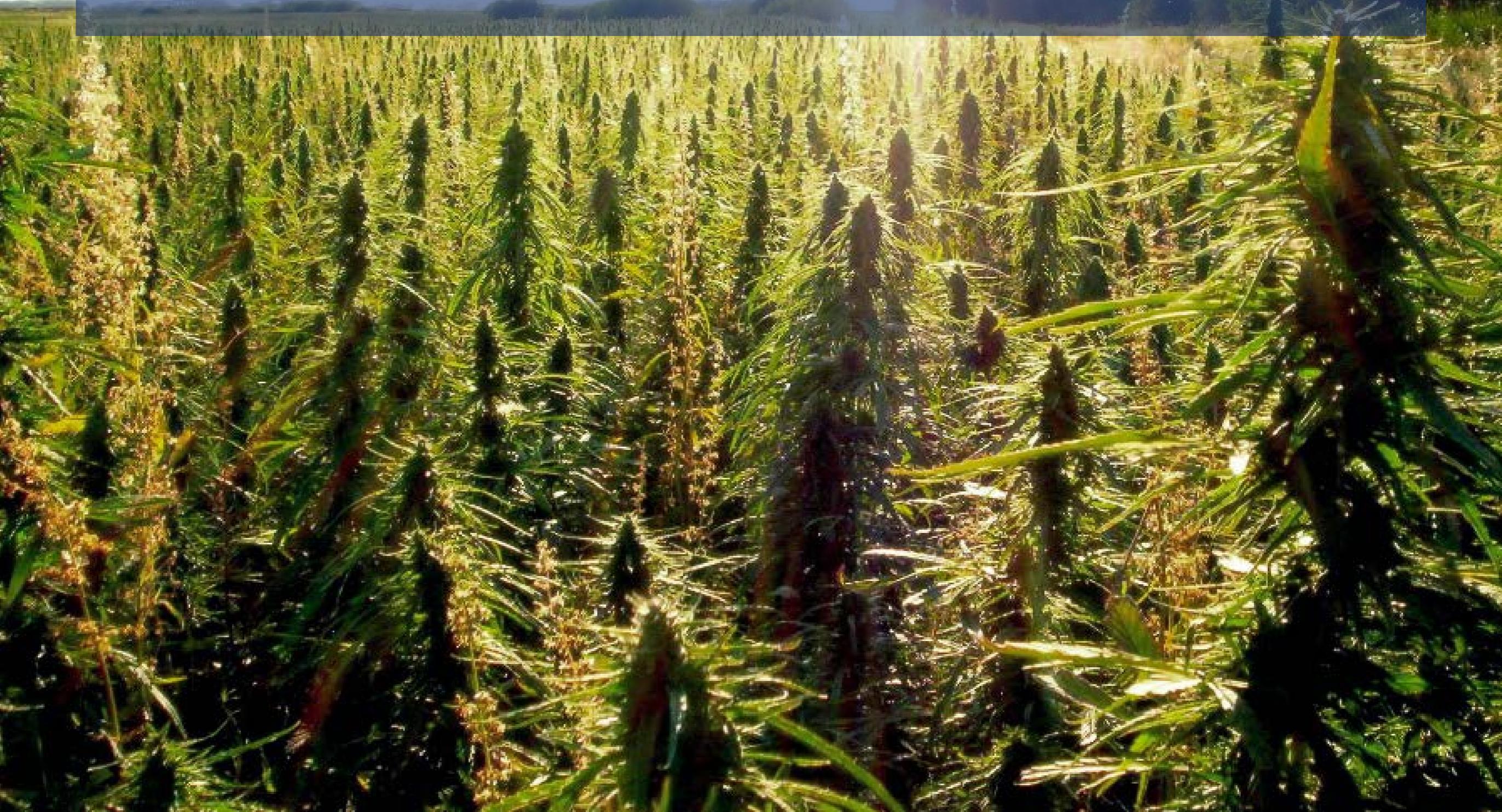


APMA 2019 THE NATIONAL

MEDICAL CANNABIS FOR PAIN MANAGEMENT



Disclosures

Wenjay Sung, DPM, FACFAS

The following relationships with commercial interests related to this presentation existed during the past 12 months:

NONE

AUDIENCE RESPONSE
SYSTEM
INSTRUCTIONS

WWW.POLLEV.COM/WENJAYSUNG

OR

TEXT WENJAYSUNG TO 37607

Have you ever tried Marijuana before (smoke, edible, oil, vapor, etc)?

Yes

No

No, but I
have a
prescription

The News

HEALTH AND SCIENCE

US lawmakers look to legalize pot in ‘historic’ marijuana reform hearing

PUBLISHED WED, JUL 10 2019 • 6:14 PM EDT | UPDATED THU, JUL 11 2019 • 9:54 AM EDT



Angelica LaVito
@ANGELICALAVITO

SHARE     

“The Marijuana Freedom and Opportunity Act removes marijuana from the list of scheduled substances under the 1970 Controlled Substances Act, allowing states to decide how to handle marijuana possession”

New JAMA study shows legalizing pot might discourage teen use

PUBLISHED MON, JUL 8 2019 • 11:00 AM EDT | UPDATED MON, JUL 8 2019 • 11:47 AM EDT



Angelica LaVito
@ANGELICALAVITO

SHARE



NEWS

Great-Grandmother Arrested for Bringing CBD Oil to Disney World

by **Summer Hull**

May 8th, 2019



27



Medical laws/measures approved by year

Retail/Adult use approval years



Genus: Cannabaceae



Cannabis sativa



Cannabis indica



Cannabis ruderalis



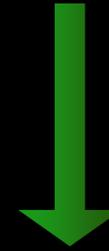
Dioecious, Flowering Herb



Male



Female



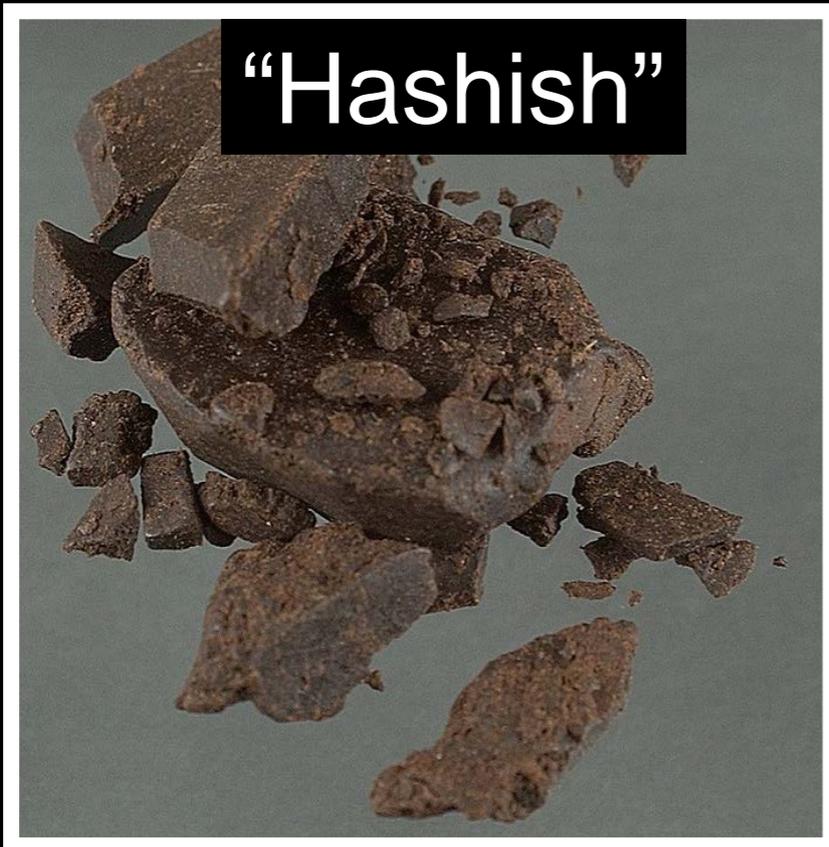
Hemp

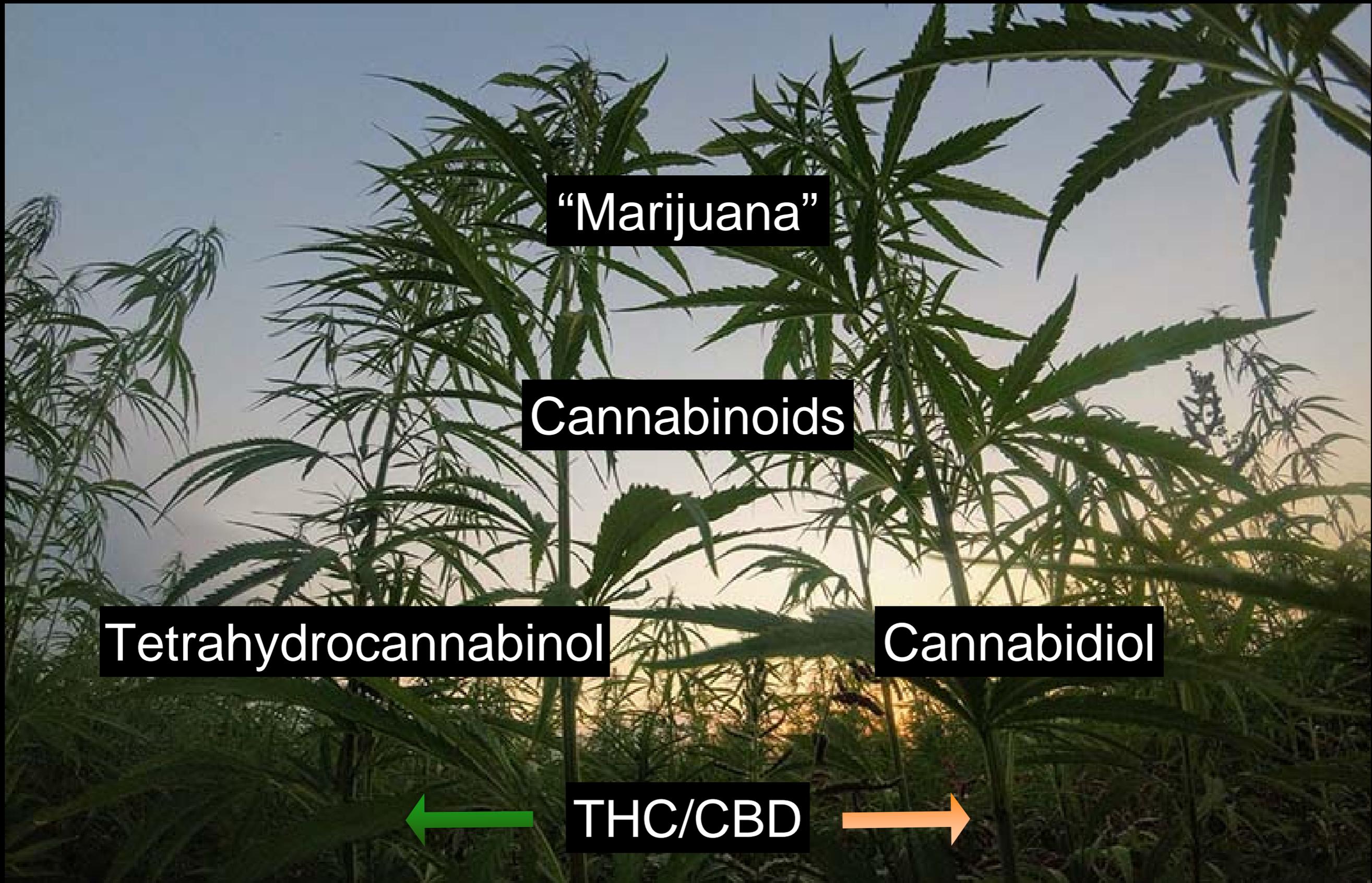


Resin



Flower Buds





“Marijuana”

Cannabinoids

Tetrahydrocannabinol

Cannabidiol



THC/CBD



At least **500** other active chemicals in marijuana



Act on cannabinoid receptors in cells that repress neurotransmitter release in the brain (CNS)

Gets you “HIGH”



WHAT IS CANNABIDIOL

Act on cannabinoid receptors in cells that repress neurotransmitter release in the brain (CNS)

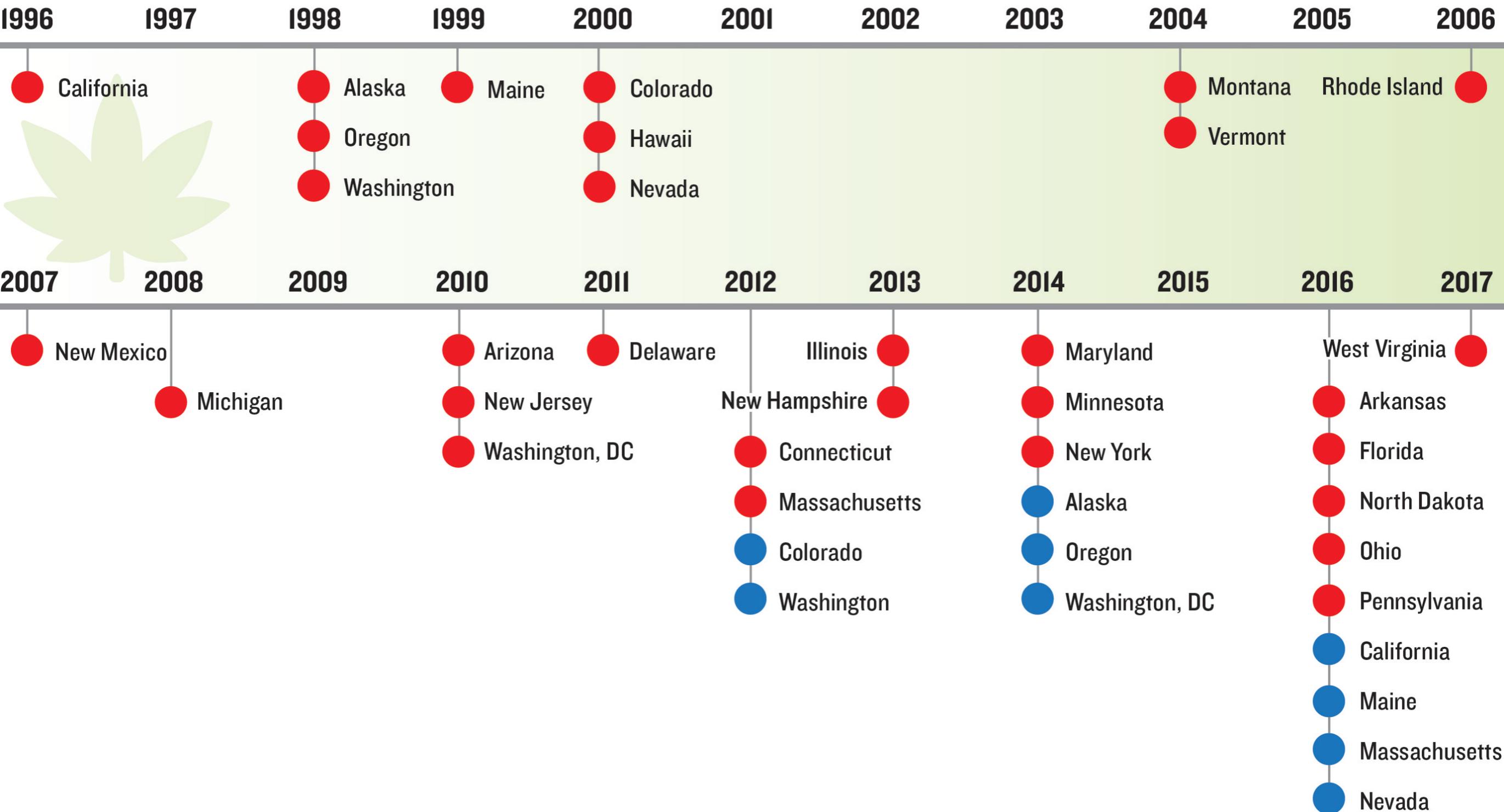
Does NOT get you “**HIGH**”





In 1970, Congress and the Nixon Administration determined that Cannabis and its derivatives are dangerous drugs and that illegal distribution and sale is a serious crime

Timeline of State Marijuana Legalization Laws



Doctor's Recommendation



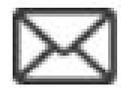
Podiatrist Role?



Clarifying The Role Of Podiatric Physicians In Prescribing Medical Marijuana

July 20, 2016

By Patrick DeHeer DPM FACFAS



- “We must clarify the role of podiatric physicians in prescribing medical marijuana and include our role in the definition of the prescribing ‘physician’.”
- “We must challenge state laws regarding medical marijuana, much like the scope of practice issues past and present.”



Why does it matter?





- “The inability to obtain a license to prescribe medical marijuana denies or at a minimum inconveniences our patients for whom medical marijuana is a legitimate and indicated therapeutic option.”

- “This restraint will increasingly disadvantageously position the DPM in the medical market place as an alternative care provider, thus driving down patient numbers.”



Scope of Practice



What does the Evidence say?

Medical Marijuana for Treatment of Chronic Pain and Other Medical and Psychiatric Problems

A Clinical Review

Kevin P. Hill, MD, MHS^{1,2}

[+] Author Affiliations

JAMA. 2015;313(24):2474-2483. doi:10.1001/jama.2015.6199.

Systematic review: Efficacy and safety of medical marijuana in selected neurologic disorders

Development Subcommittee of the American Academy of

M. Brust, MD, FAAN, Terry Eise, MD, FAAN, Jeff Branstetter, MD, PhD

PMCID: PMC3037578

NIHMSID: NIHMS266295

Pediatric Marijuana Exposures in a Medical Marijuana State

FREE

George Sam Wang, MD¹; Genie Rooser

[+] Author Affiliations

JAMA Pediatr. 2013;167(7):630-633. doi:

J Addict Med. Author manuscript; available in PMC 2012 Mar 1.

Published in final edited form as:

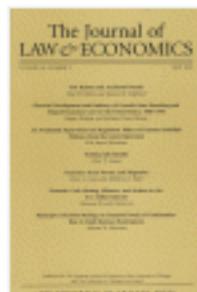
J Addict Med. 2011 Mar 1; 5(1): 1-8.

doi: [10.1097/ADM.0b013e31820c23fa](https://doi.org/10.1097/ADM.0b013e31820c23fa)

An Evidence Based Review of Acute and Long-Term Effects of Cannabis Use on Executive Cognitive Functions

Barbara J. Mason, Ph.D.^{1,8}

[The Journal of Law & Economics](#) > [Vol. 56, No. 2, May 2013](#) > [Medical Marijuana La...](#)



Medical Marijuana Laws, Traffic Fatalities, and Alcohol Consumption

D. Mark Anderson, Benjamin Hanlon
The Journal of Law & Economics
Vol. 56, No. 2 (May 2013), pp. 3-12

Published by: [University of Chicago](#)
[Chicago](#) and [University of Chicago](#)
DOI: 10.1086/668812
Stable URL: <http://www.jstor.org>
Page Count: 37

Marijuana to prevent nausea and vomiting in cancer patients: a survey of clinical oncologists.
(PMID:9042166)

Abstract Citations BioEntities Related Articles External Links

[Schwartz RH](#), [Voth EA](#), [Sheridan MJ](#)

Department of Pediatrics, University of Virginia School of Medicine, Charlottesville, USA.

[Southern Medical Journal](#) [1997, 90(2):167-172]

Type: Journal Article

Medical Marijuana and the Diabetic Foot

Cannabis prescriptions may be on the horizon.

BY WENJAY SUNG, DPM



Go read it

Randomized Placebo-Controlled Double-Blind Clinical Trial of Cannabis-Based Medicinal Product (Sativex) in Painful Diabetic Neuropathy

Depression is a major confounding factor

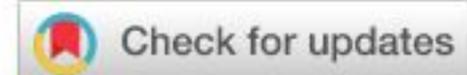
Dinesh Selvarajah, MRCP, MBCHB, Rajiv Gandhi, MRCP, MBCHB, Celia J. Emery, PHD and Solomon Tesfaye, FRCP, MD

 Author Affiliations

Corresponding author: Dinesh Selvarajah, dinesh.selvarajah@gmail.com.

Diabetes Care 2010 Jan; 33(1): 128-130.

<https://doi.org/10.2337/dc09-1029>



The journal of pain : official journal of the American
Pain Society

Author Manuscript

HHS Public Access

Efficacy of Inhaled Cannabis on Painful Diabetic Neuropathy

Mark S. Wallace, MD, Thomas D. Marcotte, PhD, [...], and J.H. Atkinson, MD

Original Investigation

FREE

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](#)

JAMA. 2015;313(24):2456-2473. doi:10.1001/jama.2015.6358

Systematic review of 28
databases

79 trials

Nausea

Appetite Stimulation

6462 patients

Chronic pain

Spasticity

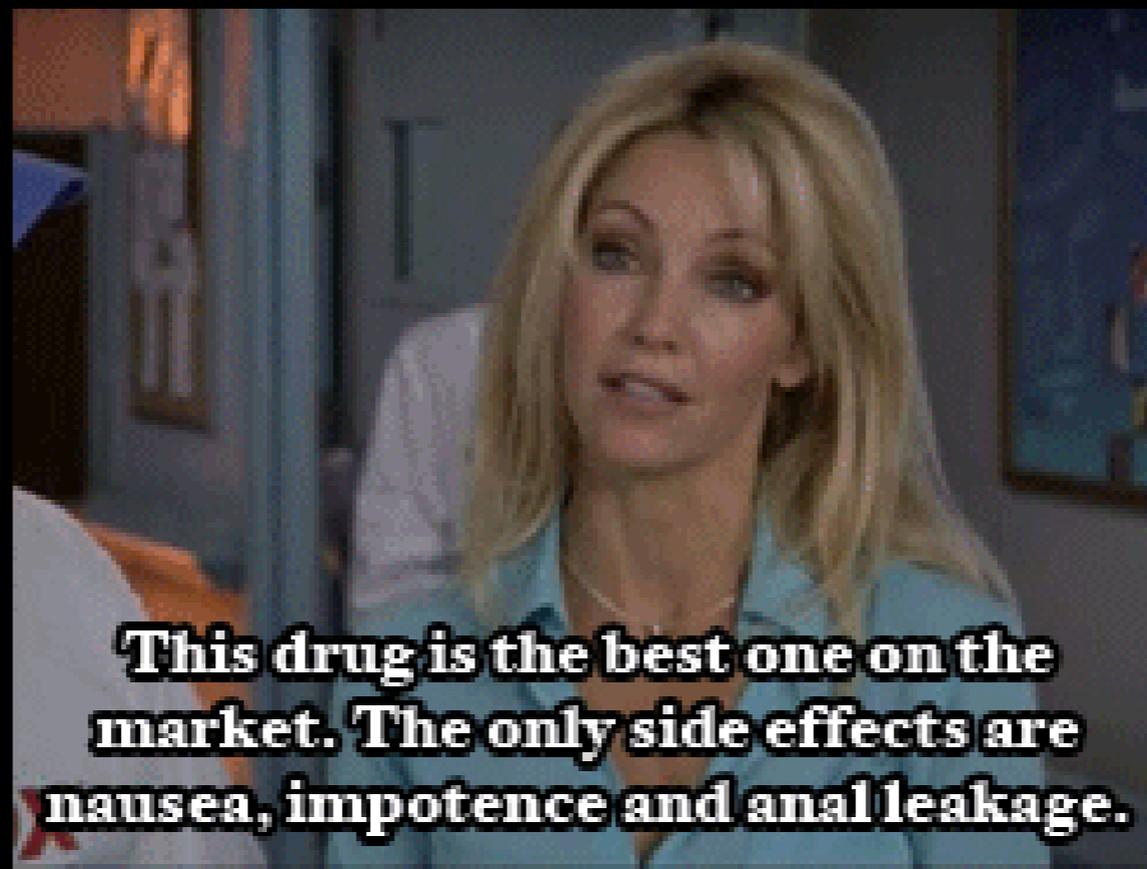
Depression

Glaucoma

Tourette's Syndrome

Significant increased risk for Adverse Effects

Marijuana has **moderate-evidence** to support treatment of chronic pain and spasticity; **low evidence** to support treatment of nausea; but has significant levels of **increased risks** for adverse effects



This drug is the best one on the market. The only side effects are nausea, impotence and anal leakage.

January 2017



The National Academies of
SCIENCES • ENGINEERING • MEDICINE

REPORT

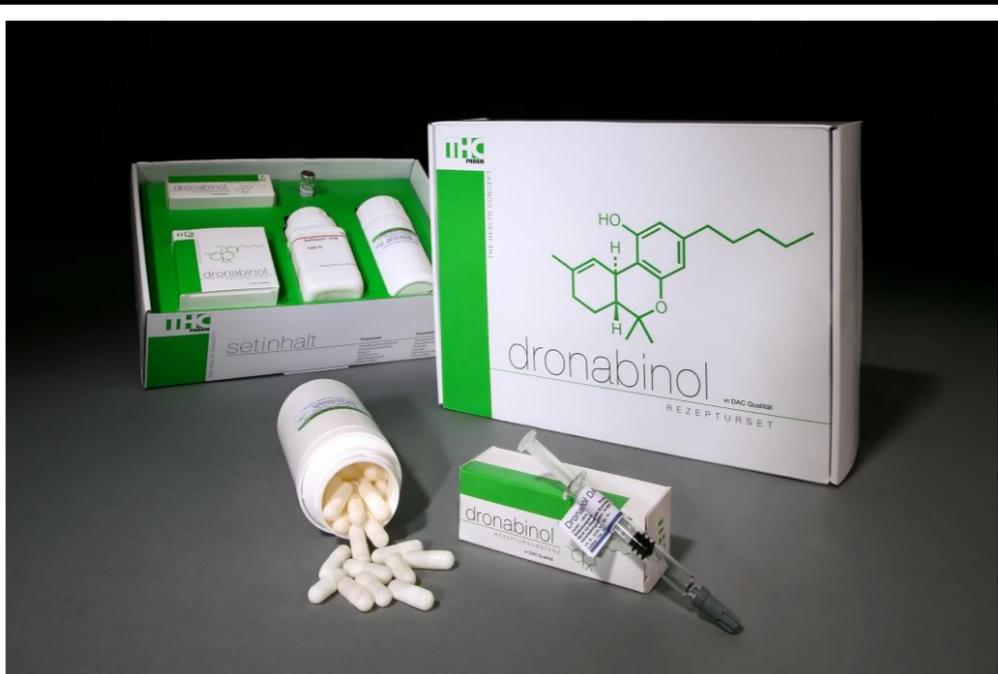
The Health Effects of Cannabis and Cannabinoids

THE CURRENT STATE OF EVIDENCE AND
RECOMMENDATIONS FOR RESEARCH

- Conclusive evidence that cannabinoids can be effective for chronic pain
- However, limited evidence suggest mild anti-inflammatory activity for regular exposure to cannabis smoke



Marinol (dronabinol) and Cesamet (nabilone)



Effective for pain management

Effective for nausea



Slower onset

Mild side effects

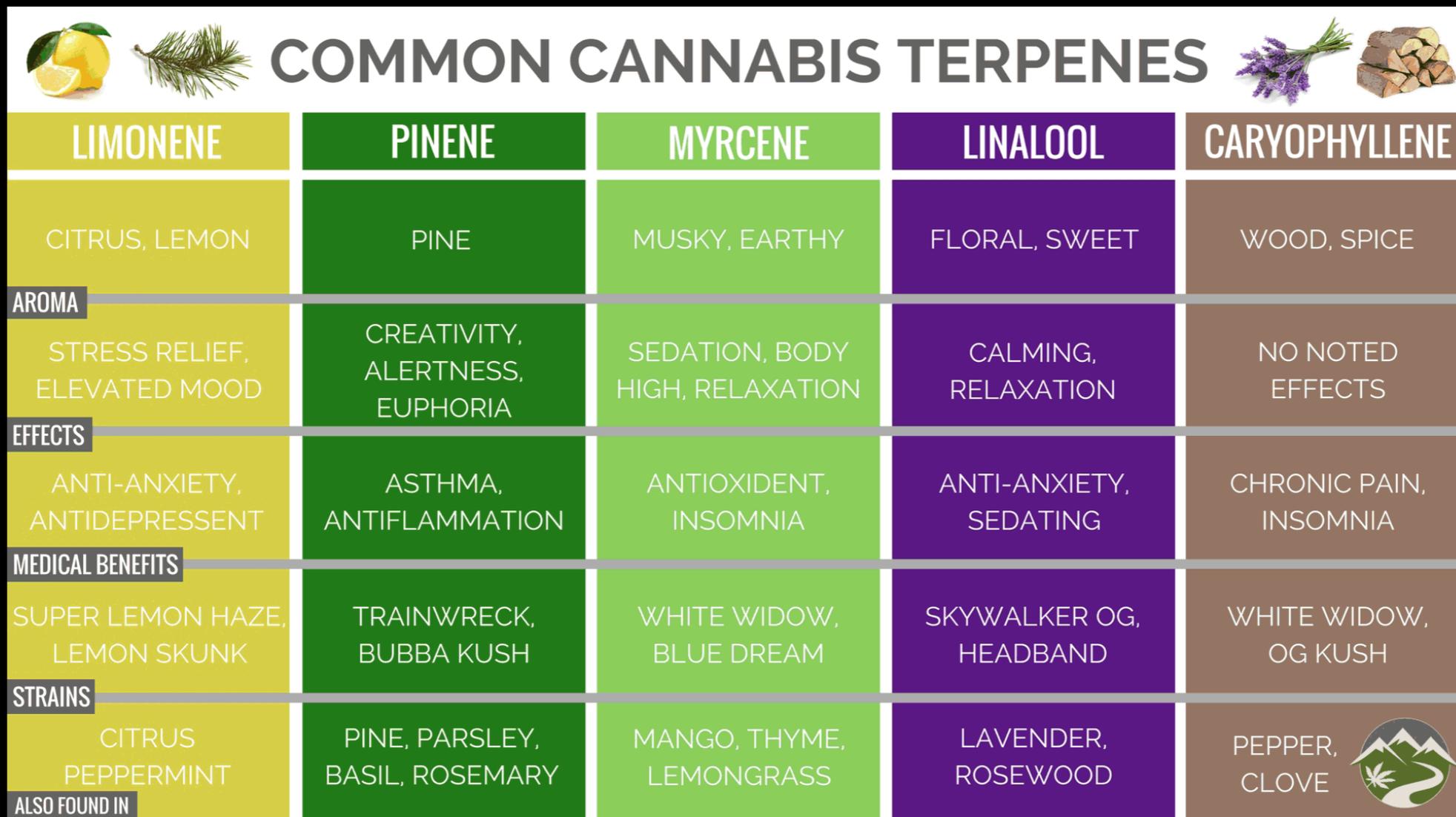


- A cannabis-based pharmaceutical product containing delta 9-tetrahydrocannabinol (THC) and cannabidiol (CBD) in a 1:1 ratio, delivered in an oromucosal (mouth) spray.



- It has been approved in Europe as adjunctive treatment for neuropathic pain in patients with multiple sclerosis (MS).

- Sativex also contains many [terpenes](#), the chemicals that give each strain of [cannabis](#) its unique smell and flavor profile. Different terpenes are associated with different flavor notes such as fruit, nut, pine, wood, and citrus.



COMMON CANNABIS TERPENES				
LIMONENE	PINENE	MYRCENE	LINALOOL	CARYOPHYLLENE
CITRUS, LEMON	PINE	MUSKY, EARTHY	FLORAL, SWEET	WOOD, SPICE
AROMA				
STRESS RELIEF, ELEVATED MOOD	CREATIVITY, ALERTNESS, EUPHORIA	SEDATION, BODY HIGH, RELAXATION	CALMING, RELAXATION	NO NOTED EFFECTS
EFFECTS				
ANTI-ANXIETY, ANTIDEPRESSANT	ASTHMA, ANTIFLAMMATION	ANTIOXIDANT, INSOMNIA	ANTI-ANXIETY, SEDATING	CHRONIC PAIN, INSOMNIA
MEDICAL BENEFITS				
SUPER LEMON HAZE, LEMON SKUNK	TRAINWRECK, BUBBA KUSH	WHITE WIDOW, BLUE DREAM	SKYWALKER OG, HEADBAND	WHITE WIDOW, OG KUSH
STRAINS				
CITRUS PEPPERMINT	PINE, PARSLEY, BASIL, ROSEMARY	MANGO, THYME, LEMONGRASS	LAVENDER, ROSEWOOD	PEPPER, CLOVE
ALSO FOUND IN				

- These terpenes are also thought to enhance the medical benefits of THC and CBD through [“the entourage effect.”](#)

Original Articles

Cannabis and Cannabis Extracts

Greater Than the Sum of Their Parts?

John M. McPartland DO, MS & Ethan B. Russo MD

Pages 103-132 | Published online: 20 Oct 2008

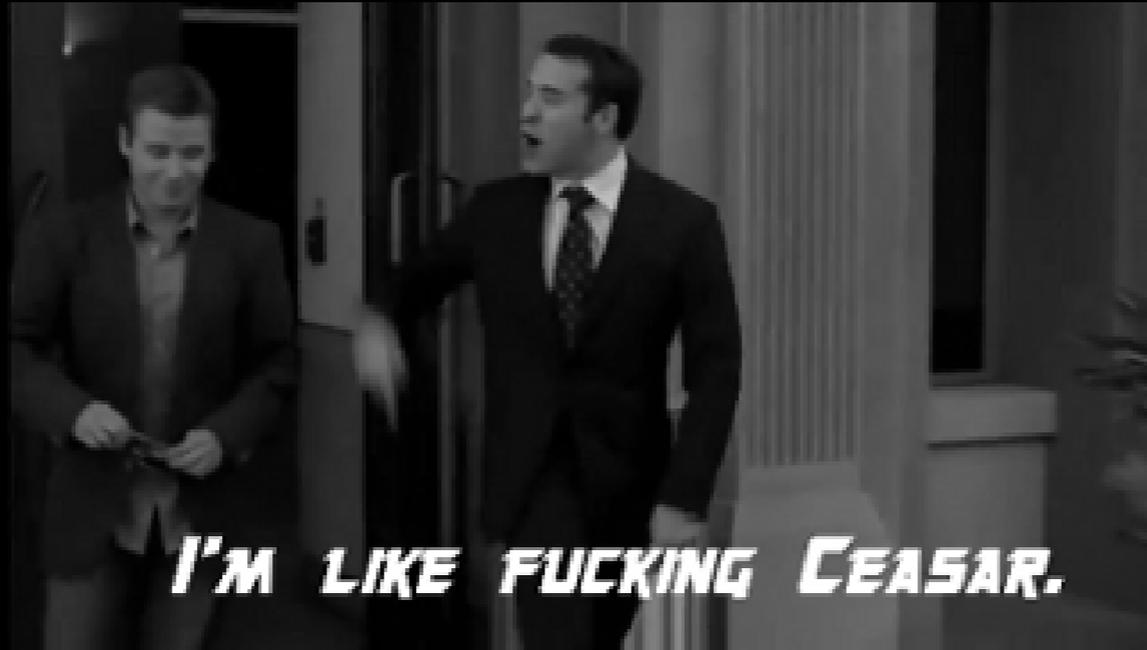
📄 Download citation [🔗 https://doi.org/10.1300/J175v01n03_08](https://doi.org/10.1300/J175v01n03_08)

📖 References 🗨 Citations 📊 Metrics 🖨 Reprints & Permissions

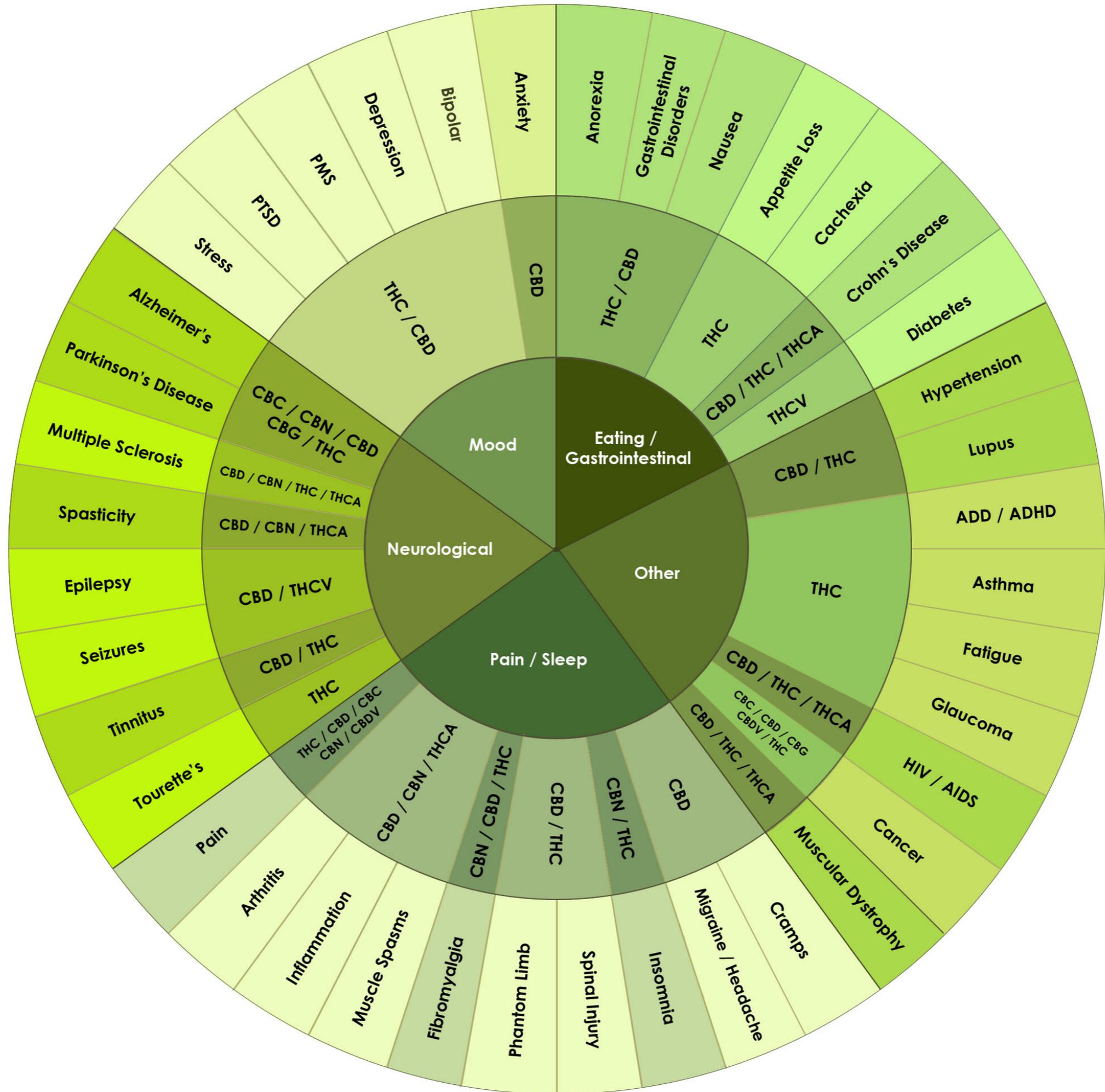
Get access



- Secondary compounds in cannabis may enhance the beneficial effects of THC.



- Other cannabinoid and non-cannabinoid compounds in herbal cannabis or its extracts may **reduce** THC-induced anxiety, cholinergic deficits, and immunosuppression.
- Cannabis **terpenoids** and **flavonoids** may also increase cerebral blood flow, enhance cortical activity, kill respiratory pathogens, and provide anti-inflammatory activity.



Real Risks

There may be a link between regular cannabis use and psychotic episodes, a new study shows

BI
DE

Pembe Bilir and Ruqayyah Moynihan, Business Insider Deutschland Apr. 25, 2019, 11:05 AM

High dose? Low dose? CBD? THC? Optimizing one's therapeutic use of cannabis may take some experimentation.

BY MARTIN A. LEE ON MAY 16, 2018 (UPDATED ON APRIL 1, 2019)

11-Hydroxy-THC

- 11-OH-THC does NOT naturally exist in the cannabis plant, but is formed within the human body after ingestion of THC in the liver
- After taking cannabis orally, the average levels of 11-OH-THC vary from 25% of THC to **more than 300%** of THC levels



When you eat edibles the THC is processed by your liver and your body produces something called 11-Hydroxy-Metabolite and it's five times more psychoactive than THC





CBD OIL

The Farm Bill, hemp legalization and the status of CBD: An explainer

John Hudak - Friday, December 14, 2018

- 2018 Farm Bill removed hemp — defined as cannabis and cannabis derivatives with very low concentrations (no more than 0.3% on a dry weight basis) of THC — from the definition of marijuana in the Controlled Substances Act.
- This cleared the way for CBD to be more widespread and accepted

"It really is the Wild West. Joe Bob who starts up a CBD company could say whatever the hell he wants on a label and sell it to people."

Dr. Marcel Bonn-Miller
University of Pennsylvania School of Medicine.



November 7, 2017

Labeling Accuracy of Cannabidiol Extracts Sold Online

Marcel O. Bonn-Miller, PhD¹; Mallory J. E. Loflin, PhD²; Brian F. Thomas, PhD³; [et al](#)

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

JAMA. 2017;318(17):1708-1709. doi:10.1001/jama.2017.11909

Nearly 7 out of 10 products did NOT contain level of marijuana extract advertised

Over 40% contained too **little** CBD to be effective

Over 26% contained too **much** CBD

1 in 5 contained **THC**

What is a Cannabis Certificate of Analysis (CoA)?

July stands to be an interesting month for the California cannabis market. Updates to the existing regulations, stricter testing requirements, and mandatory child-resistant packaging specifications all come into play this summer. As outlined in the regulations, all products must be tested by a **state-licensed lab** and be accompanied by a Certificate of Analysis (CoA). With an expected bottleneck at labs this summer, it's important for distributors and retail purchasing departments to have heightened awareness of what an official state validated CoA looks like. Hint: it's all in the fine print!

Medical Cannabis Certificate of Analysis					
Customer Name:	[REDACTED]	Intake Date: 06-Feb-13	Potency Analysis Expiration Date:	4/10/2013	
Customer Sample ID:	[REDACTED]	Report Date: 9-Feb-13			
Sample ID (Lot #):	[REDACTED]	Intake Weight: 1.259 g			
Strain Name: Otto		Moisture Content: 08.58 %			Notes:
Sample Type: Flower					
Tests Ordered: 3CANN-DEHYDRATION		Batch #: [REDACTED]			
Potency And Cannabinoid Analysis					
Δ9 Tetrahydrocannabinol Result:	12.64 ug/ml	00.96%	09.47%	00.00%	
Cannabidiol Result:	125.27 ug/ml				
Cannabinol Result:	0.00 ug/ml				
Relative Cannabinoid Ratios		Total THC % BY DRY WEIGHT	Total CBD % BY DRY WEIGHT	Total CBN % BY DRY WEIGHT	
<p>130206H010</p> <p>THC 0.09</p> <p>CBN 0.00</p> <p>CBD</p>					
<p>This chart represents the ratio between the cannabinoids in sample #130206H010. The total cannabinoid content is always 100% in this chart. Each wedge is a representation of each cannabinoid's contribution to that total.</p>		This Sample THC % By Dry Weight	Average THC % In Last 500 Flower Tests .		

YOUR HEALTH

Anxiety Relief Without The High? New Studies On CBD, A Cannabis Extract

April 23, 2018 · 4:59 AM ET

Heard on [Morning Edition](#)



ALLISON AUBREY



Limited research on long-term effects

FDA Tells CBD Companies: Stop Making 'Unfounded' Claims about CBD Products

The agency sent warning letters to companies it said was making unsubstantiated claims about the benefits of CBD.

By Claire Hansen, Staff Writer April 3, 2019, at 12:19 p.m.



"Weed is bad for you"

Me:



@TheHighSociety.TV



PHOTO ILLUSTRATION BY THE DAILY BEAST



DOPE MEDICINE



The FDA Just Approved a Marijuana-Based Epilepsy Drug



Epidiolex uses cannabidiol to treat two types of severe epilepsy. The problem? It's still considered a Schedule I drug.



NICOLE WETSMAN 06.28.18 4:54 AM ET

What You Need to Know (And What We're Working to Find Out) About Products Containing Cannabis or Cannabis-derived Compounds, Including CBD

Subscribe to Email Updates

Share

Tweet

LinkedIn

Email

Print

Window Skip

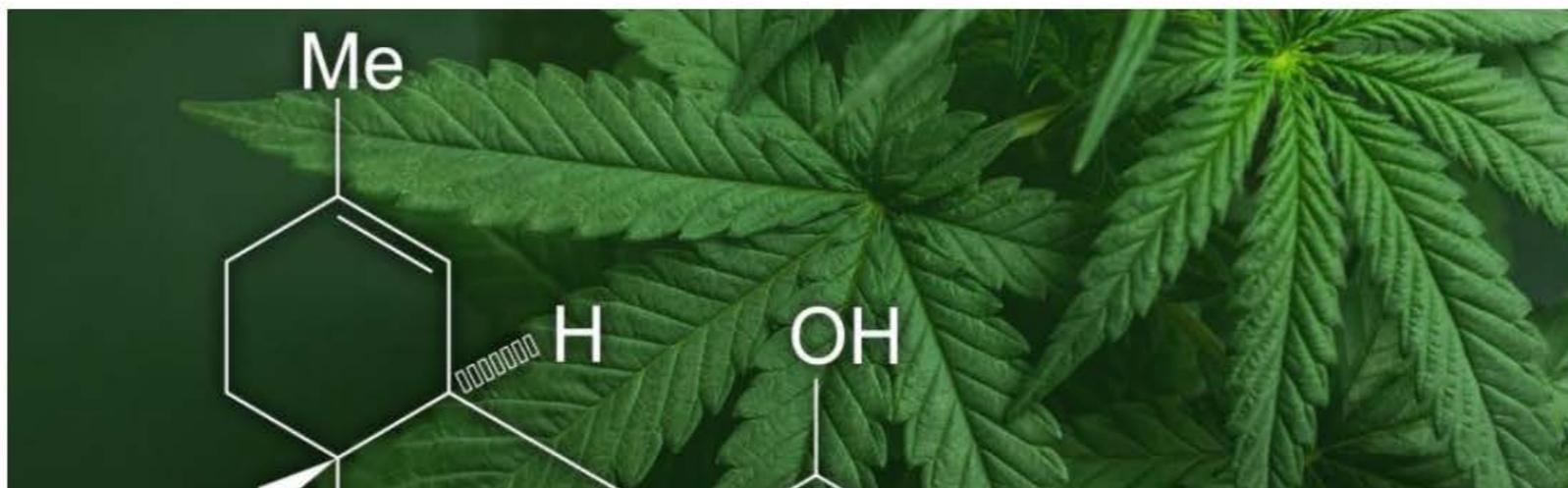
Consumer Updates

Animal & Veterinary

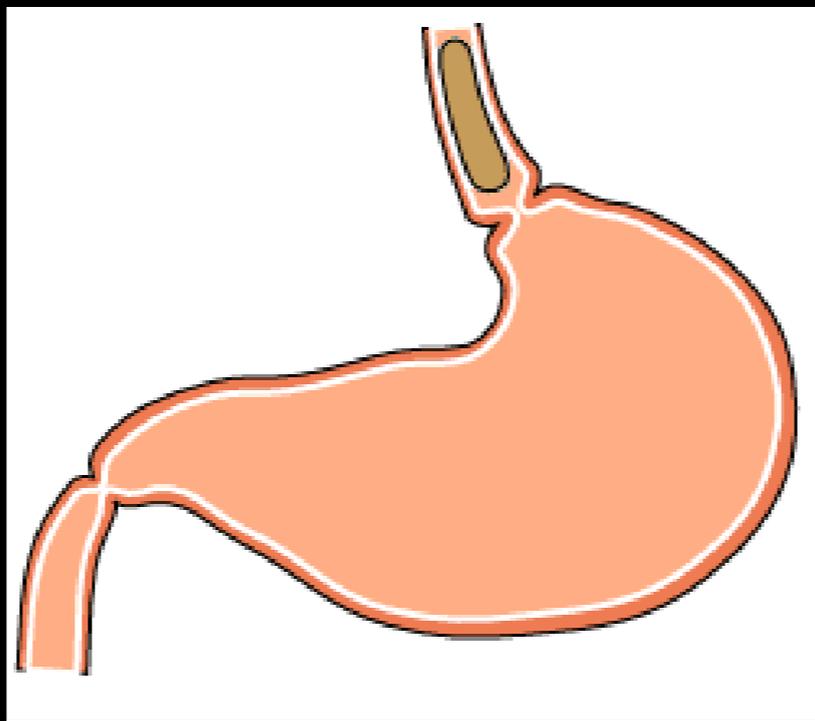
Children's Health

Cosmetics

Dietary Supplements



Content current as of:
06/19/2019



- The effects CBD could cause in the body, such as toxicity to the **liver**, when someone ingests CBD regularly over a long period of time.

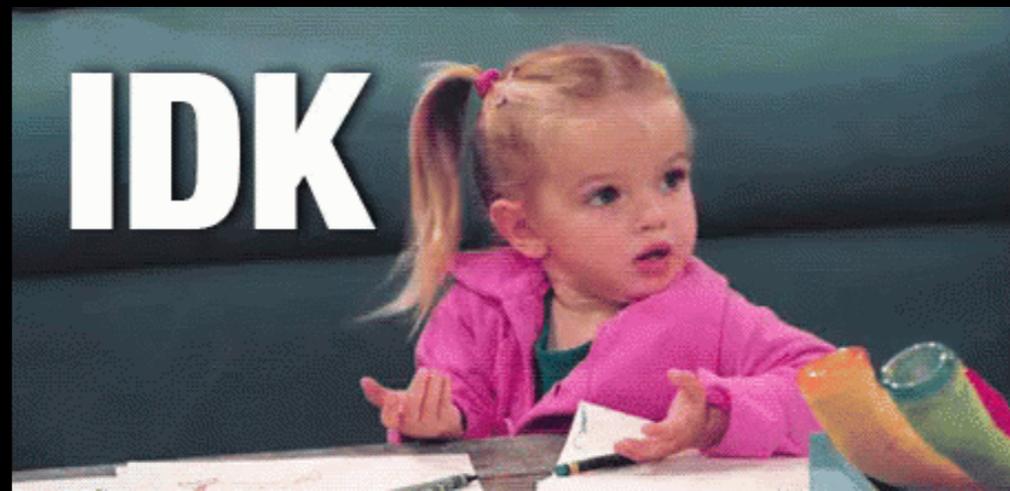


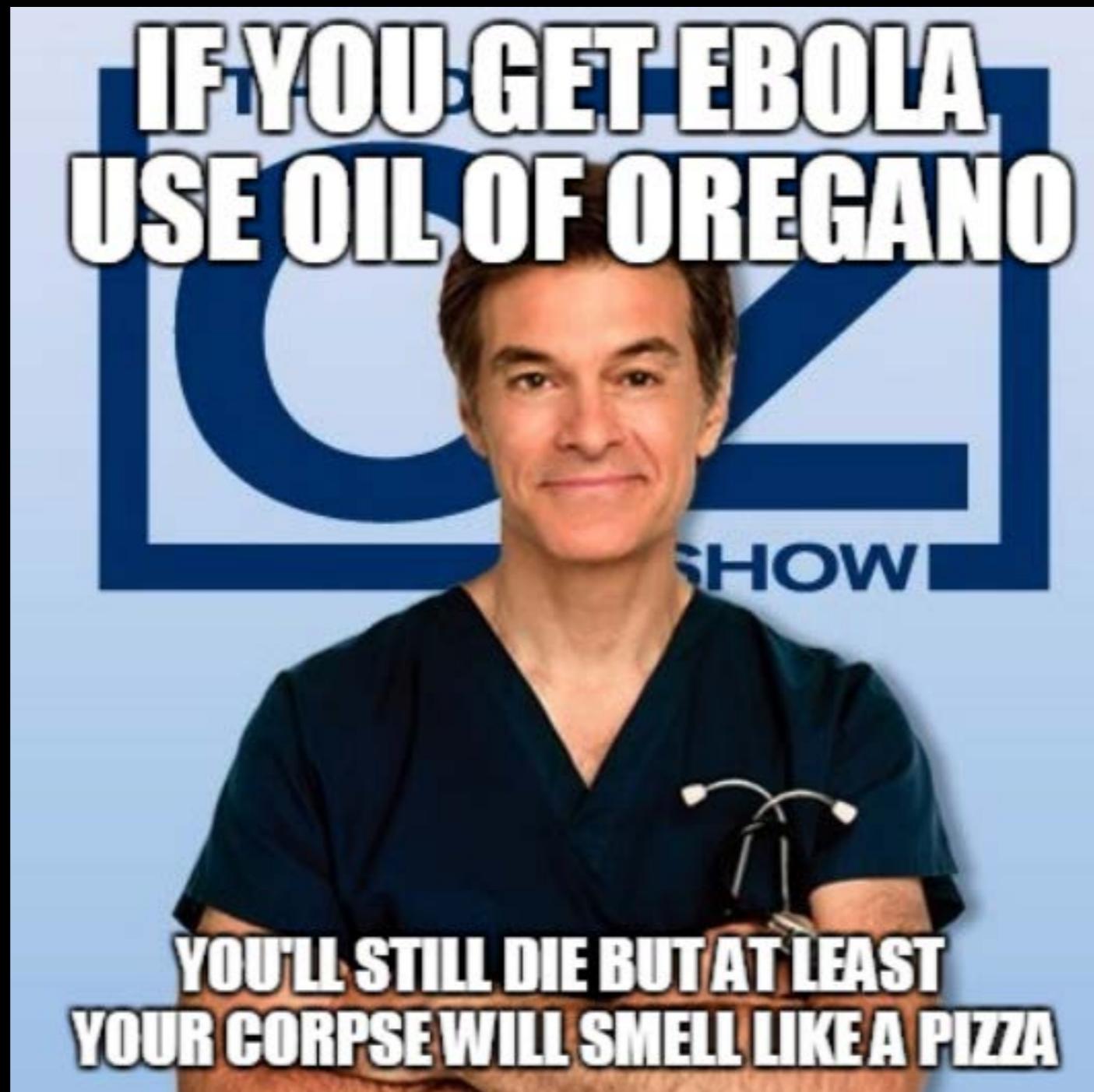


- During its review of the marketing application for [Epidiolex](#) — a purified form of CBD that the FDA approved in 2018 for use in the treatment of certain seizure disorders — the FDA identified certain safety risks, including the potential for **liver** injury.

Unproven Marketing Claims for CBD

- There has been no FDA evaluation regarding whether over-the-counter CBD products are safe and effective to treat a particular disease,
- what the proper dosage is?
- how they could interact with other drugs or foods?
- whether they have dangerous side effects or other safety concerns.

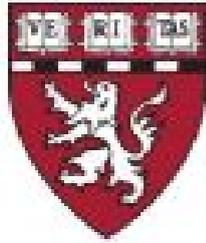




- The agency has warned companies selling CBD products they claim are intended to prevent, diagnose, treat, or cure serious diseases such as cancer, Alzheimer's disease, psychiatric disorders and diabetes.



- Some cannabis products are also being marketed as pet food and health products for animals. The FDA has NOT approved cannabis for any use in animals and recommends pet owners talk with their veterinarians about appropriate treatment options for their pets.



Harvard Health Publishing
HARVARD MEDICAL SCHOOL

Trusted advice for a healthier life

Pay M

HEART
HEALTH

MIND &
MOOD

PAIN

STAYING
HEALTHY

CANCER

DISEASE
COND

[Home](#) » [Harvard Health Blog](#) » [Cannabidiol \(CBD\) — what we know and what we don't - Harvard Health Blog](#)

Cannabidiol (CBD) — what we know and what we don't

POSTED AUGUST 24, 2018, 6:30 AM , UPDATED JUNE 05, 2019, 12:31 PM



[Peter Grinspoon, MD](#)

Contributing Editor

Using CBD Oil for Pain Management: Does It Work?



Medically reviewed by
Debra Rose Wilson, PhD,
MSN, RN, IBCLC, AHN-BC,
CHT on October 9, 2017 —
Written by Kristeen Cherney

[Chronic pain relief](#) | [Arthritis pain relief](#) | [Cancer treatment](#) | [Side effects](#) |

[Further research](#)

ADVERTISEMENT

- The review looked at studies conducted between the late 1980s and 2007.
- Based on these reviews, researchers concluded CBD was effective in overall pain management without adverse side effects.
- They also noted that CBD was beneficial in treating [insomnia](#) related to chronic pain.

Original Article

Transdermal cannabidiol reduces inflammation and pain-related behaviours in a rat model of arthritis

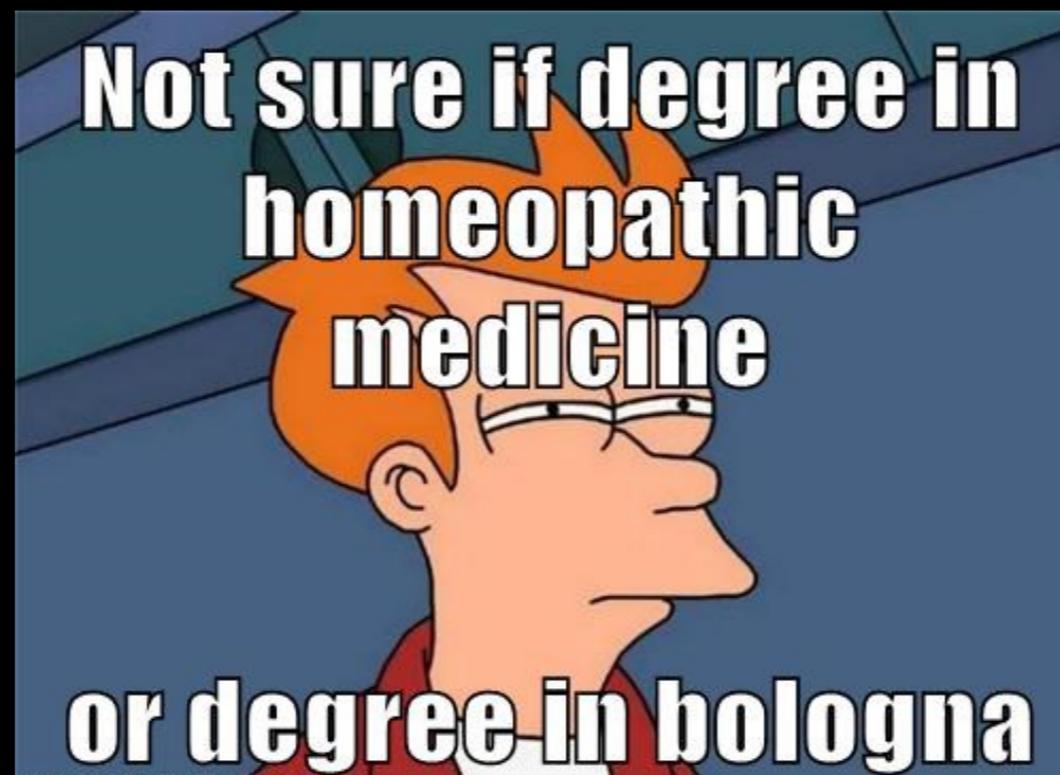
D.C. Hammell, L.P. Zhang, F. Ma, S.M. Abshire, S.L. McIlwrath, A.L. Stinchcomb, K.N. Westlund ✉

First published: 30 October 2015 | <https://doi.org/10.1002/ejp.818> | Cited by: 18

- The researchers noted reduced inflammation and overall pain in the rats' affected joints **without** side effects.
- The anti-inflammatory and pain-relieving effects of the CBD gel could hold promise for people with arthritis.
- However, more human studies are needed.

CBD for Cancer?

- **No** ongoing studies of *Cannabis* as a treatment for cancer in people maintained by the [National Institutes of Health](#).
- Small studies have been done but suggest a need for larger studies.
- Cannabidiol (CBD) taken by mouth to treat solid tumors that have recurred showed **NO** significant difference



CBD for Cancer Pain?

- Most human studies have involved research into the role of CBD oil in managing pain related to cancer and cancer treatment.

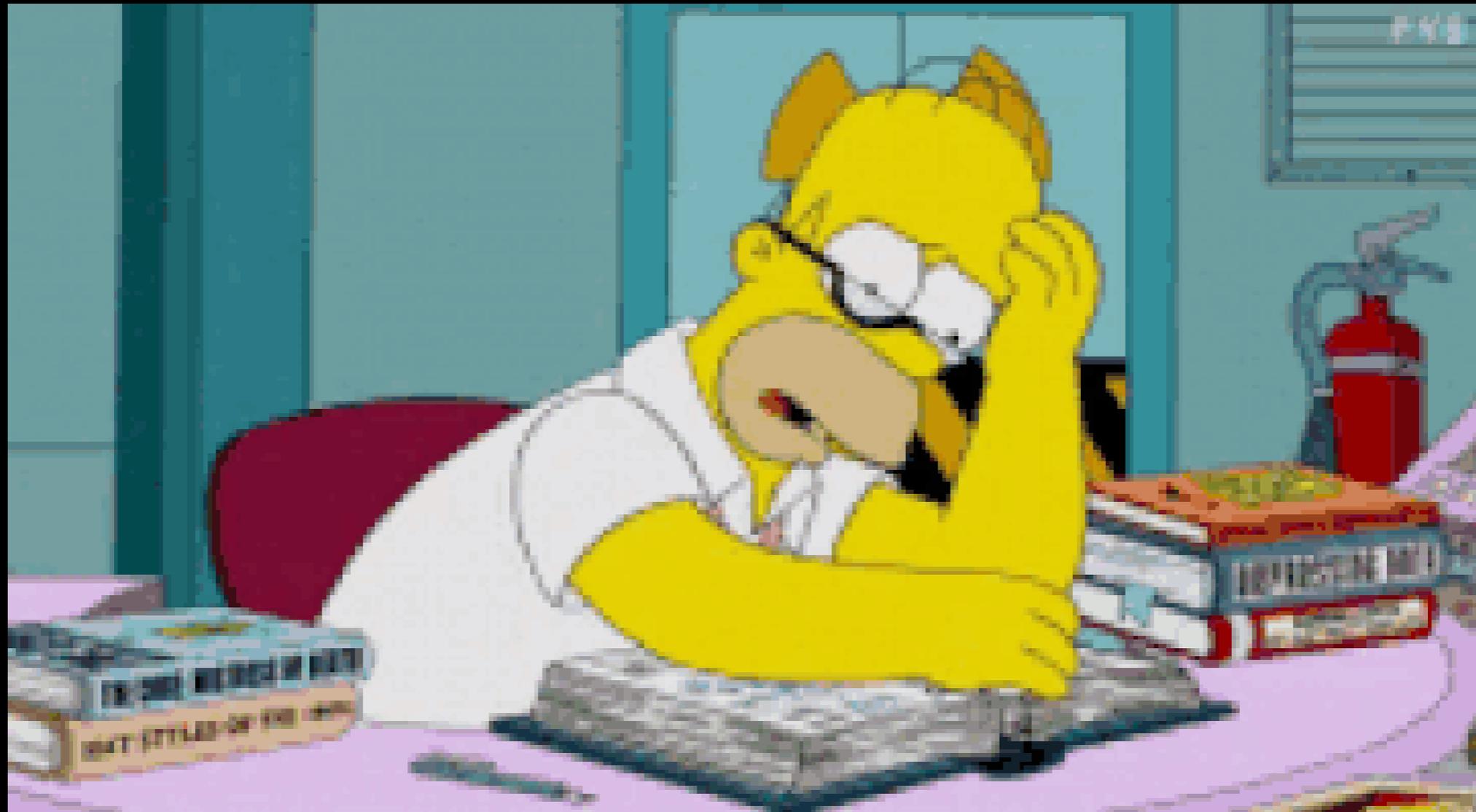


- The [National Cancer Institute \(NCI\) Trusted Source](#) has pointed to CBD (Sativex) as a possible option for relieving symptoms caused by chemotherapy.



- NCI tested CBD oil extracts sprayed into the mouth. **The CBD oil was used in conjunction with opioids.** This study revealed better pain management with the help of CBD oil.

More Studies Needed



How likely are you to try or likely to recommend Marijuana and/ or it's extracts (THC/CBD)?

Highly likely

Likely

Somewhat
likely

Not likely

Depends on
Trump

Take Home



THANK YOU

Wenjay Sung

Facebook: FootAnkleFellowship

Twitter: @JaySung

LinkedIn: WenjaySung

Instagram: WholsJaySung

