Medicinal Cannabis & Parkinson Disease

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DISCLOSURES

I have no actual or potential conflicts of interest in relation to this presentation

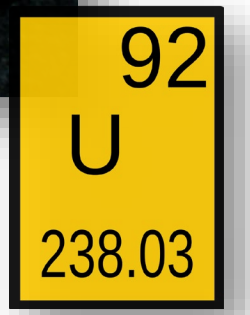
I will be discussing "off-label" uses of the following medications:

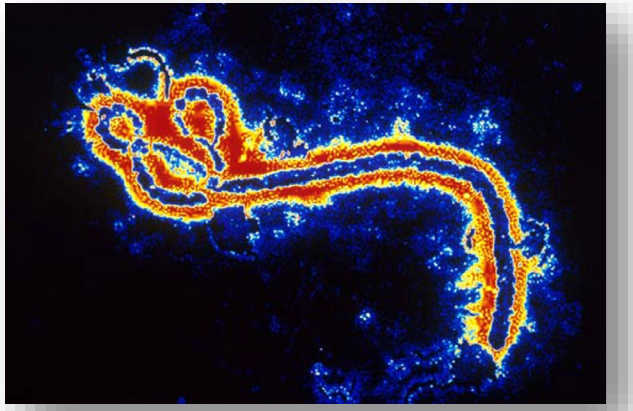
- Dronabinol (Marinol)
- Nabixmols (Sativex)
- Nabilone (Cesamet)

DISCLAIMER & PSA … FOR PATIENTS

Cannabis = "Natural"

"Natural" = Better or Benign





Prescription medication have more Scientific Evidence, Regulations and Quality Control than Medicinal Cannabis

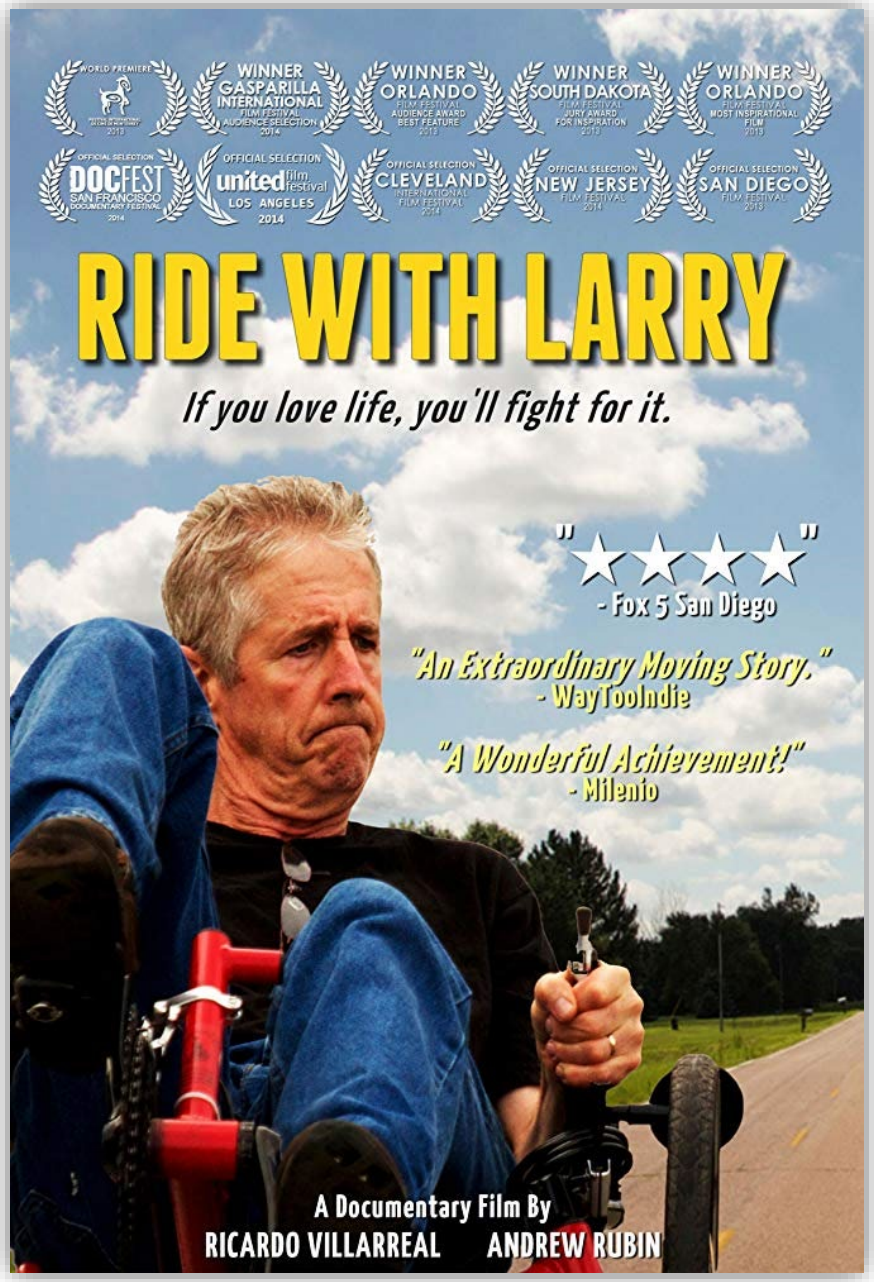
Disclaimer & PSA … For Doctors

Patients asking about medicinal cannabis …

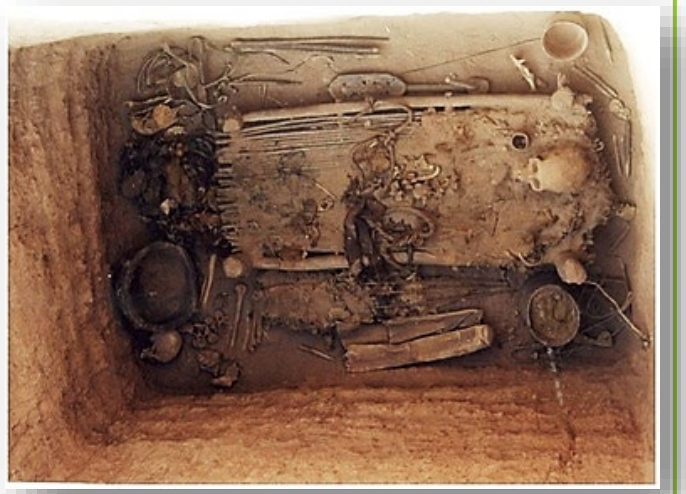
- are NOT (generally) trying to get high or avoiding treatment
- may be implying that they
  - are experiencing or are concerned about side-effects
  - need counseling, education and engagement
  - have an unaddressed or unmet need

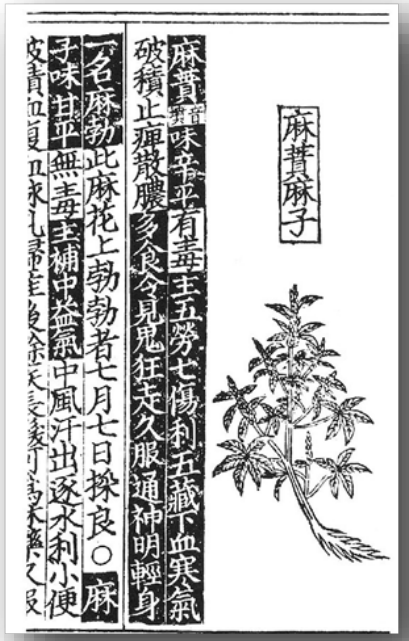
Objectives & Propositions

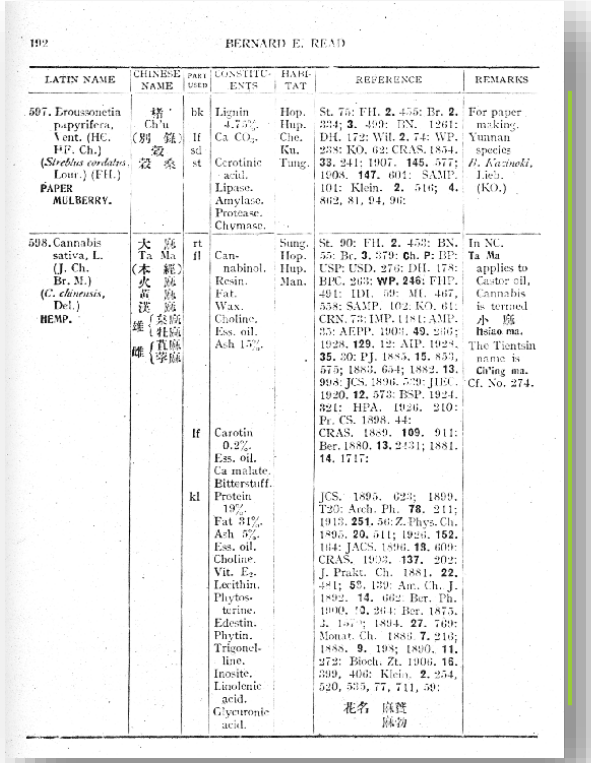
- Inquiring about medicinal cannabis isn't "*strange*" or "*weird*"
- Explaining that Cannabis is (relatively) safe
- Cannabis is ~~**effective**~~ ***reasonable*** for motor and neuropsychiatric symptoms of Parkinson Disease
- Cannabis is not simpler / cheaper / faster than "medication"



"Where do you find the strength to live when you suffer an incurable disease? After a 20-year battle with Parkinson's, Larry refuses to give up and will attempt the unthinkable: a 300-mile bike ride across South Dakota, a journey of hope for anyone facing a life altering illness. In this intimate portrait of courage, love, and community, Larry will prove that if you love life, you fight for it."







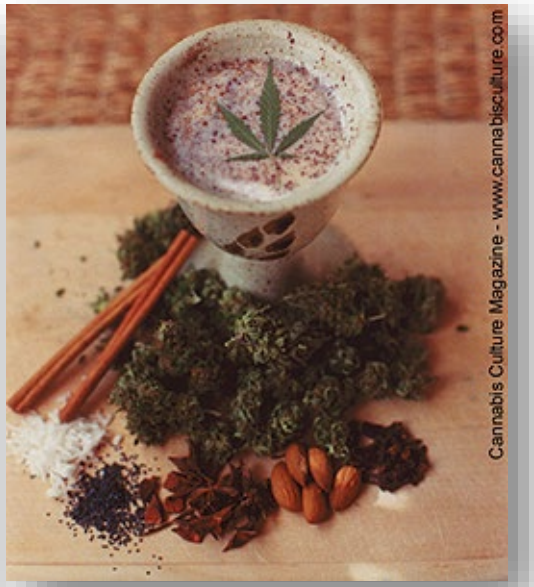
192 BERNARD E. READ

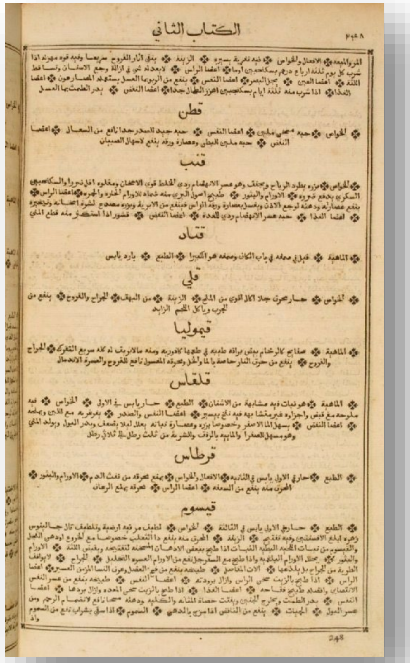
LATIN NAME	CHINESE NAME	PART USED	CONSTITUENTS	HABITAT	REFERENCE	REMARKS
597. Broussonetia papyrifera, Vent. (HC. HP. Ch.) (*Strebus cordatus*, Lour.) (FH.) PAPER MULBERRY.	楮 Ch'u (別錄) 穀 桑	bk lf sd st	Lignin 4.75%. Ca CO_3. Cerotinic acid. Lipase. Amylase. Protease. Chymase.	Hop. Hup. Che. Ku. Tung.	St. 75: FH. **2.** 455: Br. **2.** 334; **3.** 499: BN. 1261: DH. 172: Wil. **2.** 74: WP. 238: KO. 62: CRAS. 1854. **33.** 241: 1907. **145.** 577; 1908. **147.** 601: SAMP. 101: Klein. **2.** 516; **4.** 862, 81, 94, 96:	For paper making. Yunnan species *B. Kazinoki*, Lieb. (KO.)
598. Cannabis sativa, L. (J. Ch. Br. M.) (*C. chinensis*, Del.) HEMP.	大麻 Ta Ma (本經) 火麻 (本草) 漢麻 (綱目) 麻 麻 麻 (癸麻 (牡麻 (乳麻 (雌麻	rt fl lf kl	Cannabinol. Resin. Fat. Wax. Choline. Ess. oil. Ash 15%. Carotin 0.2%. Ess. oil. Ca malate. Bitterstuff. Protein 19%. Fat 31%. Ash 5%. Ess. oil. Choline. Vit. E_2. Lecithin. Phytosterine. Edestin. Phytin. Trigonelline. Inosite. Linolenic acid. Glycuronic acid.	Sung. Hop. Hup. Man.	St. 90: FH. **2.** 453: BN. 55: Br. **3.** 379: Ch. P: BP: USP: USD. 276: DH. 178: BPC. 263: WP. **246**: FHP. 491: DH. 30: MI. 467, 558: SAMP. 102: KO. 61: CRN. 73: IMP. 1181: AMP. 85: AEPP. 1903. **49.** 285; 1928. **129.** 12: AIP. 1928. **35.** 20: PJ. 1885. **15.** 853, 575; 1883. 654; 1882. **13.** 998: JCS. 1896. 529: JHC. 1920. **12.** 573: BSP. 1924. 321: HPA. 1926. 210: Pr. CS. 1898. 44: CRAS. 1889. **109.** 911: Ber. 1880. **13.** 2131; 1881. **14.** 1717: JCS. 1895. 623; 1899. T20: Arch. Ph. **78.** 211; 1913. **251.** 56: Z. Phys. Ch. 1895. **20.** 511; 1926. **152.** 164: JACS. 1896. **18.** 609: CRAS. 1903. **137.** 202: J. Prakt. Ch. 1881. **22.** 381; **58.** 139: Am. Ch. J. 1892. **14.** 602: Ber. Ph. 1900. **13.** 264: Ber. 1875. J. Lo[illegible] 1894. **27.** 769: Monat. Ch. 1886. **7.** 210; 1888. **9.** 198; 1890. **11.** 272: Bloch. Zt. 1906. **16.** 399, 406: Klein. **2.** 254, 520, 535, 77, 711, 59:	In NC. Ta Ma applies to Castor oil, Cannabis is termed 小麻 Hsiao ma. The Tientsin name is Ch'ing ma. Cf. No. 274.
					花名 麻蕡 麻勃	

Cannabis has roots as old as humanity

- ✓ Medicinal cannabis isn't *strange* or *weird*

WESTWARD MIGRATION AND SACRAMENTAL USE

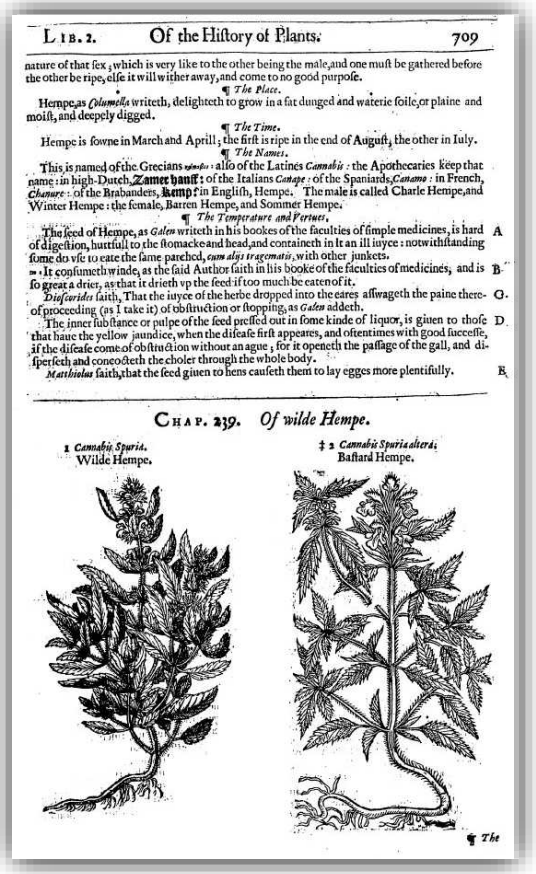




Al-Qanun fi-l-tibb ("The Canon of Medicine")

Abu Ali Sina

MIDDLE AGE & RENAISSANCE APOTHECARIES



LIB. 2. Of the History of Plants. 709

nature of that sex; which is very like to the other being the male, and one must be gathered before the other be ripe, else it will wither away, and come to no good purpose.

¶ *The Place.*

Hempe, as *Columella* writeth, delighteth to grow in a fat dunged and waterie soile, or plaine and moist, and deepely digged.

¶ *The Time.*

Hempe is sowne in March and Aprill; the first is ripe in the end of August, the other in Iuly.

¶ *The Names.*

This is named of the Grecians κνάβις: also of the Latines *Cannabis*: the Apothecaries keep that name: in high-Dutch, **Zamer hanff**: of the Italians *Canape*: of the Spaniards, *Canamo*: in French, *Chanure*: of the Brabanders, **Kemp**: in English, Hempe. The male is called Charle Hempe, and Winter Hempe: the female, Barren Hempe, and Sommer Hempe.

¶ *The Temperature and Vertues.*

The seed of Hempe, as *Galen* writeth in his bookes of the faculties of simple medicines, is hard of digestion, hurtfull to the stomacke and head, and containeth in it an ill iuyce: notwithstanding some do vse to eate the same parched, *cum alijs tragematis*, with other iunkets. A

It consumeth winde, as the said Author saith in his booke of the faculties of medicines, and is so great a drier, as that it drieth vp the seed if too much be eaten of it. B

Dioscorides saith, That the iuyce of the herbe dropped into the eares asswageth the paine thereof proceeding (as I take it) of obstruction or stopping, as *Galen* addeth. C

The inner substance or pulpe of the seed pressed out in some kinde of liquor, is giuen to those that haue the yellow iaundice, when the disease first appeares, and oftentimes with good successe, if the disease come of obstruction without an ague; for it openeth the passage of the gall, and dispersech and concoctetth the choler through the whole body. D

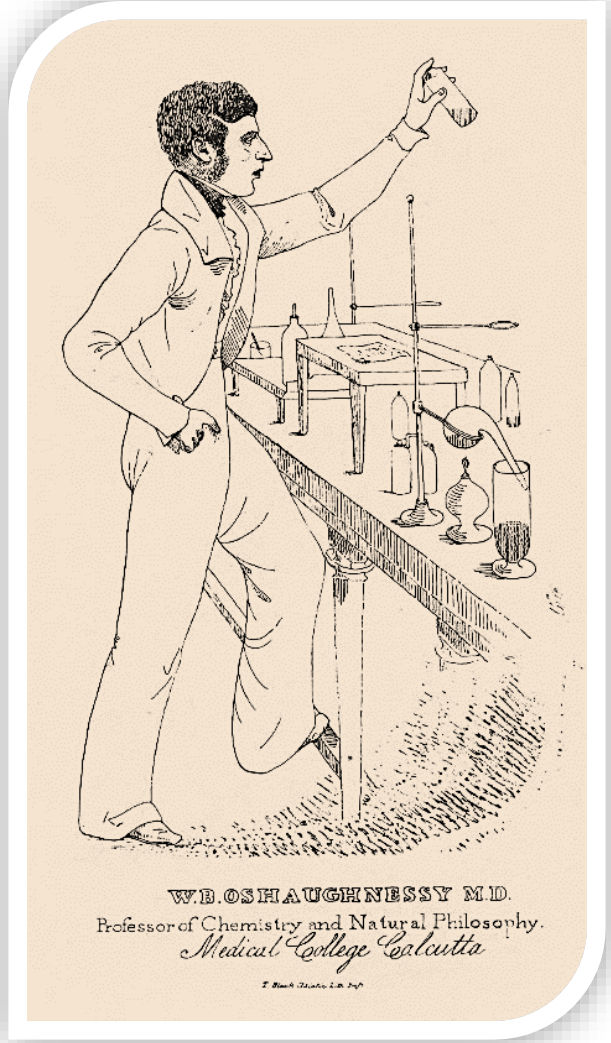
Matthiolus saith, that the seed giuen to hens causeth them to lay egges more plentifully. E

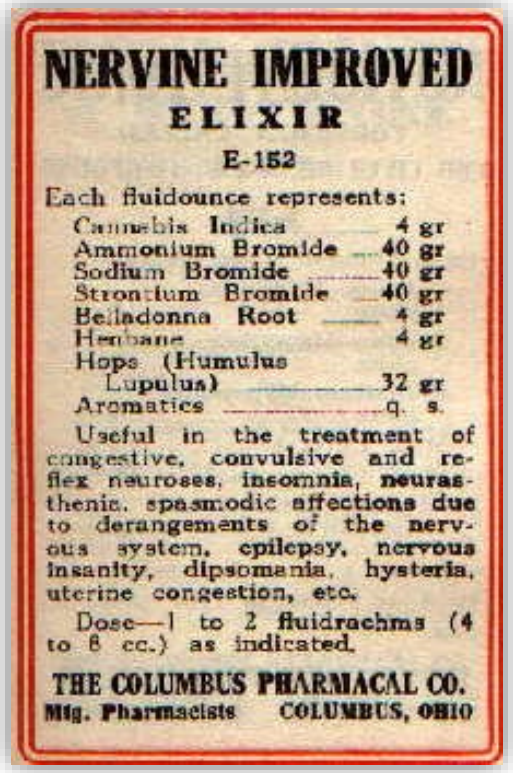
CHAP. 239. *Of wilde Hempe.*

1 *Cannabis Spuria.* Wilde Hempe.

‡ 2 *Cannabis Spuria altera.* Bastard Hempe.

¶ The





NERVINE IMPROVED
ELIXIR
E-152

Each fluidounce represents:

Cannabis Indica	4 gr
Ammonium Bromide	40 gr
Sodium Bromide	40 gr
Strontium Bromide	40 gr
Belladonna Root	4 gr
Henbane	4 gr
Hops (Humulus Lupulus)	32 gr
Aromatics	q. s.

Useful in the treatment of congestive, convulsive and reflex neuroses, insomnia, neurasthenia, spasmodic affections due to derangements of the nervous system, epilepsy, nervous insanity, dipsomania, hysteria, uterine congestion, etc.

Dose—1 to 2 fluidrachms (4 to 8 cc.) as indicated.

THE COLUMBUS PHARMACAL CO.
Mfg. Pharmacists COLUMBUS, OHIO

FLUID EXTRACT
Cannabis Americana

AS ACTIVE AS INDIAN CANNABIS

We are marketing a reliable fluid extract of *Cannabis Sativa* from American-grown drug. It has been thoroughly tested by experienced clinicians and pronounced fully equal to the fluid extract obtained from the best Indian Cannabis.

Fluid Extract Cannabis Americana (P. D. & Co.) is physiologically standardized. Practitioners may specify it with perfect assurance of its activity and uniformity. We market it at a price considerably lower than that asked for fluid extract Cannabis Indica.

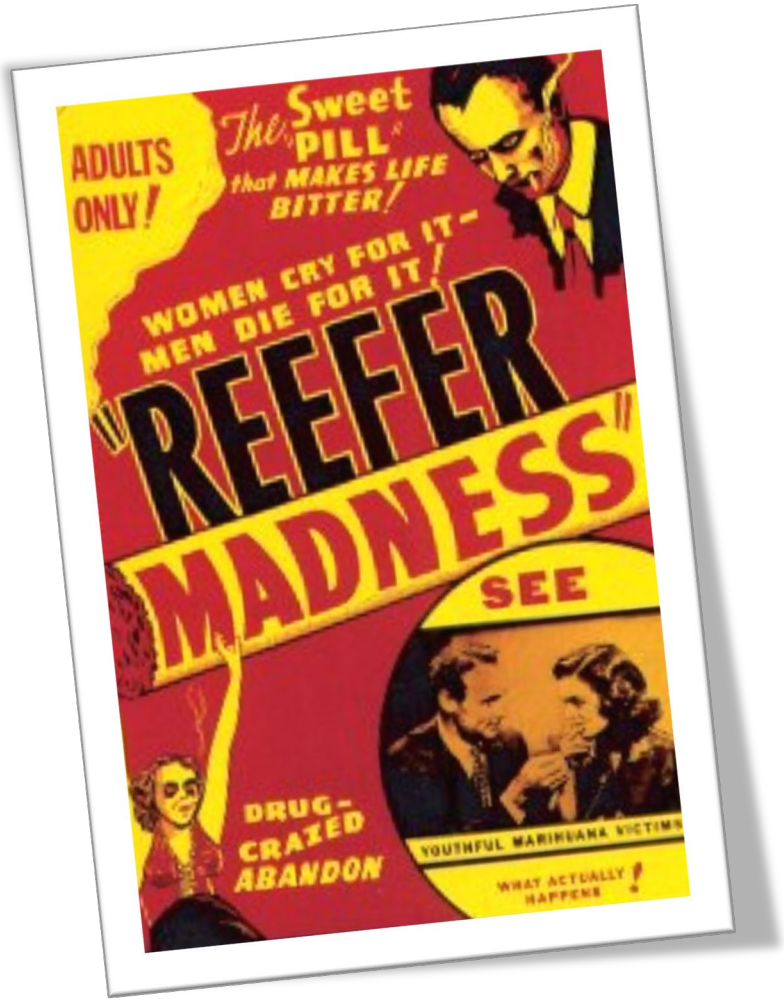
Supplied in pint, ½-pint and 5-pint bottles.

PARKE, DAVIS & COMPANY
HOME OFFICES AND LABORATORIES, DETROIT, MICH.

200+ Cannabis elixirs, extracts and tinctures were available in US Pharmacies by 1937

REEFER MADNESS

Dir. Louis J. Gasnier. George A. Hirliman Productions, 1936. Film.



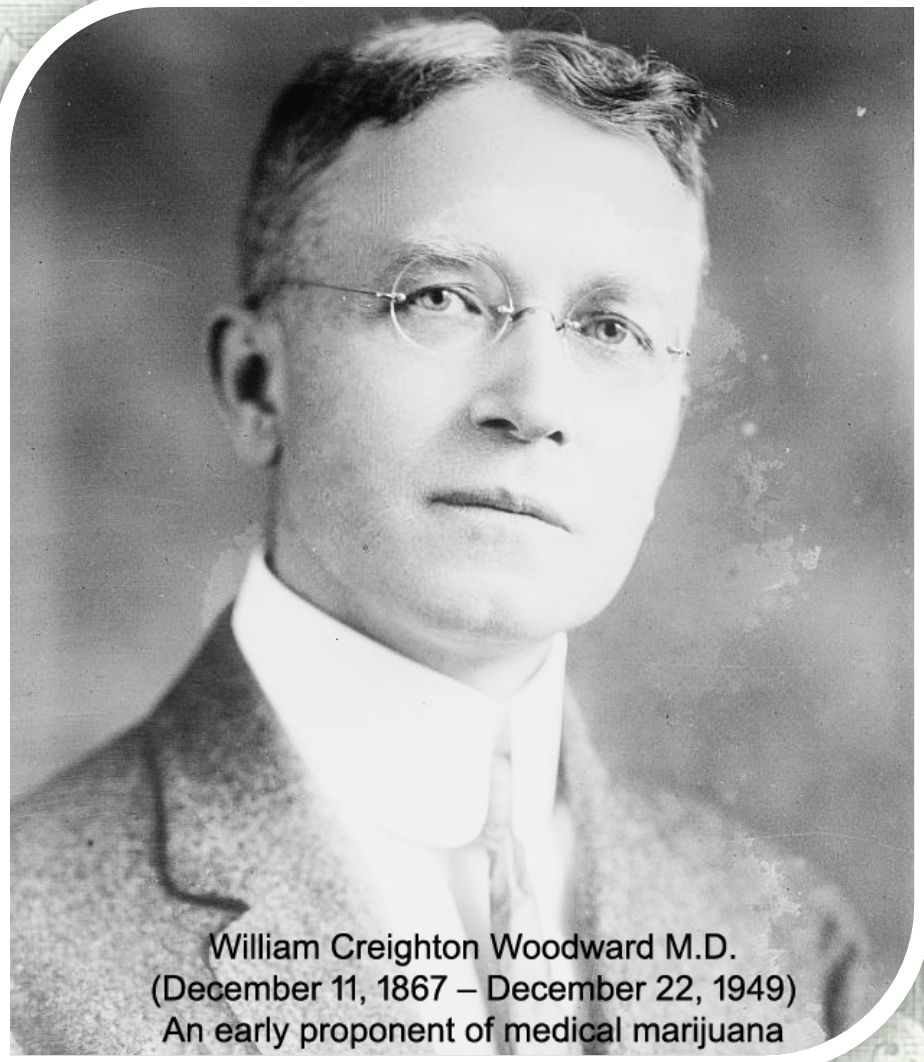
POPULAR LIBRARY
She Loved Men, Money And Marijuana
I'LL GET MINE
Thurston Scott
Daring Drug Expose!
Horror Shame Despair!
MARIJUANA MURDE
ROXY
Tonight, Thursday and Friday
3 BIG DAYS
WAKE UP AMERICA!
HIGH SCHOOL GIRLS WILD PARTIES INSPIRED BY
KING EDWARD'S CODE for HAPPINESS
Physical Culture
FEBRUARY
THE PERSONAL PROBLEM MAGAZINE
Bernarr Macfadden
The TRUTH About Marijuana
SEX-CRAZING DRUG MENACE
Finding America's MOST BEAUTIFUL WOMAN
$1,000 in Prizes for Readers
8447
$1
UNITED STATES
SPECIAL TAX STAMP
INTERNAL REVENUE
THIS STAMP EXPIRES JUNE 30, 1943
THIS STAMP IS NOT TRANSFERABLE ON CHANGE OF OWNERSHIP OF THE BUSINESS
ISSUED FOR ONE YEAR
PRODUCER OF MARIHUANA
YOUR REGISTRY NUMBER IS 14691
UPON CHANGE OF OWNERSHIP, CONTROL OR ADDRESS, NOTIFY COLLECTOR IMMEDIATELY
Issued by the Collector for the District of KENTUCKY
Cassius M. Clay & Curtis Franklin,
Route #2, Paris, Ky.
UNITED STATES
INTERNAL REVENUE
REPLICA STAMP POSTED
Not only are sporting women, red-light cadets, touts and
DETE
FACT POLICE CASES
FEBRUARY 25¢
MARIJUANA
IT AIN'T HAY
DAVID DODGE
WITH CRIME MAP ON BACK COVER

AMERICAN MEDICAL ASSOCIATION **OPPOSED** THE MARIJUANA TAX ACT OF 1937

"To say, however, as has been proposed here, that the use of the drug should be prevented by a prohibitive tax, loses sight of the fact that future investigation may show that there are substantial medical uses for Cannabis."

Dr. William Creighton Woodward testimony

May 1937



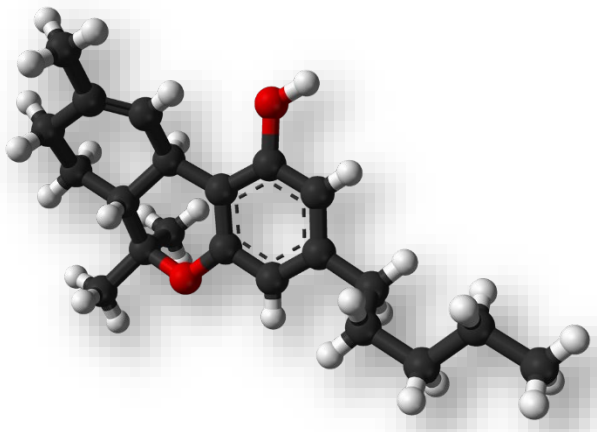
William Creighton Woodward M.D.
(December 11, 1867 – December 22, 1949)
An early proponent of medical marijuana

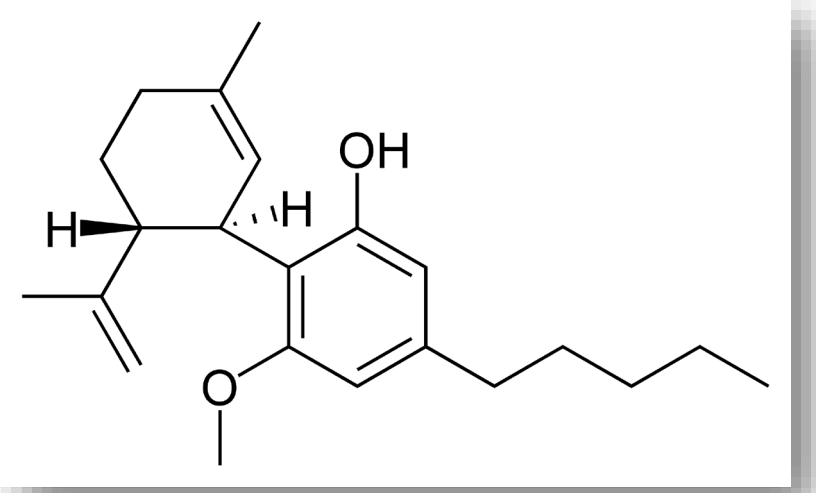
DISCOVERY OF CANNABINOIDS (CBD AND THC)

1942 Adams et al., extract cannabidiol *(CBD)*

1964 Mechoulam et al., isolate, identify and extract *(−)-trans-Δ^9-tetrahydrocannabinol (THC)*

THC & **CBD** are the primary psychoactive compounds in Cannabis

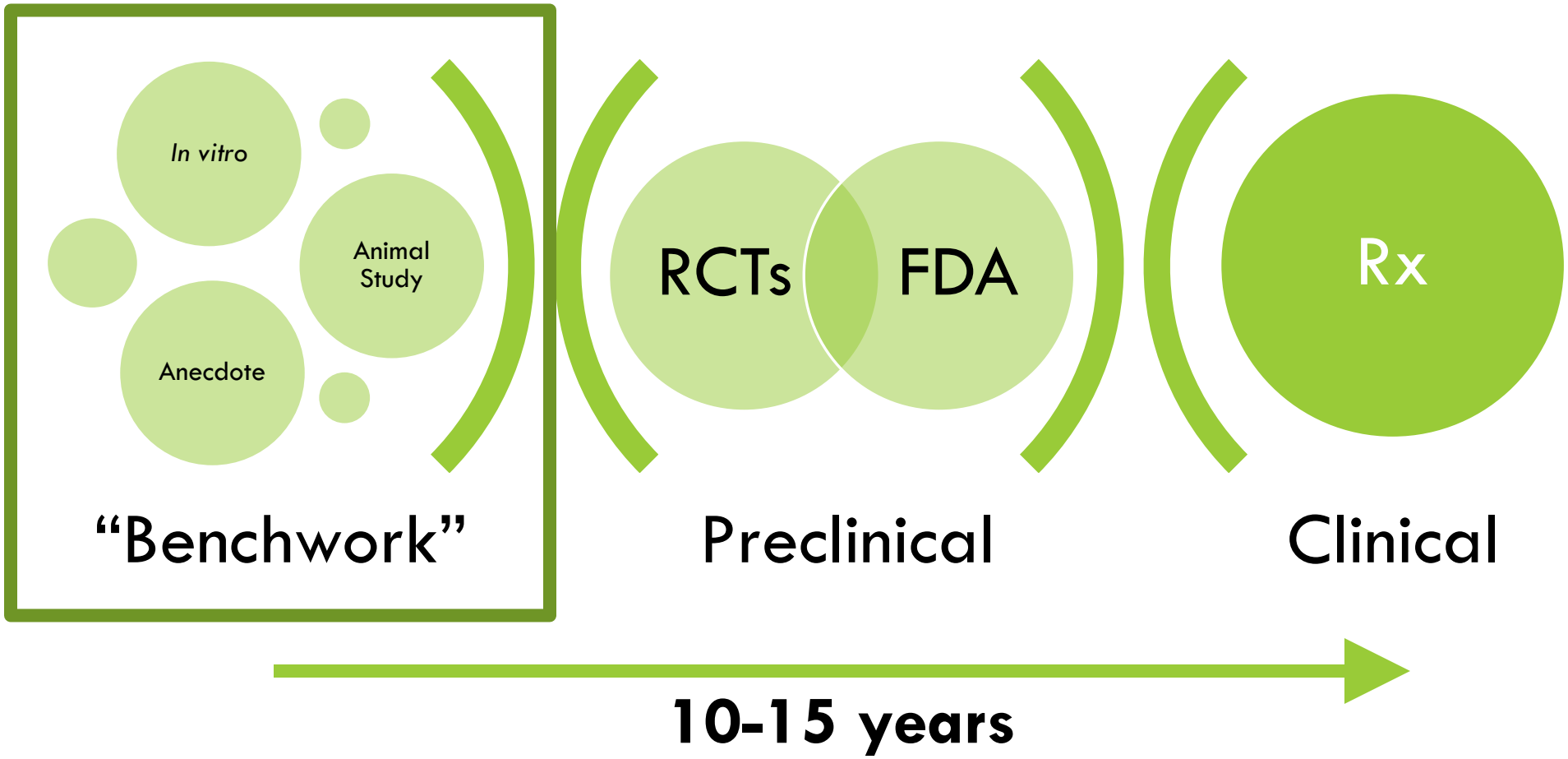




RESEARCH & TREATMENT BOTTLENECKS

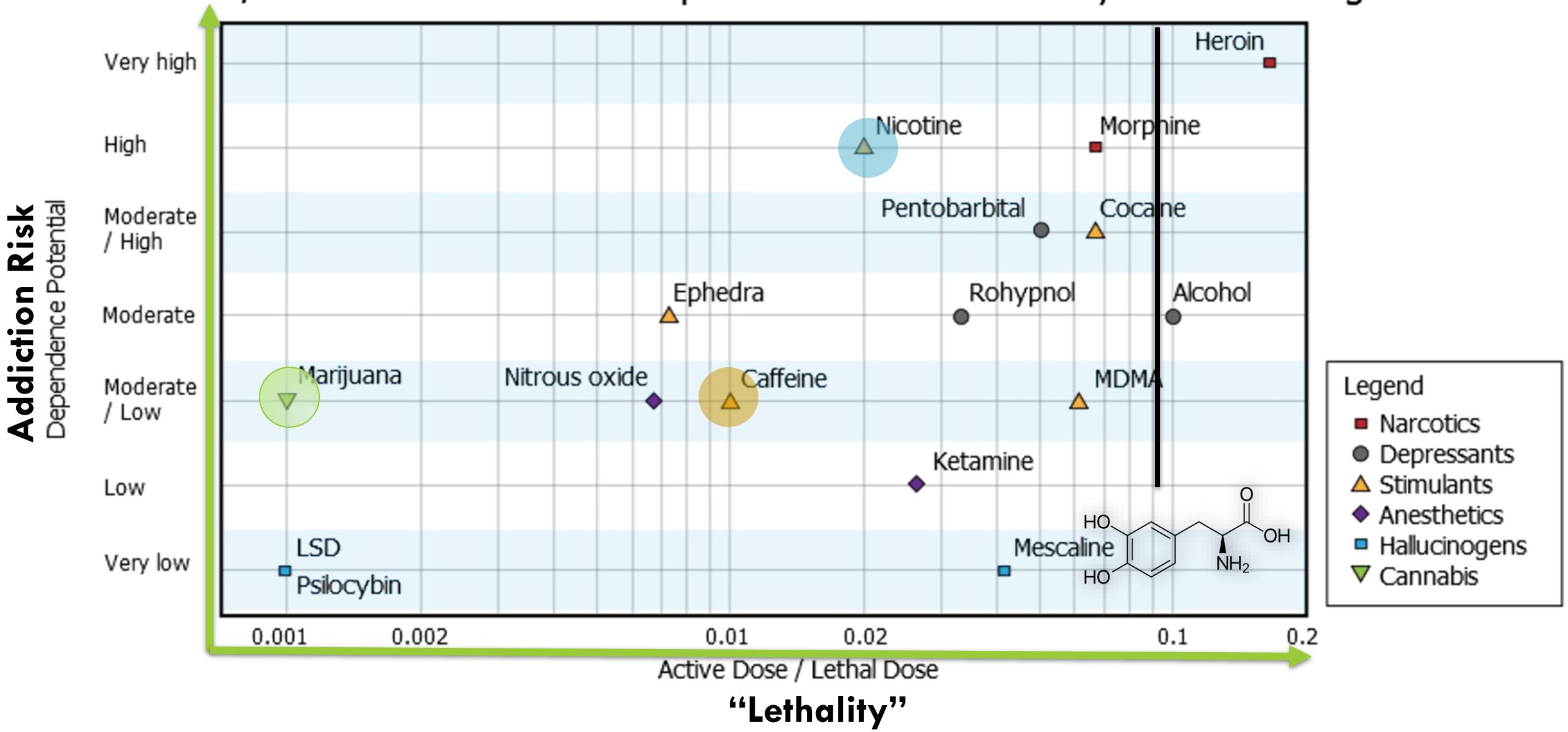
1968	University of Mississippi only Univ. authorized to grow Marijuana for research
1985	Dronabinol (Marinol) approved by FDA
1988	Cannabinoid Receptor found (CBr)
1992	Brain's "natural" cannabinoid, *anandamide* discovered

These hurdles limit research and prevent the normal discovery pipeline that lead to FDA-approved R_X medication



CANNABIS IS (RELATIVELY) SAFE

Active/Lethal Dose Ratio and Dependence Potential of Psychoactive Drugs



"Lethality"

J. M. FISH (ED.),DRUGS AND SOCIETY: U.S. PUBLIC POLICY, PP.149-162, LANHAM, MD: ROWMAN & LITTLEFIELD PUBLISHERS

CAN CANNABIS **KILL** YOU?

UNITED STATES DEPARTMENT OF JUSTICE

Drug Enforcement Administration

In The Matter Of

MARIJUANA RESCHEDULING PETITION

Docket No. 86-22

OPINION AND RECOMMENDED RULING, FINDINGS OF FACT, CONCLUSIONS OF LAW AND DECISION OF ADMINISTRATIVE LAW JUDGE

FRANCIS L. YOUNG, Administrative Law Judge

*"A smoker would theoretically have to consume nearly **1,500** pounds of marijuana within about fifteen minutes to induce a lethal response."*

Dizziness (OR 5.09)	Dry mouth (OR 3.40)	Nausea (OR 2.08)	Fatigue (OR 2.0)	Sleepiness (OR 2.83)
Euphoria / "High" (OR 4.08)	Tingling (OR 2.03)	Confusion (OR 4.03)	Imbalance (OR 2.62)	Hallucinations (OR 2.19)

CUMULATIVE RCT DATA SUGGESTS "CANNABINOIDS" A.E. > PLACEBO A.E.

WHITING PF, ET AL. CANNABINOIDS FOR MEDICAL USE: A SYSTEMATIC REVIEW AND META-ANALYSIS. JAMA. 2015;313(24):2456-2473.

CHRONIC & HEAVY CANNABIS USE INCREASES RISK OF COGNITIVE EFFECTS

Inattention

Impaired visual & verbal memory

Psychomotor speed

Reduced dexterity

Decision making

Impulsivity

Schizophrenia risk*

Reports are based on chronic use since adolescence or early adulthood *NOT* later onset or medicinal use.

Low-, moderate- or intermittent use has *NOT* shown persistent effects.

DANGEROUS A.E. (CASE REPORTS ONLY)

- Tachycardia / Bradycardia / Arrhythmia
- Severe Hypertension
- Stroke (2 cases)
- Bronchitis / Pneumonitis (inhaled)
- Breakthrough seizure
- Cyclical Vomiting Syndrome (chronic use)
- Low Birth Weight & Preterm Delivery
- Drug-interaction with SSRIs or TCA

- Poor data quality, sample sizes and flawed methods
- Recreational User ≠ Medicinal User
- Age, health and dosing differences
- Inferred from AE in synthetics and cannabis extracts

THE AVAILABLE DATA IS VERY LIMITED

WE'VE BEEN ASSUMING THAT …

=

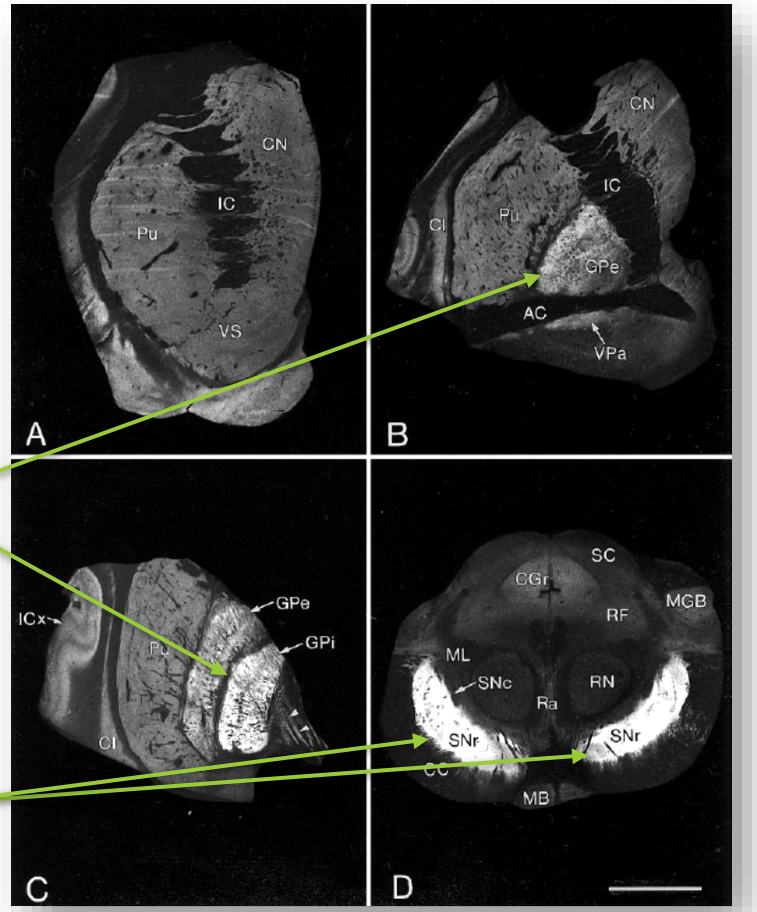
CANNABIS IS REASONABLE FOR MEDICINAL USE IN PARKINSON DISEASE

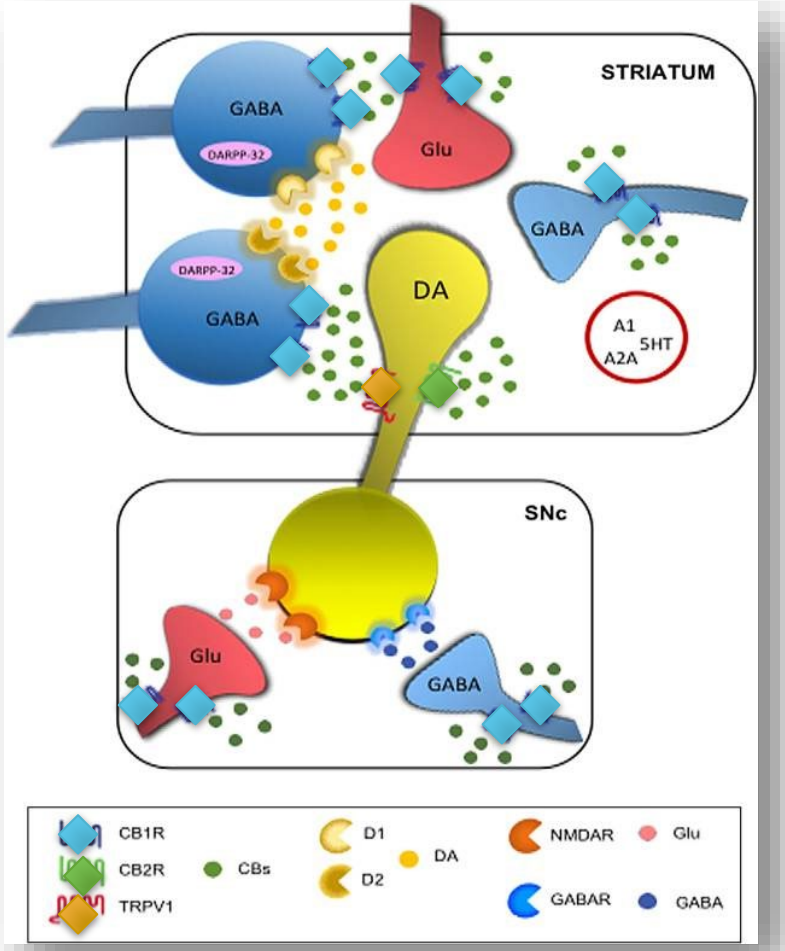
Energy Intake
Metabolism
Storage
Nutrient
Transport
ECSN

CBR ARE FOUND IN THE BASAL GANGLIA AND ON DOPAMINERGIC CELLS

Globus Pallidus

Substantia Nigra





GLASS, M., ET AL.. CANNABINOID RECEPTORS IN THE HUMAN BRAIN: A DETAILED ANATOMICAL AND QUANTITATIVE AUTORADIOGRAPHIC STUDY IN THE FETAL, NEONATAL AND ADULT HUMAN BRAIN. NEUROSCIENCE 77, 299-318, DOI:10.1016/S0306-4522(96)00428-9 (1997).

CANNABINOIDS MAY IMPROVE "ON" SYMPTOMS BUT WORSEN "OFF" SYMPTOMS

Levodopa Induced Dyskinesias

- CB1R improves LID in animal models (Fox et al., 2002) [Δ9-THC, Δ9-THCV +/- (?)CBD]
- Oral THC/CBD extracts (1.25/2.5 mg) did **not** improve LID in a small 4-week trial of 19 patients

Bradykinesia

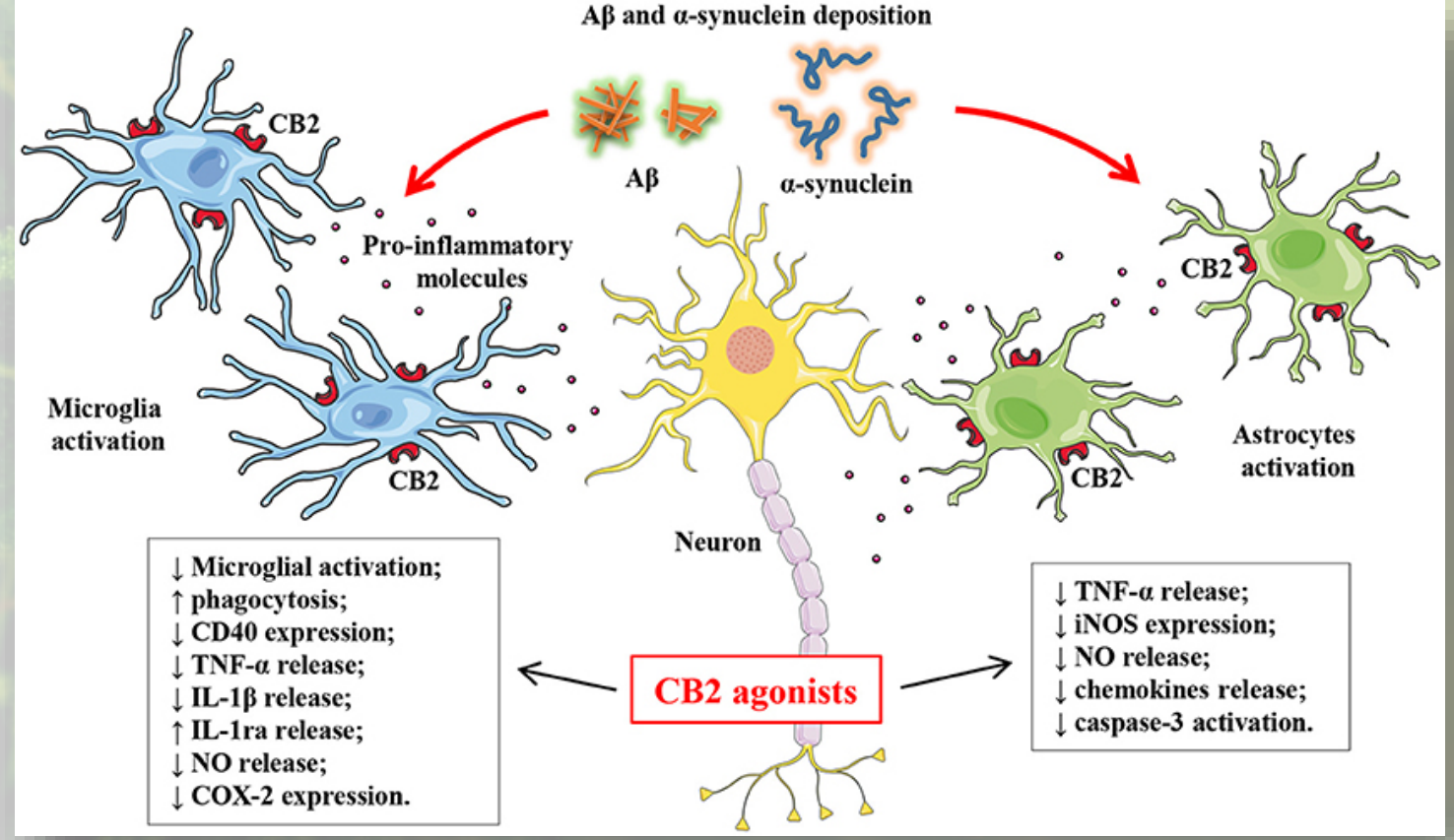
- Animal models & case-series show *worse* bradykinesia

Conflicting evidence without clear or consistent *direct* or *objective* benefit on **dystonia** or **tremor**

KLUGER B, ET AL. MOV DISORD. 2015;30(3):313-27. PMID: 25649017; STAMPANONI BASSI M, ET AL. CANNABIS CANNABINOID RES. 2017;2(1):21-9. PMID: 28861502; CRIPPA JA, ET AL. FRONT IMMUNOL. 2018;9:2009. PMID: 30298064

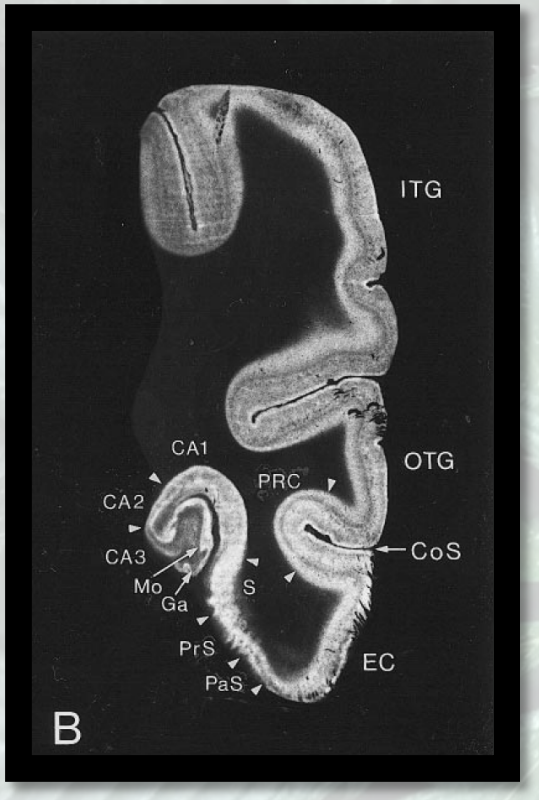
ARE CANNABINOIDS NEUROPROTECTIVE? … MAYBE, ASK AGAIN LATER

- There is **no solid human evidence** that cannabis slows or protects against Parkinson Disease
- Neuroprotective effects of cannabinoids have been observed **in** mice & rats
- Mechanism postulated: protein misfolding, antioxidant, anti-inflammatory



CASSANO T, ET AL. FRONT NEUROSCI. 2017;11(30):30. PMID: 28210207

CANNABINOIDS MAY IMPROVE ANXIETY, SLEEP AND PAIN IN PARKINSON DISEASE



CBR are found throughout emotional (limbic), fear (amygdala) and memory (hippocampus) brain systems

Both THC and CBD (up to 600 mg) have been reported helpful (open-label & case series) for:

- Insomnia (falling asleep)
- Acute anxiety or panic
- REM Behavior Disorder

However, regular use may cause **rebound** anxiety and insomnia

KLUGER B, ET AL. MOV DISORD. 2015;30(3):313-27. PMID: 25649017; STAMPANONI BASSI M, ET AL. CANNABIS CANNABINOID RES. 2017;2(1):21-9. PMID: 28861502; CRIPPA JA, ET AL. FRONT IMMUNOL. 2018;9:2009. PMID: 30298064

CANNABINOIDS MAY BE HELPFUL FOR CHRONIC, INFLAMMATORY & NEUROPATHIC PAIN

In vitro and *In* vivo evidence indicates that Cannabinoids affect pain in many ways: centrally v. peripherally or directly v. indirectly

- THC > CBD — Pain *perception* in the brain
- CBD > THC — Inflammatory pain (rheumatoid arthritis, gout etc.)
- Other cannabinoids — Typical *neuropathy* ***(burning, pins / needles)***

Few studies have formally addressed this:

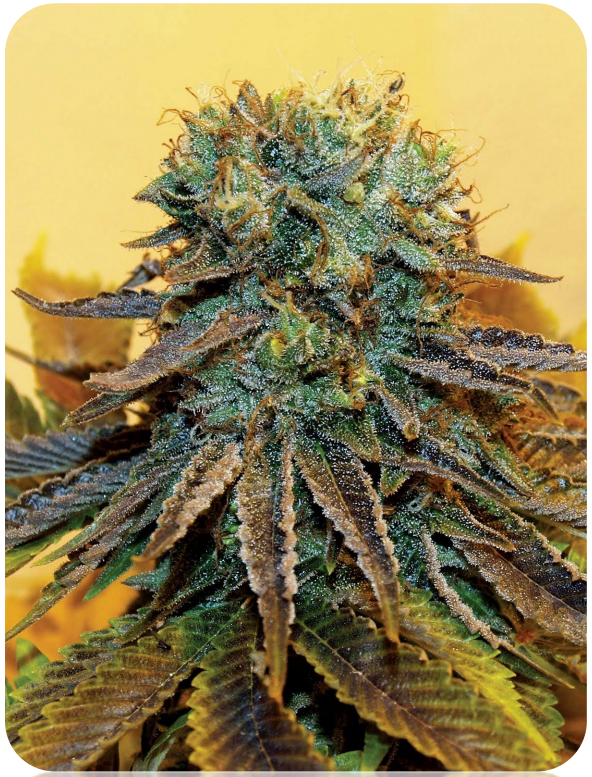
- Shoheta et al., reported regular use of 1g vaporized cannabis in 20 PD subjects over 10 weeks. Improvements in baseline and heat-induced pain
- Several open-label and case-series show similar findings

SHOHET A, ET AL. EUR J PAIN. 2017;21(3):486-93. PMID: 27723182.

✓ Cannabis may not be simpler / cheaper / faster than “medication”

IT STARTS GETTING COMPLICATED …

Cannabis sativa



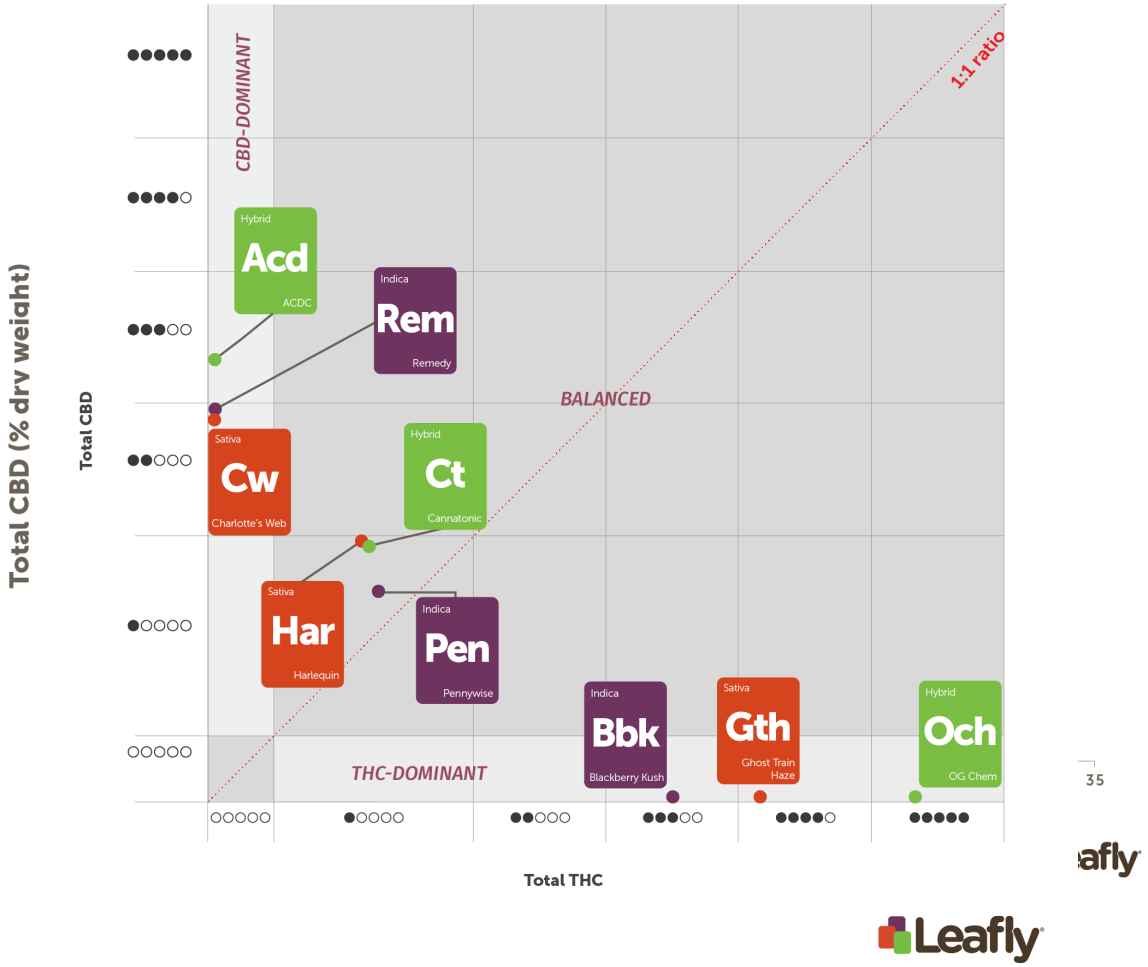
Cannabis indica

Cannabis ruderalis
"Industrial Hemp"

C. sativa	*C. indica*
• Δ9THC >> CBD • Psychotropic ("Mind")	• Δ9THC ≥ CBD • Somatic ("Body")

HISTORICAL RELIC … C. SATIVA V. INDICA

FROM "STRAINS" TO "CHEMOVARS"



- Modern analysis of C. *Sativa* and C. *Indica* strains suggest the prior shorthand is incorrect.
  - 600+ psychoactives
  - 100+ cannabinoids
  - Terpenes?
- Different Cannabis "chemotypes"
  - High CBD
  - High THC
  - Mixed or Hybrid Strains
- Dispensary Menus or phone apps can help you stay organized

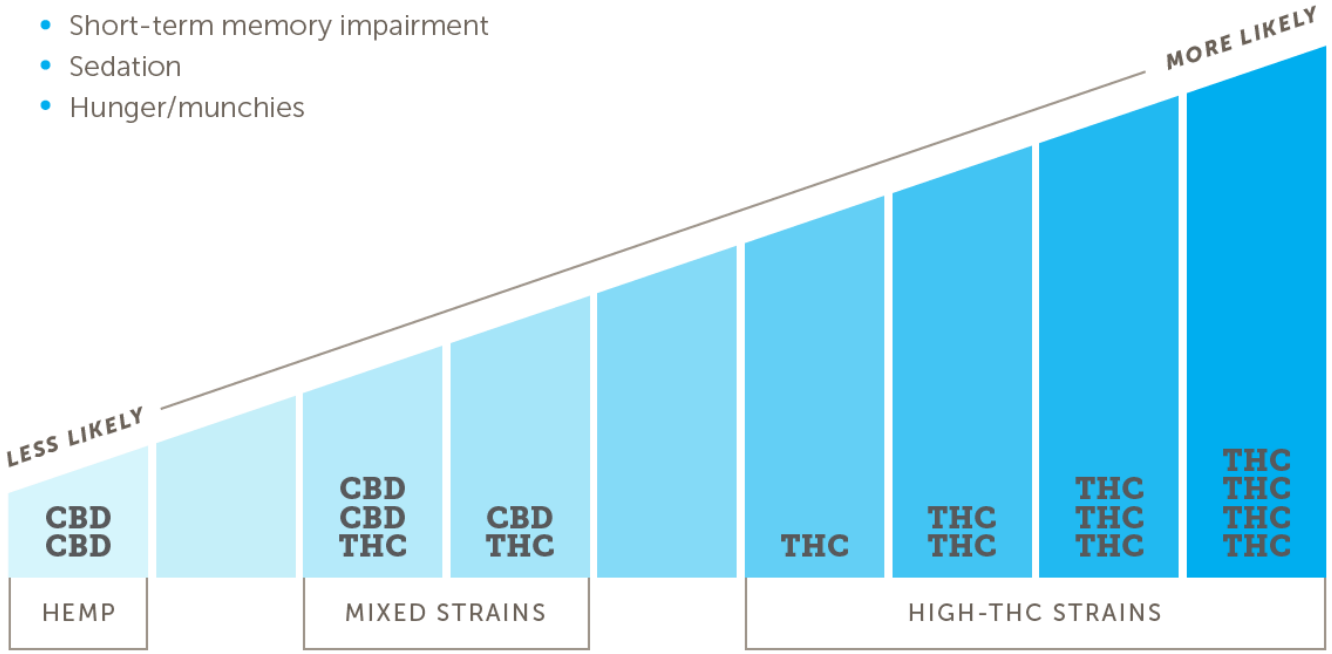
IMPORTANT POINT: HIGHER THC = HIGHER EUPHORIA

- Choose “balanced” or “low-THC” strains first to avoid cognitive side-effects
- Gradually try strains with higher THC content if tolerated
- Some amount of THC may be necessary for clinical effects

LIKELIHOOD OF CLASSICAL THC EFFECTS

Potential THC-induced side effects include:

- Anxiety
- Short-term memory impairment
- Sedation
- Hunger/munchies



Leafly

Leafly

LIMONENE

LME
LIMONENE

AROMA
Citrus

VAPORIZES AT
348°F (176°C)

POTENTIAL MEDICAL VALUE
Treatment of:
- Anxiety
- Depression
- Inflammation
- Pain
- Cancer

POTENTIAL EFFECTS
Elevated Mood
Stress Relief

ALSO FOUND IN
Fruit Rinds

Leafly

α-PINENE

PNE
α-PINENE

AROMA
Pine

VAPORIZES AT
311°F (155°C)

POTENTIAL MEDICAL VALUE
Treatment of:
- Asthma
- Pain
- Ulcers
- Anxiety
- Cancer

POTENTIAL EFFECTS
Alertness
Memory Retention
Counteracts some THC effects

ALSO FOUND IN
Pine Needles
Rosemary
Basil
Parsley
Dill

Leafly

MYRCENE

AROMA
Cardamom
Cloves
Musky
Earthy
Herbal

POTENTIAL MEDICAL VALUE
Antioxidant
Treatment of:
- Insomnia
- Pain
- Inflammation

VAPO
332°F

POTE EFFE
Sedat
"Couc
Relax

ALSO
Mang
Lemo
Thym
Hops

Leafly

CARYOPHYLLENE

AROMA
Pepper
Spicy
Woody
Cloves

POTENTIAL MEDICAL VALUE
Treatment of:
- Pain
- Anxiety
- Depression
- Ulcers

VAPO
266°

POTE EFFE
Stres

ALSO
Black
Clove
Cinna

LINALOOL

LNL
LINALOOL

AROMA
Floral

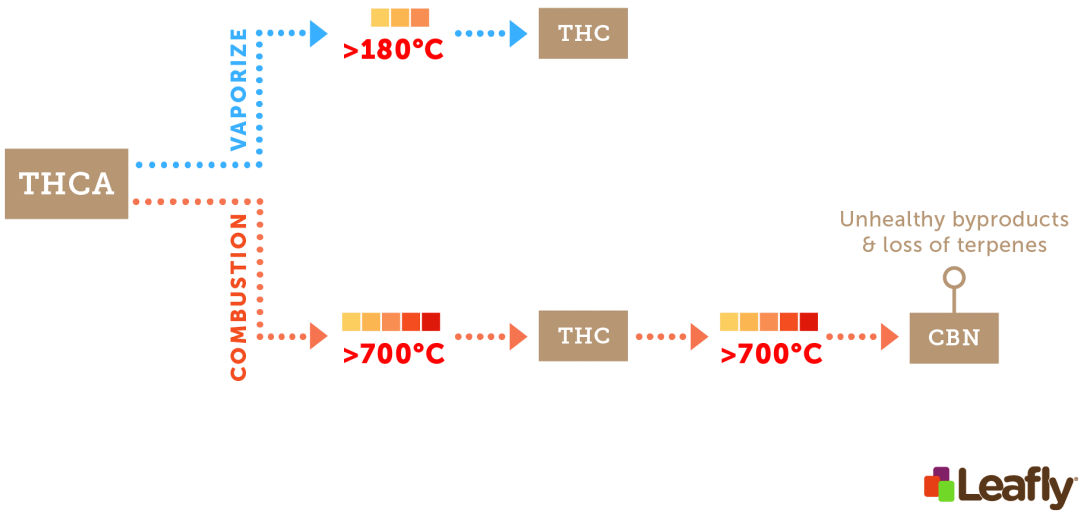
VAPORIZES AT
388°F (198°C)

POTENTIAL MEDICAL VALUE
Treatment of:
- Anxiety
- Depression
- Insomnia
- Pain
- Inflammation
- Neurodegeneration

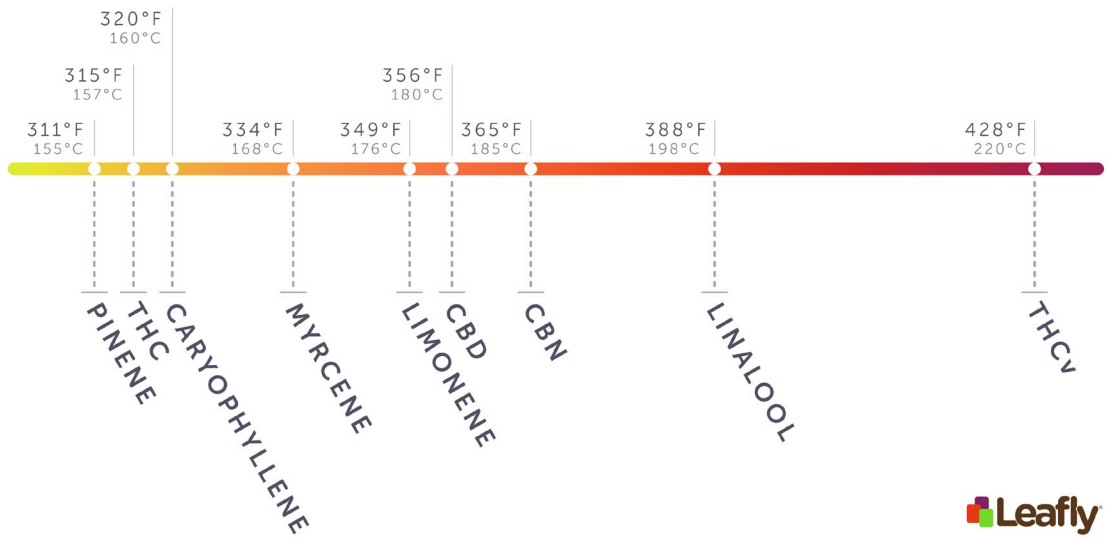
POTENTIAL EFFECTS
Mood Enhanceme
Sedation

ALSO FOUND IN
Lavender

VAPORIZATION VS. COMBUSTION



Boiling Points of Cannabis Compounds



Different cannabinoids are extracted at different temperatures. Avoid combustion (i.e. smoking).

Cannabinoids are available in many non-inhaled forms:

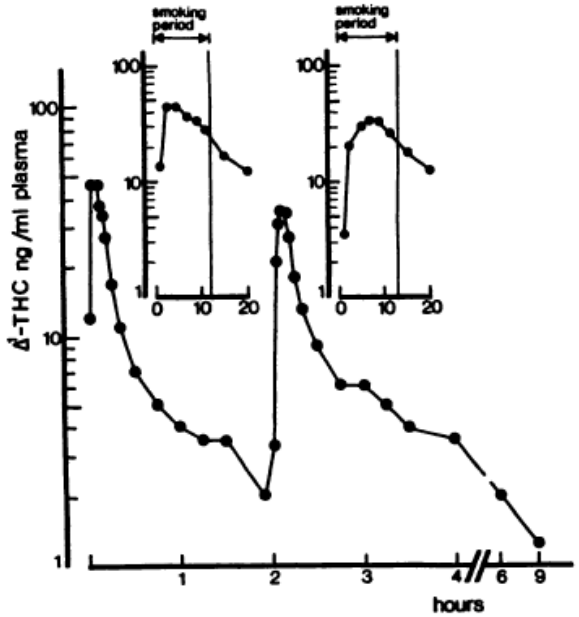
- Tinctures
- Edibles
- Ingestible Pills
- Sublingual Oil
- Ointments and creams

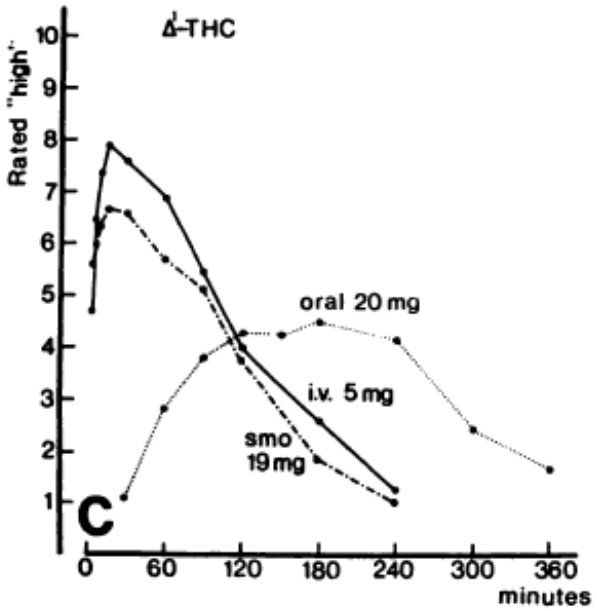
DOES INHALED OR ORAL MAKE A DIFFERENCE?

THC is lipophilic (dissolves in butter / oil better than water)

When eaten, THC is metabolized extensively by the liver (Agurell et al., 1986)

Together, differences in absorption and concentration impact effects on symptoms





There is no known “optimal dose” or “optimal variety” for everyone

Start at a low-dose and increase slowly

Have a specific target symptoms and monitor if it improves with use

Educate yourself! Talk to your doctor and peers

Trial and Error

Pills / Oils are *not* equivalent to inhaled effects

Dried herb via vaporizer may offer more controlled dosing

Limit total THC doses < 100 mg

CBD may have limited effectiveness by itself on motor symptoms

CBD doses up to 600 mg daily have been used

HOW DO I GET STARTED?

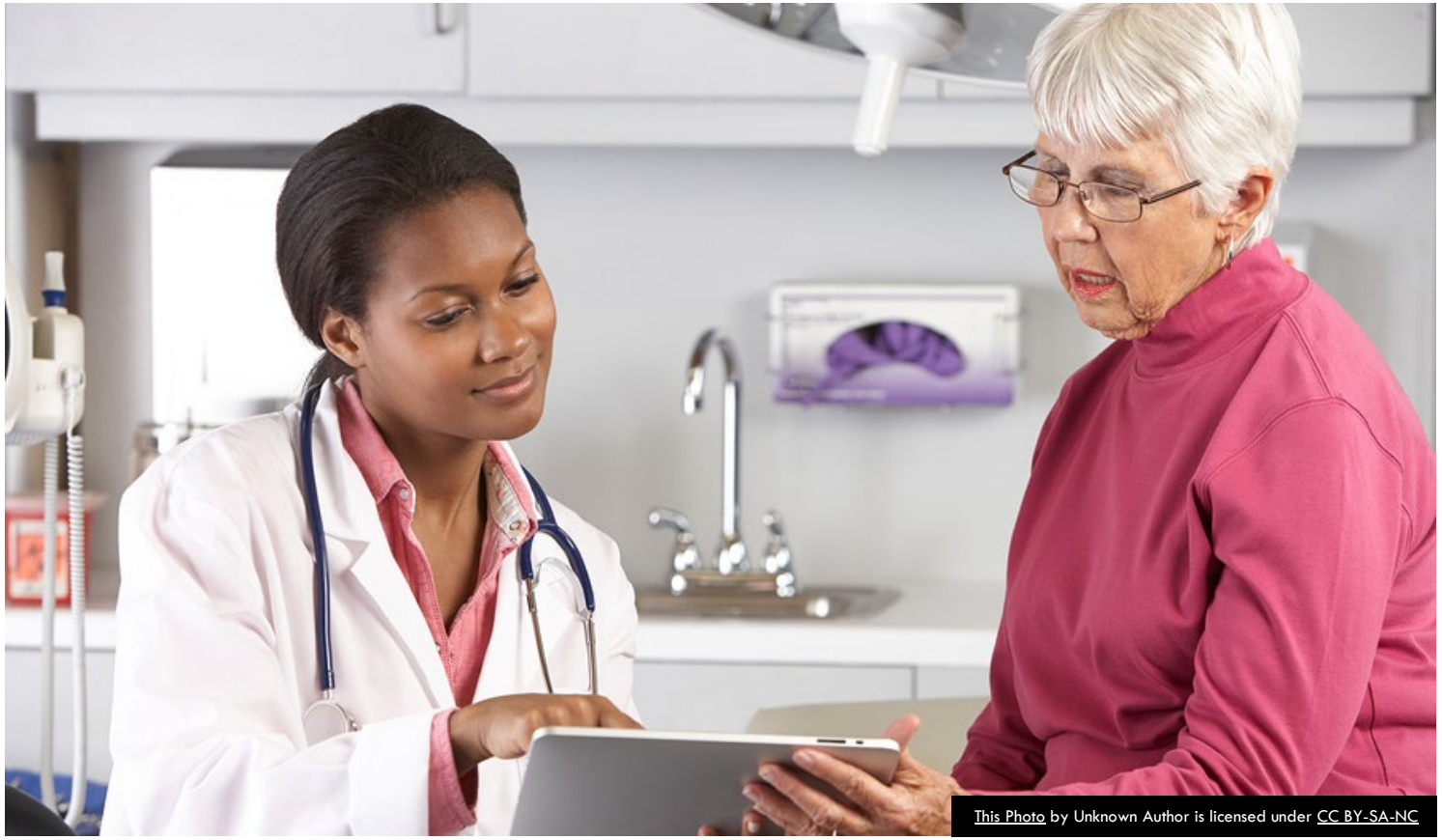
THE COMMISSION IS ENCOURAGED TO APPROVE PHYSICIAN APPLICATIONS FOR THE FOLLOWING MEDICAL CONDITIONS:

(i) A chronic or debilitating disease or medical condition that results in a patient being admitted into hospice or receiving palliative care; or

(ii) A chronic or debilitating disease or medical condition or the treatment of a chronic or debilitating disease or medical condition that produces:

1. Cachexia, anorexia, or wasting syndrome;
2. Severe or chronic pain;
3. Severe nausea;
4. Seizures;
5. Severe or persistent muscle spasms.

The Commission may approve applications that include **any other condition that is severe** and for which **other medical treatments have been ineffective** if the **symptoms reasonably can be expected to be relieved by the medical use of cannabis.**



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MARYLAND MEDICAL MARIJUANA – STEP 1

(1) A qualifying patient may be a patient of the certifying physician or may be referred to the certifying physician.

Natalie M. LaPrade
MARYLAND MEDICAL CANNABIS COMMISSION

Welcome to the Maryland Medical Cannabis Commission Registry

Patients

Sign In

Create Account

Caregivers

Sign In

Create Account

Providers

Sign In

Create Account

Dispensaries

Sign In

FOR DISPENSARY EMPLOYEES ONLY

https://mmcc.health.maryland.gov/Registry/LandingPage.aspx

The Commission is experiencing an influx of applications, emails and calls at this current time. Due to this peak enrollment period, your application will take longer to process.

If it has been more than 45 days since you submitted your initial application, or more than 30 days since you resubmitted your corrected application, please contact the Commission at 410-487-8100 so we can look into your application.

Please do not send an email or call the Commission to follow up on your application status within the time periods mentioned above as this will only further delay the review process.

NOTE: If you have not received a confirmation email after you submitted your application, please contact the Commission at 410-487-8100.

MARYLAND MEDICAL MARIJUANA – STEP 2

(2) Register for an Application ID Number through Maryland Marijuana Commission Website

- Required active and verified email address
- Official ID with Photograph (Driver's License, Passport etc)
- An MMCC ID Card is optional and costs $50
- You may nominate a caregiver to assist you when you register

MARYLAND MEDICAL MARIJUANA – STEP 3 & 4

(3) A certifying physician shall provide each **written certification to the Commission.**

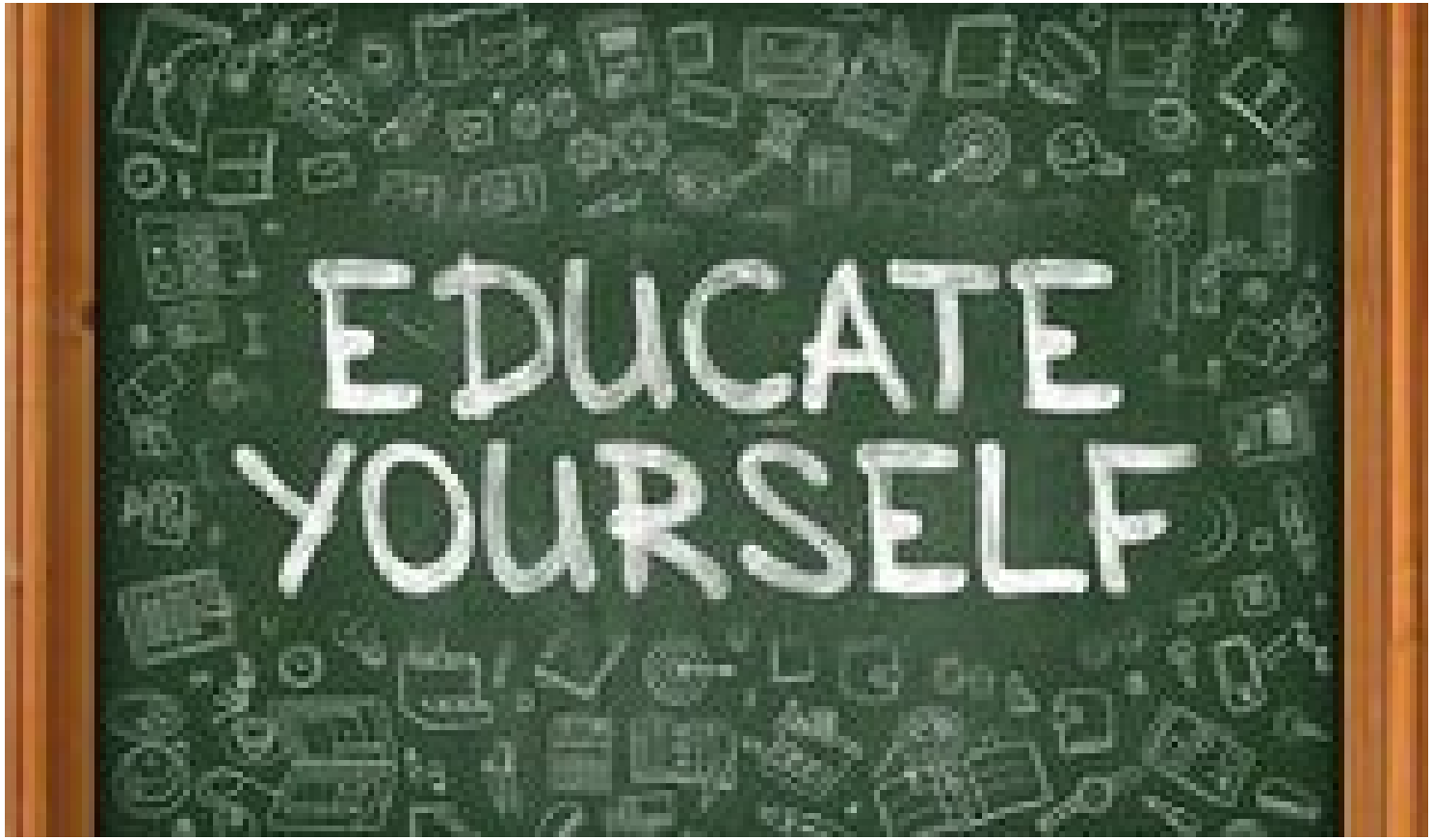
Physicians **do not prescribe** but only document that other treatments were attempted and the benefits outweigh risks

(4) Physicians register your Name, ID# and Indication on the MMCC Website

MARYLAND MMCC MEDICAL CANNABIS COMMISSION

WRITTEN CERTIFICATION

Certification Number: [redacted]	Patient ID Number: [redacted]
Qualification Date: [redacted]	Expiration Date: [redacted]
Qualifying Patient Name: [redacted]	Qualifying Patient Address: [redacted]
Qualifying Patient Gender: [redacted]	Provider Name: Ankur Butala
Provider Phone: 410-502-0133	Provider ID Number: [redacted]
Certified Dry Flower (grams): 120.00	Certified THC (grams): 36.00
Approved Medical Conditions: Wasting syndrome Severe pain Chronic Pain Other medical condition which is severe and for which other treatments have been ineffective	
Explanation(if patient requires more than 120g usable cannabis or 36g THC in processed product):	
Provider's Signature:	Provider's Name(Please Print): Ankur Butala MD



MARYLAND MEDICAL MARIJUANA – STEP 5

(5) Educate yourself before going to a dispensary

- Talk to you physician
- Research online with multiple sources
- Understand your options

MARYLAND MEDICAL MARIJUANA – STEP 6

(6) With a **Valid Certification Letter,** you may go to a local dispensary

- Don't feel pressured
- Feel free to browse
- Ask questions

MARIJUANA IS **NOT** A **PANACEA**

"Natural" ≠ Easy

"Natural" ≠ Harmless

ANKUR.BUTALA@JHMI.EDU | Questions?