



Society of Air Force Pharmacy



Cannabis: Cures or Curse – Round 2

DR. JEFFERY A. JOHNSON
RPH, MBA, ND, PHARMD
COLONEL (USAF/RETIRED)
CEO/CHIEF CONSULTANT
NATURXS PATH PHARMACY CONSULTANTS, LLC

7 July 2020 * Virtual CME



Cannabis: Cures or Curse 2 Housekeeping

HOUSE KEEPING





Cannabis: Cures or Curse 2 Presenter Credentials



JEFFERY A. JOHNSON, BS Pharm, PharmD, MBA, RPH, ND

PhD in Naturology/Herbal Medicine

BS/Pharm from Purdue University

Doctorate of Pharmacy from the University of Kansas

Board Certified Naturopathic doctor

30-year veteran of the U.S. Armed Forces

Experience in military treatment facilities; deployed settings, community-based, and hospital based ambulatory care; (5x) squadron commander; (3x) group deputy-commander; (3x) MAJCOM Consultant





Attendance Code

To obtain CPE credit for this activity, you are required to actively participate in this session. You will need this attendance code in order to access the evaluation and CPE form for this activity. Your CPE must be filed by **October 7, 2020, at 1700 EST** in order to receive credit.



CPE Information and Disclosures

Col(r) Jeffery Johnson: “declare(s) no conflicts of interest, real or apparent, and no financial interests in any company, product, or service mentioned in this program, including grants, employment, gifts, stock holdings, and honoraria.” or declare disclosures.



The Tennessee Pharmacy Association is accredited by the Accreditation Council for Pharmacy Education as a provider of continuing pharmacy education.



Cannabis: Cures or Curse 2

Disclaimer/Disclosure



DISCLAIMER & DISCLOSURE:

- (A) Presenter's views are NOT the policy of DoD; DHA; USAF
- (B) Presenter's discussions/comments based on open-source material
- (C) Presenter states no conflict or financial connection to any Pharma or other entities dealing with the Cannabis industry
- (D) Presenter's slides are generic in nature and will not market or highlight Branded Products; However, for informational purposes only, some specific trade-name medications will be mentioned / This is NOT to be construed as a suggestion, or recommendations of those specific branded products to be considered; all discussions of pharmaceuticals will be basically generic in nature



Cannabis: Cures or Curse 2

Pharmacist's Learning Obj

Learning OBJ – Pharmacists (RPh):

Discuss the Policies of DoD; DHA; Branches regards us of CBD

Discuss the endocannabinoid (EnCBD) system; Cannabinoid (CBD) pharmacology; Current FDA-Approved CBD-based medications

Apply info from med-lit to specific ptnt case scenarios for the safe TPX use of medical CBD

Design a role for RPhs related to med-CBD ptnt counseling in a deployed settings

Develop a plan for RPh when ptnts report med-CBD use & the ptnts' desire to continue TPX across transitions of care



Learning Objectives



Cannabis: Cures or Curse 2 Pharmacist's L.O. Pre-TEST

Learning OBJ – Pharmacists (RPh) – PRE-TEST:

T/F- DoD/DHA/USAF Policy all give 'green-light' to use CBD items

T/F - EnCBD binds wi CB1 receptors retrograde inhibition of NTMs

Case-study Ptnt is on _____ which
COULD Rx-INX with CBD

T/F – There are 10 States that have no-medical
CBD laws

Case-study Ptnt wants to remain on CBD – You
recommend ptnt should _____ with
PCM to validate use



Cannabis: Cures or Curse 2 PharmTechs' Learning Obj



Learning OBJ - PharmTechs (CPhT):

Discuss DoD; DHA; Branches Policies on use of CBD Products

Discuss the EDCBD system; CBD PCOL; CBD products

Rvw on-going legal challenges from State-State to Federal issues

Evaluate VIP safety considerations for med-CBD use

Recognize "The Line-In-The Sand" between HEMP/Marijuana





Cannabis: Cures or Curse 2 PharmTechs' L.O. Pre-TEST

Learning OBJ - PharmTechs (CPhT) - PRE-TEST:

T/F – DoD/DHA/USAF's CBD-products use Policies all say “NO-JOY”

T/F – All 50 States have passed full-recreational OK Laws for marijuana

The “Line-In-The-Sand” for FDA Definition of HEMP vs Marijuana is....HEMP is defined as LESS THAN _____% by dry-weight of _____

CBD is eliminated by the _____ system / this could cause _____

T/F – There are 4 FDA-Approved CBD-based Rx-Meds available



Cannabis: Cures or Curse 2

General CBD Disclaimers



General Med-CBD-TX Disclaimer:

FDA currently has approved ONLY 4 CBD products*

CBD (wi THC) is still-currently a DEA Schedule 1 (Federal Standard)

CBD (wi THC) is considered for Investigational (IND) Use Only

IND applications MUST receive TRIPLE Agency approvals

- National Institute of Drug Abuse (NIDA) / DEA / FDA
- Products for Federal Research is SOLE SOURCED through NIDA*
- *Unless Import Permission Granted by NIDA et al



Disclaimer



Cannabis: Cures or Curse 2 Presentation Agenda Rvw



PRESENTATION AGENDA REVIEW:

- DoD/DHA/Branches CBD Policies
- SHORT History of Cannabis
- SHORT Review of CBD/THC Mechanisms of Action
- Current Clinical Employments of CBD
- Side-Effects and Concerns with CBD
- CBD Wild-Wild West Legalities
- Brief Ptnt Case Study
- Conclusion: Readiness Impact?
- Agenda Review
- Q&A
- References



© Can Stock Photo - csp22484718



Cannabis: Cures or Curse 2

DoD/DHA/Branches Policy

DoD CBD/HEMP Policy:





Cannabis: Cures or Curse 2 DoD/DHA/Branches Policy



DoD SPECIFIC CBD/HEMP Policy:

- DoD policy as set in DoDI 1010.01
- Specifically mentions (1) marijuana; (2) “synthetic cannabinoids”;
-And (3) Controlled Substances (which INCLUDE THC)
- BUT does NOT mention HEMP per se;
- Test levels for THC are described in DoDI 1010.16.*
- *{More discussion on THC Levels soon}





Cannabis: Cures or Curse 2 DoD/DHA/Branches Policy

US Army CBD/HEMP Policy:

- Army: [Army Substance Abuse Program](#), AR600-85, section 4-2p states....
- “This Regulation prohibits Soldiers from using HEMP OR Products containing HEMP oil.”





Cannabis: Cures or Curse 2 DoD/DHA/Branches Policy

US Navy/Marines/USMM (War-time) CBD/HEMP Policy:

- Navy and Marine Corps: [ALNAV 057/19](#) states....
- “Sailors and Marines are prohibited from knowingly using products made or derived from HEMP (as defined in 7 U.S.C. 1639o)....
- Including cannabidiol (CBD);
- Regardless of the products THC concentration, claimed or actual, AND Regardless of whether such product may lawfully be bought, sold, and used under the law applicable to civilians.”





Cannabis: Cures or Curse 2 DoD/DHA/Branches Policy



US Air Force/Space Force Policy:

- Air Force: [AFMAN44-197](#), section 1.2.2.1, states that....
- “...the knowing ingestion (orally; intravenously; through smoking/vaporization, or through other means) of products containing or products derived from HEMP is prohibited”....
- Additionally, “the knowing use of HEMP products designed to penetrate the skin, including but not limited to transdermal patches, is prohibited.”





Cannabis: Cures or Curse 2 DoD/DHA/Branches Policy

US Coast Guard CBD/HEMP Policy:

- Coast Guard: [COMDTINST M1000.10](#), Chapter 5, section D.1....
- States that “The Coast Guard does NOT tolerate the intentional use of illegal drugs, illicit chemical analogues, or prescription drug misuse;
- This includes ingestion of HEMP oil OR Products made with HEMP seed oil;
- However, does NOT include food items regulated and approved by the Federal Drug Administration (FDA) that contain HEMP ingredients.”

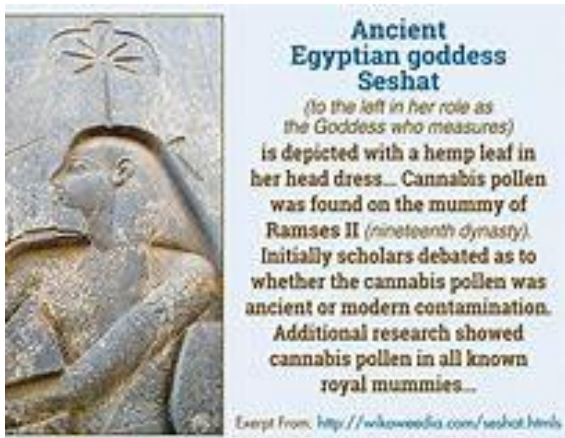




Cannabis: Cures or Curse 2

SHORT History of HEMP et al

Short History of HEMP et al:





Cannabis: Cures or Curse 2

SHORT History of HEMP et al

Short History of HEMP et al:

- Hemp has been cultivated on planet earth for over 10,000 years
- Earliest written references: 2727 B.C. / Chinese Emperor Shen Nung
- Historic records reflect applications of Hemp plants evolved from *simple rope and coarse woven fabric to paper and sail cloth
- Hemp seed and flower tops were also known to provide *medical comfort from a variety of ailments during the period of 2700 B.C. through Roman times
- In 1545 A.D. Hemp spread to the Western Hemisphere where Spaniards imported it to Chile for its use as Fiber.
- In North America, Hemp, was grown on many plantations for use in rope, clothing, paper, lubricants and medicines (*As noted above)



Half-raw Half-ripe
Ancient Jute Paper





Cannabis: Cures or Curse 2

SHORT History of HEMP et al

Short History of HEMP et al: Very Important POINT.....

- To set the record straight....
- Industrial Hemp IS NOT Marijuana
- BOTH originate from the Genus: Cannabis
- BUT Industrial Hemp is Defined as: “Having 0.3% THC or less.”*
- Industrial Hemp & Marijuana DIFFER in the same respect that Canola IS Different from Rapeseed AND Spring Wheat IS Different from Durum Wheat
- INDEED Industrial Hemp Shares similar characteristics with Marijuana
- BUT EACH have Unique Traits For Differentiation And Application Purposes



Cannabis: Cures or Curse 2

SHORT History of HEMP et al

Short History of HEMP et al: Oh-By-The-Way....

In the early 1900s....

Henry Ford revolutionized the automobile industry by introducing the Model T.

But Henry's vision extended well beyond that early design break through and mass production concept. Ford envisioned a car manufactured and fueled by HEMP. In the 1930s he produced a prototype of the automobile with a seemingly invincible body....





Cannabis: Cures or Curse 2

SHORT History of HEMP et al



'Grown from the soil'
Ford's HEMP CAR

.....

One of Henry Ford's first cars ran entirely on Hemp ethanol. The body was also constructed from Hemp plastic, which was 10x stronger than steel.

Of course - Hemp was then outlawed in the US in 1937 due to the potential damaging effect it would have on many powerful industries at the time, including oil, plastics & paper giants.

Imagine where we would be today had these power hungry tyrants not suppressed the amazing bio-technologies of Hemp?

A black and white photograph of a white Ford car, likely a Model A, with a license plate that reads 'DEARBORN MICH. 9-13 1941'. Two men in suits are standing behind the car.



Cannabis: Cures or Curse 2

SHORT History of HEMP et al

Short History of HEMP et al:

From 1850 to 1936 Hemp-based medications used for > 100 illnesses





Cannabis: Cures or Curse 2

SHORT History of HEMP et al

Short History of HEMP et al: BUT.....

Harrison Narcotics Act (1914): Regulated many so-called “hard-drugs”

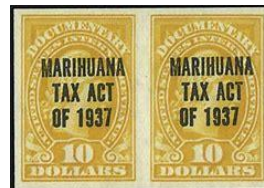
- Cannabis/Hemp was EXCLUDED from the law

Massachusetts enacted first statewide cannabis/hemp prohibition in 1911

1913: California; 1930s: New England & Most of the Rest of the US

(1st) Federal Marijuana Tax Act 1937 followed the general public hostility

- DID NOT prohibit growing Hemp....but TAXED heavily



1937 Marijuana Tax Act



- Did not make growing hemp illegal but greatly restricted the ability of hemp farms to expand.



Cannabis: Cures or Curse 2

SHORT History of HEMP et al

Short History of HEMP et al:

1970 Congress passed the Controlled Substances Act (CSA)

Cannabis classified a "Schedule 1" medication (like heroin)

Schedule 1 medications Defined: "Those medications with "no known accepted medical use" have a "high potential for abuse" and lack any "safety" profile.



Controlled Substance Act

Schedule I - (MOST DANGEROUS) Controlled substances that have no established medical usage, cannot be used safely, and have great potential for abuse. This schedule includes:

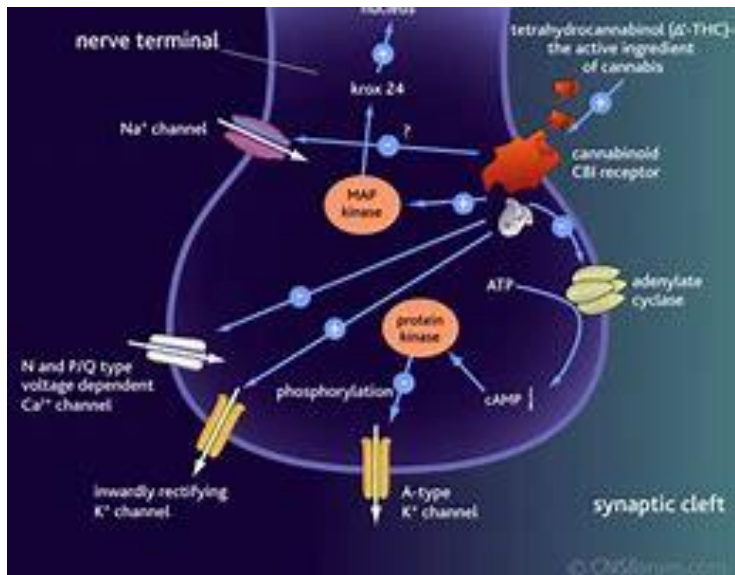
- heroin
- LSD
- mescaline
- peyote
- methaqualone
- psilocybin
- marijuana
- hashish
- other specified hallucinogens



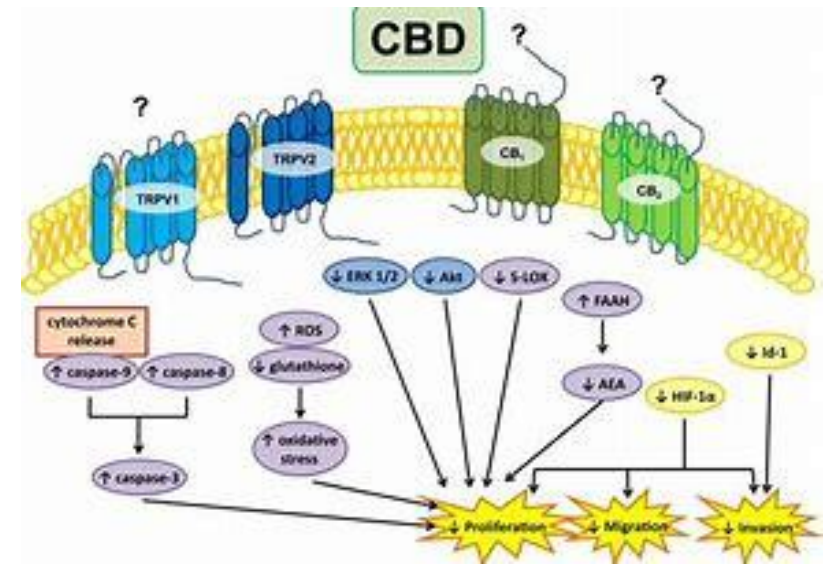
Cannabis: Cures or Curse 2

SHORT Review CBD/THC MOA

- SHORT Review – CBD/THC Mechanisms of Action



© Can Stock Photo - csn7709342



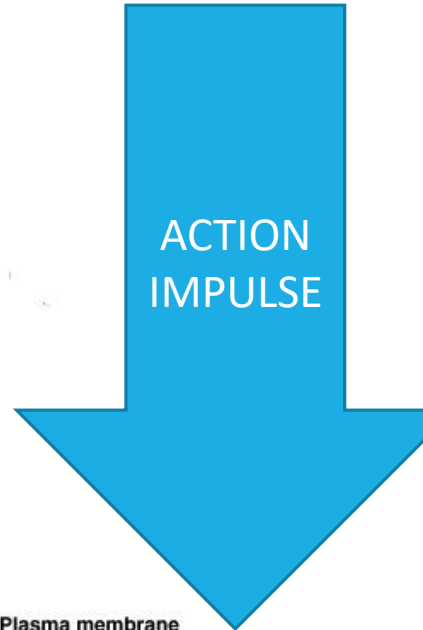
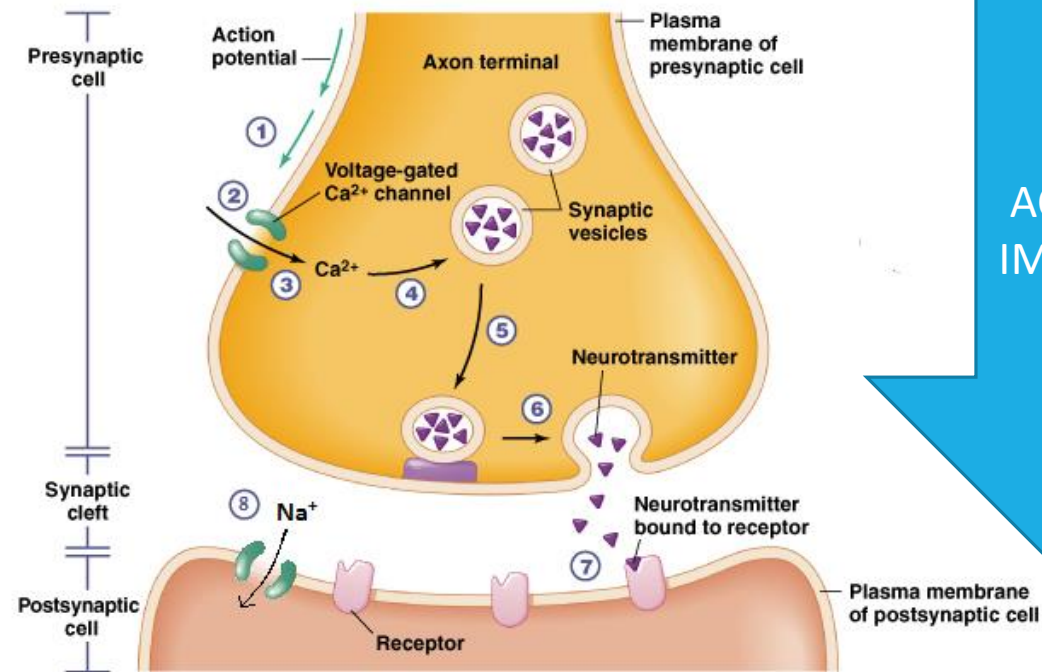
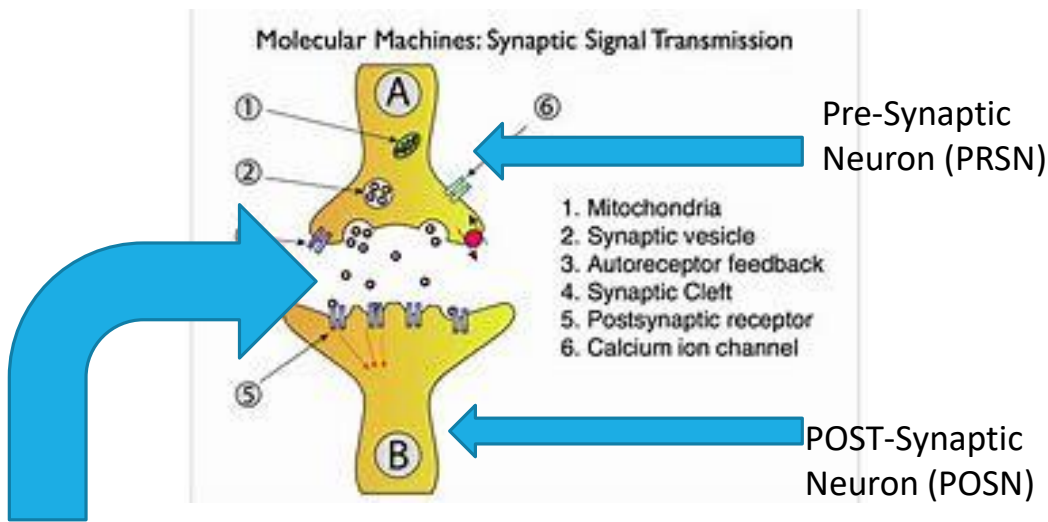


Cannabis: Cures or Curse 2

SHORT Review CBD/THC MOA

- CBD/THC Mechanisms of Action: Anatomy 101

The Synaptic Cleft (TSC)



SUMMARY OF TSC ACTIVITY:

1. NTMs synthesized & stored in vesicles until ready to release
2. Upon activation & release - NTMs bind to corresponding receptors
3. Upon NTM's activation - response is initiated downstream

Neurotransmitters (NTM)
i.e. **acetylcholine, norepinephrine**
dopamine, serotonin;
gamma aminobutyric acid (GABA)



Cannabis: Cures or Curse 2

SHORT Review CBD/THC MOA

• CBD/THC Mechanisms of Action: Endogenous CBD*

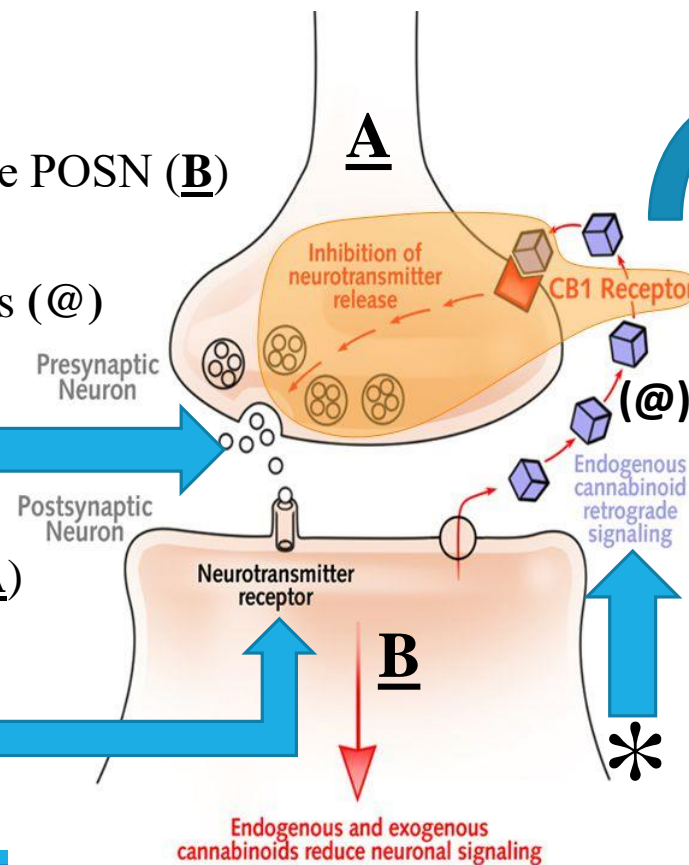
• ***Endogenous CBD (E-CBD) Action At TSC:**

• Upon *too much* PRSN activity (A)

- (B) POSN Systemic *E-CBD's are synthesized/released by the POSN (B)
- **Systemic** *E-CBDs synthesized: **Anandamide; 2-AG** (@)
- *E-CBD **binds with CB1 receptors** to **stabilize** PRSN vesicles (@)

• **BLUF: DECREASING** NTMs' **release**

- (B) **Summary:**
- *E-CBD TSC Signaling is **RETROGRADE Inhibition** of (A)
- (A) NTMs impacted by *E-CBD**:
- ** (NTMs): Glutamate; GABA; Acetylcholine; ...
-Norepinephrine; Dopamine; 5-HT3; Cholecystokinin



The CB1 receptor activates a G protein which can lead to a number of presynaptic downstream events (e.g., effects on ion currents) that result in the inhibition of neurotransmitter release

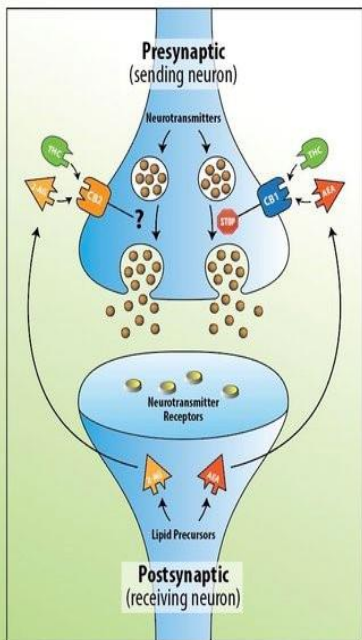
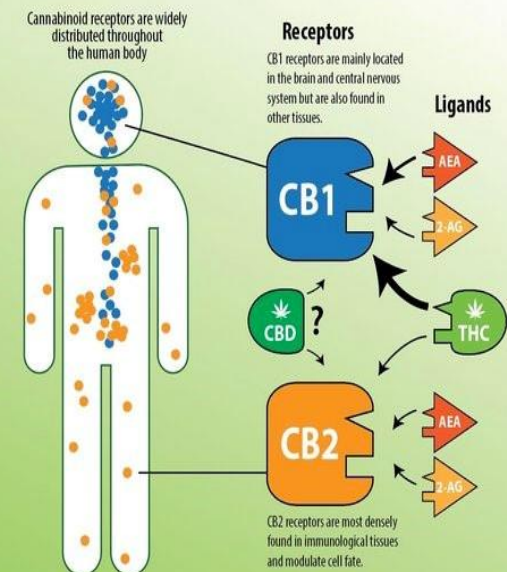


Cannabis: Cures or Curse 2 SHORT Review CBD/THC MOA

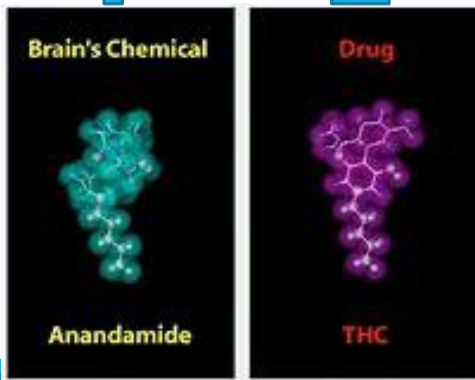
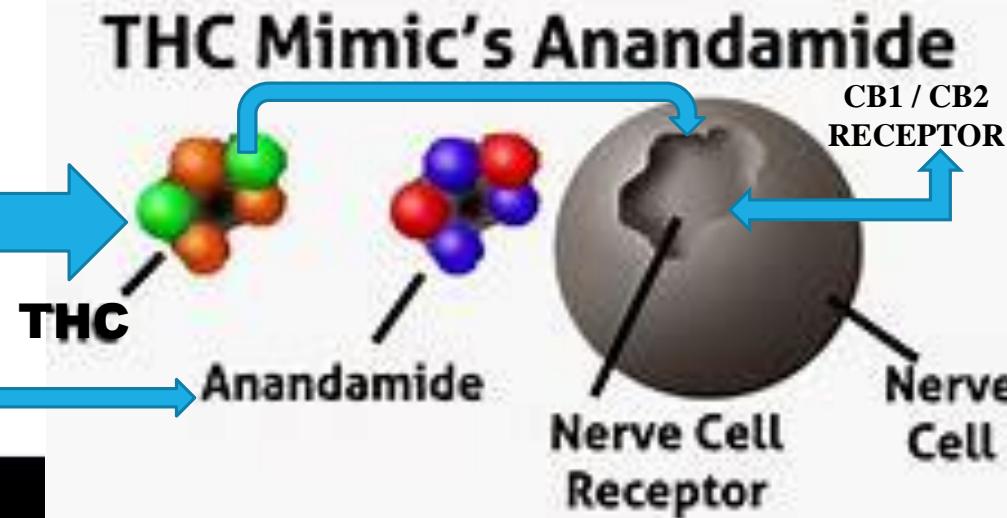
- CBD/THC Mechanisms of Action:

The Human Endocannabinoid System

The endocannabinoid system (ECS) consists of cannabinoid receptors, endocannabinoids and their metabolic enzymes. Two major cannabinoid receptors, CB1 and CB2, and two main endocannabinoids, anandamide (AEA) and 2-arachidonoyl-glycerol (2-AG), have been identified. Human endocannabinoids and plant cannabinoids, such as THC and CBD, bind to cannabinoid receptors with great specificity, much like a lock and key. Activation of the cannabinoid receptors inhibits the release of neurotransmitters. The ECS plays a key role in homeostasis and regulates many physiological processes such as inflammation and pain perception, immunity, neuropathy and metabolism.



AEA binds to the CB1 receptor with greater affinity than CB2 whereas 2-AG binds both receptors with equal affinity. THC binds the CB1 receptor with greater affinity than the CB2 receptor and it has been suggested that binding effects of THC mimic AEA. CBD has low affinity for both receptors but interacts at low concentrations. It has been proposed that binding effects of CBD are mimetic to 2-AG.



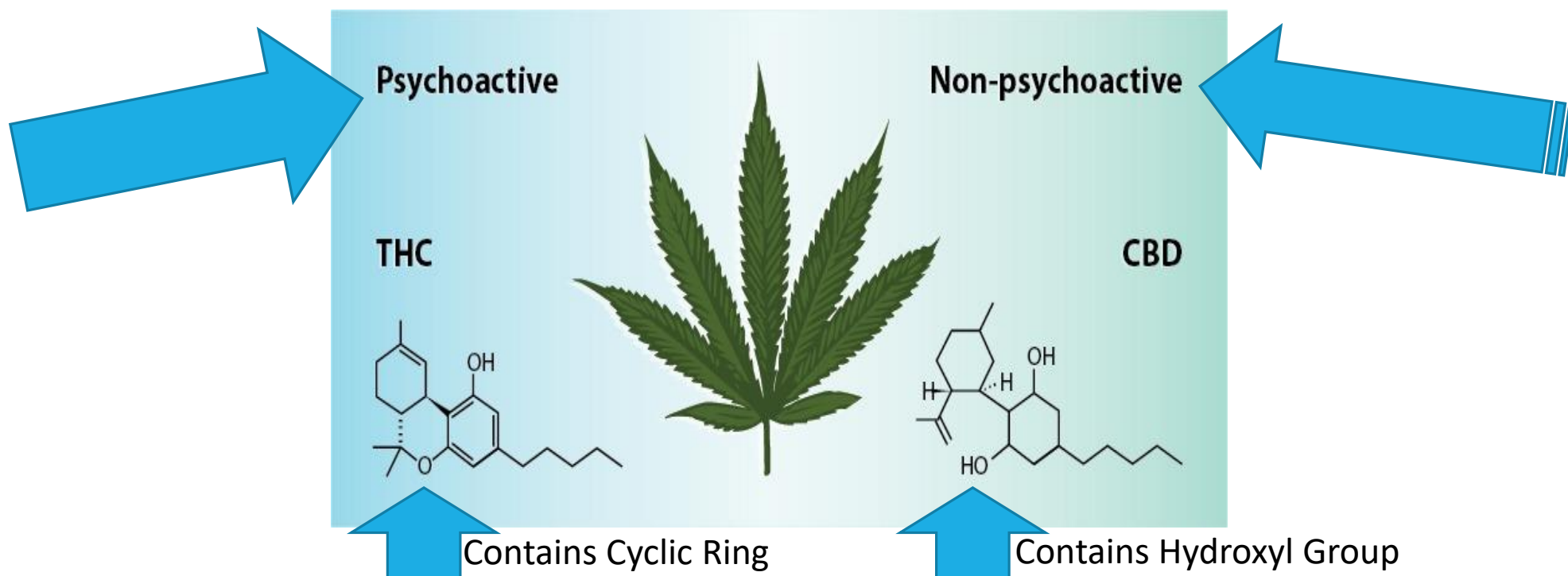
andamide and THC molecular structures are similar. This allows for... to mimic anandamide by connecting to the nerve cell receptor in place.



Cannabis: Cures or Curse 2

SHORT Review CBD/THC MOA

- CBD/THC Mechanisms of Action:
- KEY DIFFERENCE





Cannabis: Cures or Curse 2

SHORT Review CBD/THC MOA

- CBD/THC Mechanisms of Action/Body Elimination:
- 1st Pass Metabolism

Oral CBD (as oil, tincture, capsules, or edibles)... passes through GI system

In the intestines CBD is absorbed into the bloodstream/transported to the liver through the hepatic portal system. The liver breaks-down CBD into its metabolites by C-P450*

Unfortunately, first-pass metabolism of CBD is quite inefficient

Various studies have found that 94% of CBD is excreted in its original form & metabolites

Bioavailability of most oral CBD = 6% or less

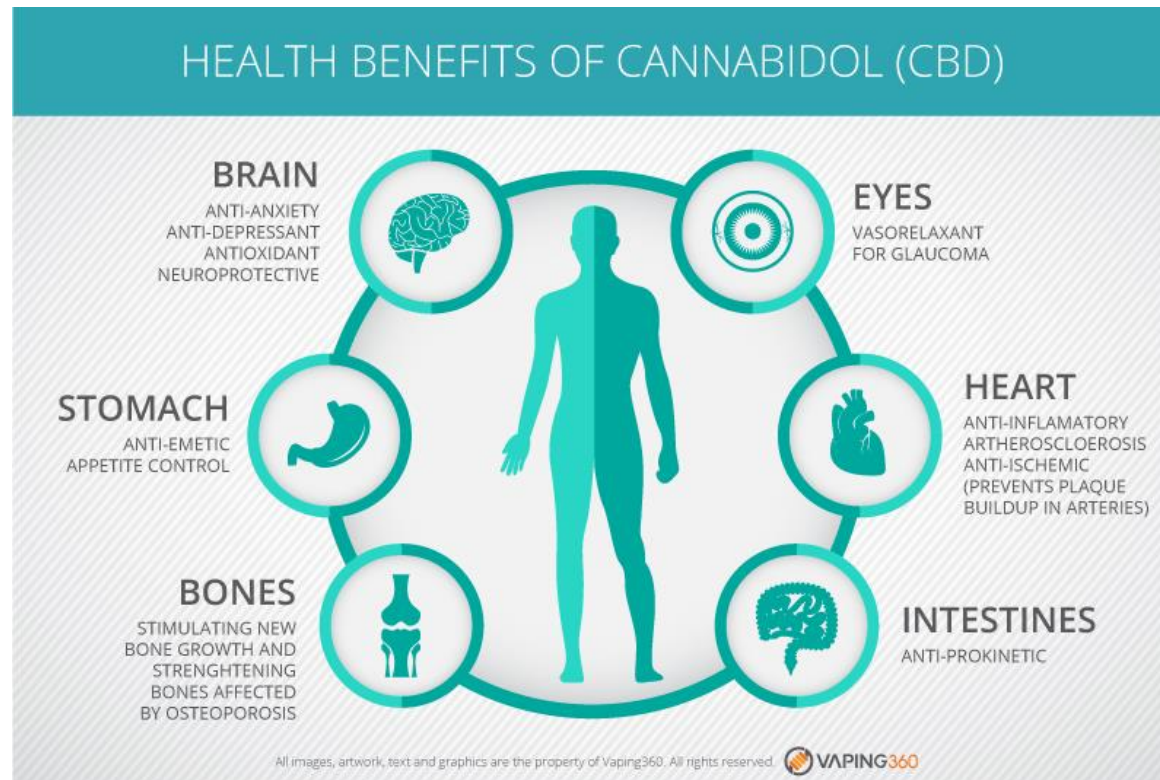
Thus, when CBD (and metabolites) passes through the GI Tract through to the rest of the body, the body's actual 'employable' dose is considerably reduced



Cannabis: Cures or Curse 2

Current Clinical Employments

Current Clinical Employments of CBD et al:





Cannabis: Cures or Curse 2

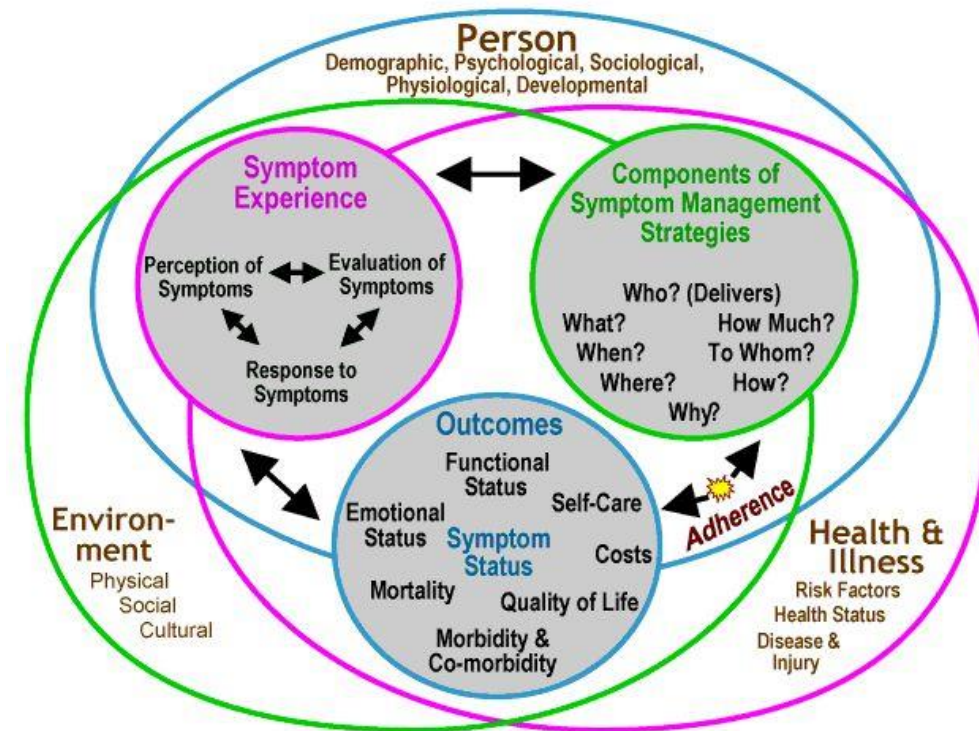
Current Clinical Employments

Current Clinical Employments of CBD et al:

Medical Goals of Therapy:

Symptom Mngmnt // Disease Mod

- Pain // Sleep Disorders
- Spasticity // Depression
- Inflamm // Eating Disorders
- Anxiety // GI Disorder
- Nausea/Vomiting // Mental Health





Cannabis: Cures or Curse 2

Current Clinical Employments

Current Clinical Employments of CBD et al:

VIP – Knowing where CB1/CB2 Receptors are...

CB1 Receptors (CB1R): CB1R - Primarily In BRAIN

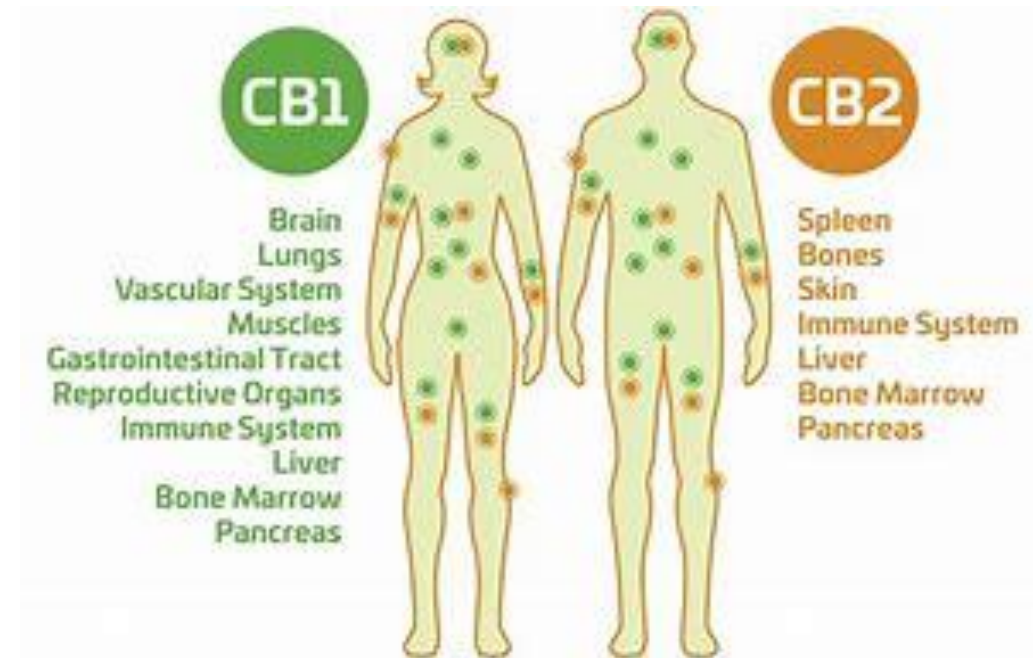
(NOT significant in Brain-stem)

Other CB1R Locations:

- Adipocytes
- Endocrine & Exocrine Glands
- Hepatocytes

CBD Actions in CNS:

- Anti-Noceptive* (Key-component in Pain System)
- Parasympathetic (Anti-Emetic)
- Neuroprotection
- Neuroplasticity





Cannabis: Cures or Curse 2

Current Clinical Employments

Current Clinical Employments of CBD et al (Specifics):

Digestive Aid

When cannabidiol binds to cannabinoid receptors in a person, it stimulates the individual's appetite. These receptors play a major role in regulating feeding behavior. Some diseases interfere with the appetite to the extent that they can prevent a patient from recovering, and such patients can benefit from this oil

Moreover, cannabidiol is good at easing nausea and vomiting. People who are enduring chemotherapy and treatments from serious diseases and are suffering from the conditions can have the most benefit from this compound

Anxiety Relief

Cannabidiol can also relieve severe social anxiety. In a 2001 study, researchers investigated the effects of this oil on people with generalized social anxiety disorder and confirmed that it significantly reduces anxiety, discomfort in speech performance and cognitive impairment. While the group that used cannabidiol showed great results, the other group showed higher anxiety, discomfort, and cognitive impairment



Cannabis: Cures or Curse 2

Current Clinical Employments

Current Clinical Employments of CBD et al (Specifics continued):

Cancer Spread

Research has shown that cannabidiol may have significant protective effect against the development of certain types of cancer. This oil can prevent some types of cancer by inducing the death of tumor cells, controlling and preventing the spread of breast cancer cells, and inhibiting cancer cell growth. According to [California Pacific Medical Center](#), the oil prevents breast cancer cells from traveling to distant tissues by inhibiting ID-1 gene aggression

Antipsychotic Relief

Cannabidiol also relieves psychotic symptoms that are associated with schizophrenia, researchers at [the University of Cologne](#) in Germany have revealed. Schizophrenia affects approximately 1.1 percent of adults in the U.S., making the demand of this compound high

Diabetes Prevention

In a recent [study](#), the use of this oil led to the prevention of the development of diabetes in nonobese diabetic mice. This happened because it prevented the production of a cytokine that plays a significant role in many autoimmune diseases



Cannabis: Cures or Curse 2

Current Clinical Employments

Current Clinical Employments of CBD et al (Specifics continued):

Insomnia

For many people, this compound is the best for those who want drugs that aid sleep. Unlike most drugs, it does not habit forming (See Case Study Upcoming)

Acne

This compound can treat acne, according to [the Journal of Clinical Investigation](#). Scientists used cannabis-derived cannabidiol on the sebaceous glands of a human being and discovered that it acts as an efficient sebostatic and anti-inflammatory agent

Fibromyalgia

The most common treatments for this condition are corticosteroids, opioid pain medications, and anti-inflammatory medications. A [2011 research study](#) indicates that this oil can also treat fibromyalgia. The researchers recruited *56 participants and asked half of them to use cannabidiol and another half to use traditional methods to treat their conditions. All participants who used this oil saw a significant reduction in their symptoms and pain, but the other team did not see much of an improvement



Cannabis: Cures or Curse 2

Current Clinical Employments

Current Clinical Employments of CBD et al (Specifics continued):

Crohn's Disease

Cannabidiol could be very effective at treating bowel diseases such as Crohn's disease. This compound interacts with the systems that regulate gut functions. Its anti-inflammatory abilities inhibit this condition from progressing and ultimately bring a lot of relief to Crohn's patients

Cigarette Addiction

Cannabidiol can play a major role in the smoking-withdrawal process. In a [double-blind study](#), 24 smokers* received either a placebo or inhaler of cannabidiol, and they were asked to take a puff every time they craved for a cigarette. Over the week, those who were taking the cannabidiol inhaler registered a nearly 40 percent drop in their intake, while the rest saw no change in the number of cigarettes they consumed



Cannabis: Cures or Curse 2

Current Clinical Employments

Current Clinical Employments of CBD et al:

FDA APPROVED CBD-BASED RX-Meds

Epidiolex[®] / (1st-in-class) Antiepileptic / TX Seizures assoc wi Lennox-Gastaut Syndrome / or / Dravet Syndrome {Ptnts 2 yrs old & older}

Marinol (dronabinol)[®] / Anti-emetic/nausea (chemo);

- Anorexia (wi HIV)

Syndros (liquified dronabinol)[®] / Same indx as with Marinol[®]

Cesamet (nabilone)[®] / Anti-emetic (Note: Fully synthetic)*



Cannabis: Cures or Curse 2 CBD Side Effects/Concerns

CBD Side Effects & Concerns:





Cannabis: Cures or Curse 2 CBD Side Effects/Concerns

CBD Side Effects & Concerns:

{Note: Overall, CBD (wi/low-no THC) has few side effects/considered safe substance to take}

These are the known side effects of CBD (wi/low-no THC):

- Inhibition of hepatic drug metabolism/decreased activities of p-glycoprotein and other drug transporters
- Dry mouth
- Increased tremor in certain groups
- Low blood pressure
- Lightheadedness
- Drowsiness





Cannabis: Cures or Curse 2

CBD Side Effects/Concerns

CBD Side Effects & Concerns:

CBD (wi THC)

Increased Heart Rate (Tachycardia)

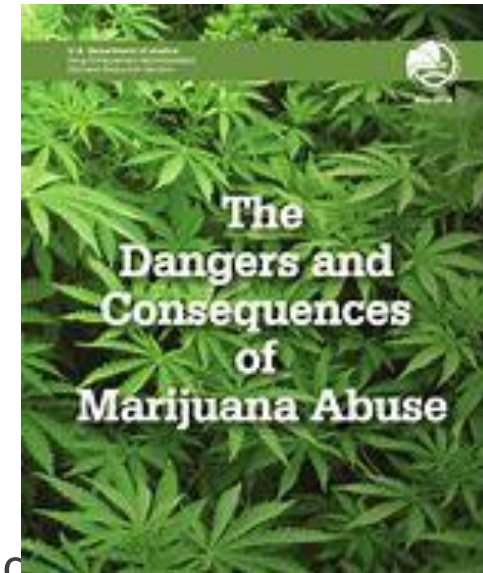
Low Blood Pressure/Orthostatic Hypotension

Muscle Relaxation

Slowed Digestion/Increased Appetite

Dizziness/Distorted Perception (sights, sounds, time, touch)/Hallucinations

Difficulty in Thinking/Memory/ & Problem Solving





Cannabis: Cures or Curse 2

CBD Side Effects/Concerns

CBD Side Effects & Concerns:

Labeling Accuracy of Cannabidiol On The Internet:

Using +/- 10% for label accuracy of CBD content (*n=84)

- 43% over label
- 26% under label
- 31% ON label

18/84 samples

- (22%) contained detectable THC

THC Contamination DETECTED

- As high as 6.43 mg/ml





Cannabis: Cures or Curse 2 CBD Side Effects/Concerns



CBD Side Effects & Concerns: RX-CBD Potential INX

**Foot-Stomp: CBD is eliminated via C-P450

Caution ptnts who are taking....

Beta-blockers/Calcium-channel Blockers // - Statins // - Grapefruit

Anti-epileptics // - Chemo (Etoposide; MTX; Paclitaxel) // - Benzodiaze.

Cardio/Vascular (Nifed; Carvedilol; Clopidogrel) // - Antidepressants

Antibiotics ('floxacins) // - Antifungals (Ketocon.) // Anti-inflamm (M-pred)

Anti-histamines (Fexofenadine) // - Sildenafil





Cannabis: Cures or Curse 2 CBD Side Effects/Concerns



CBD Side Effects & Concerns:

“Will Taking CBD Test Positive for Marijuana?”

Limited studies converted CBD to THC in Lab environment

Human Oral CBD Consumption Studies Concluded that:

“High doses of oral CBD (low-no THC) consistently failed to demonstrate clinically relevant TCH-like subjective/physiological effx”

NO Appreciable plasma concentrations of THC or its metabolites

BLUF: DoD/DHA/USAF Policy is STILL that CBD et al is NO JOY





Cannabis: Cures or Curse 2 CBD Side Effects/Concerns



CBD Side Effects & Concerns:

Synthetic marijuana or spice

“Designer drug” Unregulated illicit substance

MANY unforeseen risks – i.e 10-12x stronger

Recent CDC report: 94 victims/30 days severe bleeding/ER!

[Synthetic marijuana dangers](#) Constantly changing

Street-’manufacturers’ alter formulations to avoid the new laws





Cannabis: Cures or Curse 2

CBD Wild-Wild West Legalities

CBD Wild-Wild West Legalities:



**Wild West Weed
& Seed**





Cannabis: Cures or Curse 2

CBD – WILD WILD West

CBD Legalities....WILD WILD WEST/The Question?:

Is cannabidiol legal?

“CBD is readily obtainable in most parts of the United States, though its exact legal status is in flux. 47/50 states have laws legalizing CBD with varying degrees of restriction, and while the federal government still considers CBD in the same class as marijuana, it doesn’t habitually enforce against it. In December 2015, the FDA eased the regulatory requirements to allow researchers to conduct CBD trials. Currently, many people obtain CBD online without a medical cannabis license. The government’s position on CBD is confusing, and depends in part on whether the CBD comes from hemp or marijuana. The legality of CBD is expected to change, as there is currently bipartisan consensus in Congress to make the hemp crop legal which would, for all intents and purposes, make CBD difficult to prohibit.”



Cannabis: Cures or Curse 2

CBD Wild-Wild West Legalities

CBD Wild-Wild West Legalities/Complex Back-drop:

“We project that the U.S. hemp-based CBD market could be a \$2.25 billion to \$2.75 billion industry in 2020. These conservative projections already account for hampered FDA rulings and other possible speed bumps for the hemp-CBD marketplace. While the regulatory roadmap remains ambiguous, one thing is clear: The next decade for the hemp-based CBD market has the potential to be a game changer for the traditional CPG and retail industry.... ..These developments will play out as federal regulators align on the legality and safety of hemp-based CBD consumer products.”

Nielsen)

(Rich Maturo, Vice President, Cannabis Practice,



Cannabis: Cures or Curse 2

CBD Wild-Wild West Legalities

CBD Wild-Wild West Legalities/First....FDA & Farm Bill 2018:

In December of 2018, the 2018 Farm Bill was signed into law

Removed hemp, {defined as cannabis (*Cannabis sativa* L.)} and derivatives of cannabis with extremely low concentrations of the psychoactive compound delta-9-tetrahydrocannabinol (THC) [(no more than 0.3 percent THC on a dry weight basis{DWB})], from the definition of marijuana in the Controlled Substances Act (CSA)

(THIS IS THE “Line-In-The-SAND” Distinction)

***Foot Stomp: Hemp: CBD {NO MORE THAN 0.3% THC/DWB}

THUS....Marijuana: CBD WITH >0.3% THC = CSA/Schedule 1



Cannabis: Cures or Curse 2

CBD Wild-Wild West Legalities

CBD Wild-Wild West Legalities/First....FDA & Farm Bill 2018:

The 2018 Farm Bill explicitly preserved FDA's authorities over hemp products. Therefore, hemp products must meet any applicable FDA requirements and standards, just like any other FDA-regulated product. For example, FDA's existing authorities over foods, dietary supplements, human and veterinary drugs, and cosmetics apply to hemp products to the extent such hemp products fall within those categories. These safeguards help ensure that Americans have access to safe and accurately labeled hemp products, and, in the case of drugs, that patients can depend on the effectiveness of these products



Cannabis: Cures or Curse 2

CBD Wild-Wild West Legalities

CBD Wild-Wild West Legalities/First....FDA & Farm Bill 2018:

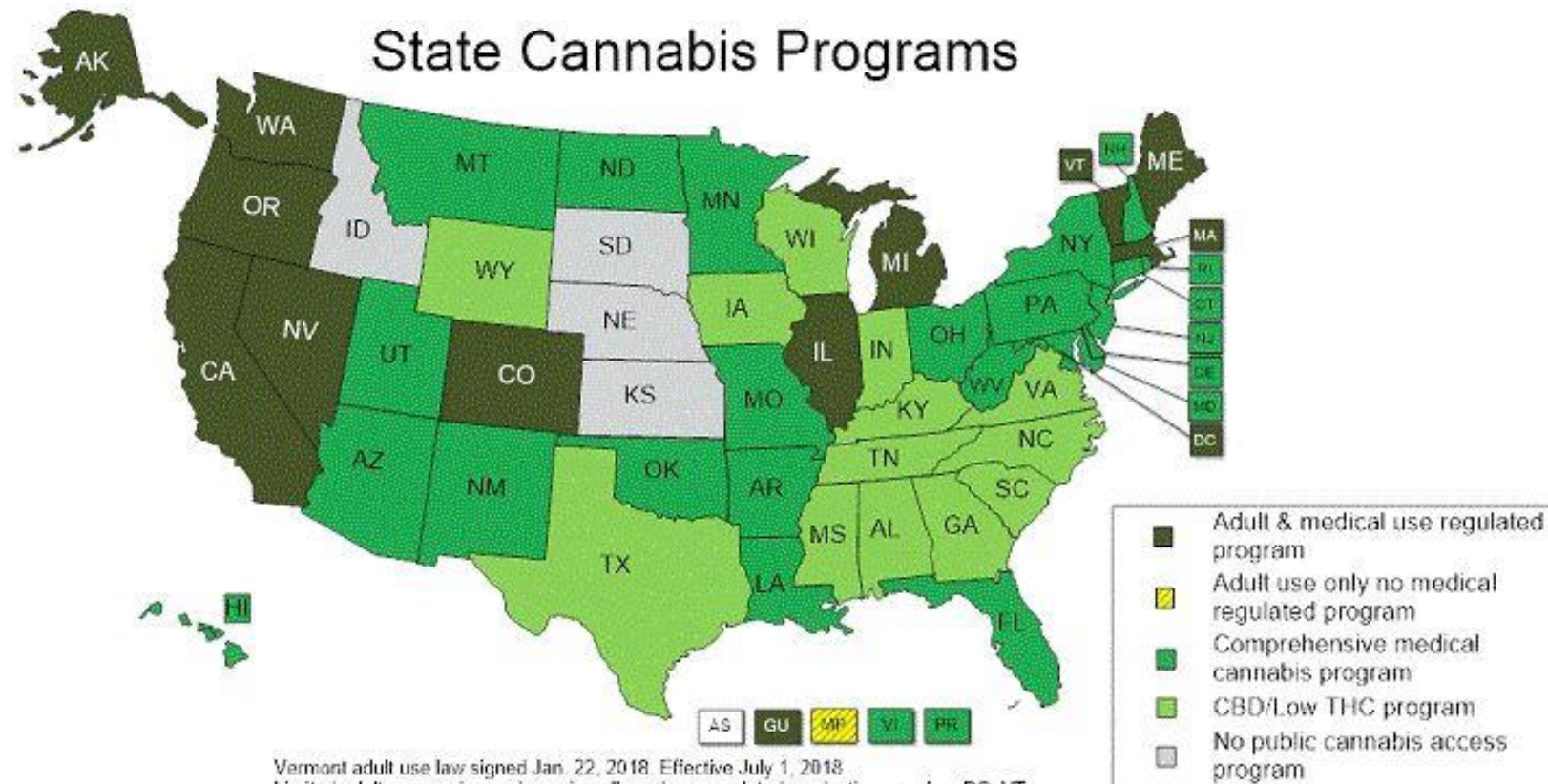
In late 2018, FDA advanced three hemp seed derived food products through the Agency's Generally Recognized as Safe (GRAS) process.^{[1](#)} Hemp seeds do not naturally contain cannabidiol (CBD) or THC, which are cannabinoid compounds that are found in other parts of the cannabis plant. The hemp seed products – hulled hemp seed, hemp seed protein powder, and hemp seed oil – can be legally used in the U.S. food supply. Any food products made with these hemp seed ingredients are subject to the same FDA requirements as any other food, such as those related to ingredient and nutrition labeling, as well as the risk-based, prevention focused Food Safety Modernization Act (PL 111-353) safeguards.^{[2](#)}



Cannabis: Cures or Curse 2

CBD Wild-Wild West Legalities

CBD Wild-Wild West Legalities State/State:



August 1, 2019



Cannabis: Cures or Curse 2

CBD Wild-Wild West Legalities

CBD Wild-Wild West Legalities:

Status State/State of CBD Laws.....

11 Total Recreational “THC” States

(2020 may lead to a few more joining them....

New York, New Mexico, Minnesota, and Illinois are predicted to go fully legal fairly soon

As of now, 47 of the 50 States allow for some form of medical cannabis

Idaho; Nebraska; South Dakota are the 3-States with NO Medical Cannabis laws



Cannabis: Cures or Curse 2

CBD Wild-Wild West Legalities

CBD Wild-Wild West Legalities:

Status State/State of CBD Laws.....

Low-THC CBD oil (<0.3% THC) is the only legal form of non-medical cannabis in the following States:

- Alabama, Georgia, Indiana, Iowa, Kansas, Kentucky, Mississippi, New York, North Carolina, South Carolina, Tennessee, Texas, Virginia, Wisconsin, and Wyoming



Cannabis: Cures or Curse 2

CBD Wild-Wild West Legalities

CBD Wild-Wild West Legalities:

Status State/State of CBD Laws.....

....Top 5 States with (Still) Harsh Marijuana Laws

Arkansas (THC >0.3%) possession of 4 oz

Florida possession of 20gms or less

Georgia possession of 1 oz

Idaho possession of 3 oz or less

Indiana possession of ANY amount





Cannabis: Cures or Curse 2

Brief Patient Case Study

PRESENTATION AGENDA:

- Brief Ptnt Case Study



Roy felt it was important to act out any side effects that a prescription might cause.



Cannabis: Cures or Curse 2

Brief Patient Case Study



Brief Patient Case Study:

- Ptnt: 65 yo male / Overall Health: Excellent
- BP: Normal; Wt: Within acceptable range for age
- Exercise: 4-5 times/week/60-min per session
- Comorbidities: (All currently controlled by RX et al)
 - Elevated Cholesterol (Statin)*
 - Pre-diabetes (Glucophage)
 - Seasonal Allergies (Claritin)
 - Sleep Apnea (CPAP)





Cannabis: Cures or Curse 2

Brief Patient Case Study

Brief Patient Case Study (Continued): Ptnt: 65 yo male

- Other health concerns (OHC)
- Chronic lower back pain (degenerative disc disease)
- Right-knee challenges due to on-the-job injury
- Sporadic insomnia





Cannabis: Cures or Curse 2

Brief Patient Case Study



Brief Patient Case Study (Continued): Ptnt: 65 yo male

- Other health concerns (OHC) / Treatment Plan for OHC
- Chronic Lower Back Pain:
 - Chiropractic Care (Monthly Alignments)
 - CBD (low-no THC) topical Cream & CBD/PO (1000mg @ h.s.)
- Right-knee challenges:
 - CBD (low-no THC) topical Cream & CBD/PO (1000mg @ h.s.)
- Sporadic insomnia:
 - CBD (low-no THC) topical Cream & CBD/PO (1000mg @ h.s.)

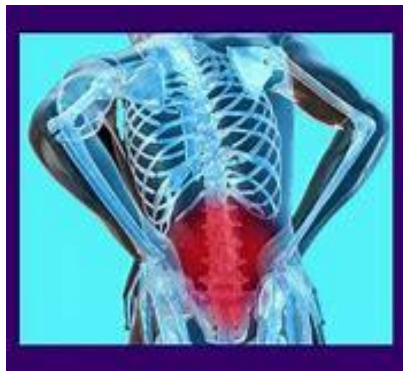


Cannabis: Cures or Curse 2

Brief Patient Case Study

Brief Patient Case Study (Continued): Ptnt: 65 yo male

- Other health concerns (OHC) / Results post 12-months
- Chronic Lower Back Pain:
 - 2017-2018: Chronic/daily debilitating back spasms
 - 2018-2019: 0 back spasms; Back to 95% range of motion



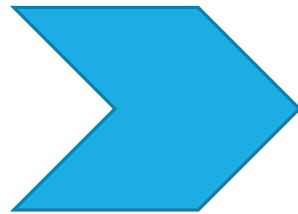


Cannabis: Cures or Curse 2

Brief Patient Case Study

Brief Patient Case Study (Continued): Ptnt: 65 yo male

- Other health concerns (OHC) / Results post 12-months
- Right-knee challenges:
 - 2017-2018: Decreased range of motion/daily use of Ibu/3200mg
 - 2018-2019: Range of motion back to 90-95%/Ibu use much less





Cannabis: Cures or Curse 2

Brief Patient Case Study

Brief Patient Case Study (Continued): Ptnt: 65 yo male

- Other health concerns (OHC) / Results post 12-months
- Sporadic insomnia:
 - 2017-2018: Ptnt states experiencing insomnia episodes 4-5 times per week; Ptnt states he has used a variety of OTC sleep meds with little to no help (other than 'hang-over' effect)
 - 2018-2019: Ptnt reports, upon beginning to use 1-1000mg CBD PO every third day has helped (a) Reduce his back/knee pain; (b) Helped stabilize his sleep patterns



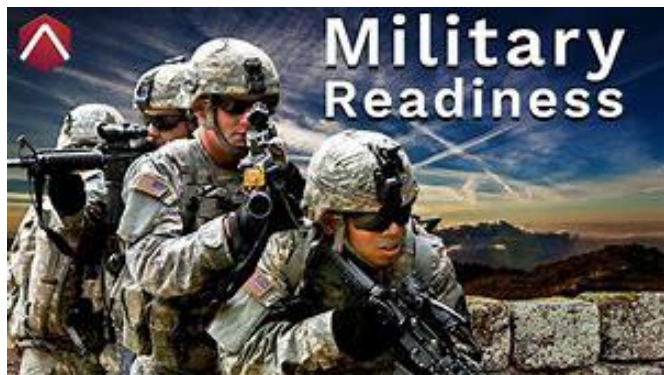


Cannabis: Cures or Curse 2

Conclusions: Readiness Impact

Conclusions – Readiness Impact?:

- Conclusions – Readiness Impact





Cannabis: Cures or Curse 2

Conclusions: Readiness Impact

Conclusions:

What's the Potential Readiness IMPACT?

- Note – As noted above DoD et al Policies.....
 - NO CBD/HEMP/THC 'should-be' being employed by DoD members
- BUT.....IF CBD/HEMP (low-no THC) gained approval....
- Theoretical POSITIVE Potential (CBD w/low-no THC):
 - Pain reduction/management
 - Deployment induced Insomnia/Anxiety
 - Minor strains/sprains/anti-inflammatory



Serving Those Who Served Us



Cannabis: Cures or Curse 2

Conclusions: Readiness Impact

Conclusions:

What's the Potential Readiness IMPACT?

- Theoretical NEGATIVE Potential:
 - Lightheadedness/Drowsiness
 - Sudden hypotension episodes
 - Diarrhea/appetite change/wt change
 - Rx-Rx INX (due to C-P450 elimination)





Cannabis: Cures or Curse 2

Conclusions: Readiness Impact

Conclusions:

BUT....as of today.....BLUF – No Joy for use of CBD/DOD





Cannabis: Cures or Curse 2 In Conclusion....

In Conclusion (Continued): Future Implications.....

- Drs MacCullum C. and Russo E. (2018)





Cannabis: Cures or Curse 2 In Conclusion....

In Conclusion (Continued): Future Implications....

What Does the Future of Medical Cannabis Research Look Like?

There's been growing interest in medical cannabis for some time now, and it seems more research studies are being published every day. The sheer volume of information presented is a bit overwhelming, although it's contributing greatly to the body of knowledge in the field

That said, many are now looking to what the future holds for [medical cannabis research](#). With so much currently underway, what will happen in the next few years? There are a few trends to keep your eye on

More Funding for Medical Cannabis Research

One of the biggest trends in the next few years will be more funding for medical cannabis research than ever before. As cannabis is legalized in more markets, there will be growing demand for research. Medical cannabis has shown promise as a treatment for many conditions, but more research is needed to verify its effectiveness, including in treatments and with long-term use



Cannabis: Cures or Curse 2 In Conclusion....

In Conclusion (Continued): Future Implications....

More Controlled Studies

One of the issues with current medical marijuana research is the low quality of the research being conducted. Many studies rely on patient self-reporting, without studying the underlying mechanisms. Further, most studies don't use control groups to test the differences between using cannabis and using nothing at all. Standardization for strains is also required

One thing future research on cannabis for medicinal purposes must do is invest in controlled studies. These studies will corroborate self-reports to determine if cannabis is truly effective

Studies will also need to delve deeper into the effects and mechanisms through which cannabis achieves any medicinal effects. In turn, this knowledge will help the medical community isolate more effective treatments for a variety of medical conditions



Cannabis: Cures or Curse 2 In Conclusion....



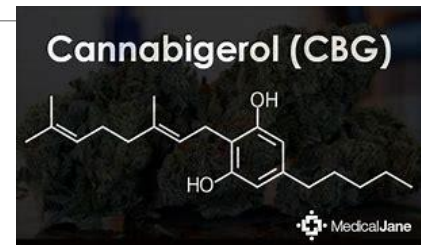
In Conclusion (Continued): Future Implications....

Discovering More about Cannabinoids

Future research might pursue the study of additional cannabinoids

There's +/- 100 known cannabinoids, only THC & CBD have been studied in any depth. Science is still unlocking their "secrets" ...BUT there are OTHER cannabinoids yet to be reviewed.... ..e.g. CBG (Cannabigerol)

Research is already moving in this direction. Some studies have looked at the effects various cannabinoids have in rats and mice. Future studies will continue to examine these substances and possibly discover new ones





Cannabis: Cures or Curse 2 In Conclusion....

In Conclusion (Continued): Future Implications....

Discovering More Uses for Medicinal Cannabis

As more research is conducted, it's likely that more treatments and uses for cannabis will also be explored through various studies. These studies will likely build on those that have already been conducted to determine if cannabis can truly help some of the conditions being examined

This research is crucial to determine what conditions medical cannabis can aid in treatment. Already, good evidence has accumulated for conditions such as chronic pain, but most conditions lack a good body of evidence demonstrating the effectiveness of cannabis-based treatments





Cannabis: Cures or Curse 2 In Conclusion....

In Conclusion (Continued): Future Implications....

BLUF - More Work to Be Done

Continuing efforts/increased funding will boost the amount of medical CBD research being accomplished

With higher-quality studies and more scientific evidence, new cannabis-based treatments are on the horizon

The road to quality research can be long, but well worth it in the end





Cannabis: Cures or Curse 2 In Conclusion....

In Conclusion (at last.....): The Cannabis Question.....

“Cannabis has been employed medicinally throughout history, BUT its recent legal prohibition, biochemical complexity and variability, quality control issues, previous dearth of appropriately powered randomized controlled trials, AND lack of pertinent education, have conspired to leave Clinicians ‘in the dark’ as to HOW to advise ptnts pursuing such treatment.”

- Drs MacCullum & Russo (2018)





Cannabis: Cures or Curse 2 Presentation Agenda Rvw

PRESENTATION AGENDA REVIEW:

- DoD/DHA/Branches CBD Policies
- SHORT History of Cannabis
- SHORT Review of CBD/THC Mechanisms of Action
- Current Clinical Employments of CBD
- Side-Effects and Concerns with CBD
- CBD Wild-Wild West Legalities
- Brief Ptnt Case Study
- Conclusion: Readiness Impact?
- Agenda Review
- Q&A
- References





Cannabis: Cures or Curse 2 Q & A

Question & Answers:





Cannabis: Cures or Curse 2

RPh-CPhT's Learning Obj

RPh-CPhT Learning Objectives:

- Reviewed
- Pre-Test
- Post-Test
- Answers



Learning Objectives



Cannabis: Cures or Curse 2

Pharmacist's Learning Obj

Learning OBJ – Pharmacists (RPh):

Discuss the Policies of DoD; DHA; Branches regards us of CBD

Discuss the endocannabinoid (EnCBD) system; Cannabinoid (CBD) pharmacology; Current FDA-Approved CBD-based medications

Apply info from med-lit to specific ptnt case scenarios for the safe TPX use of medical CBD

Design a role for RPhs related to med-CBD ptnt counseling in a deployed settings

Develop a plan for RPh when ptnts report med-CBD use & the ptnts' desire to continue TPX across transitions of care



Learning Objectives



Cannabis: Cures or Curse 2 Pharmacist's L.O. Pre-TEST

Learning OBJ – Pharmacists (RPh) – PRE-TEST:

T/F- DoD/DHA/USAF Policy all give 'green-light' to use CBD items

T/F - EnCBD binds wi CB1 receptors retrograde inhibition of NTMs

Case-study Ptnt is on _____ which
COULD Rx-INX with CBD

T/F – There are 10 States that have no-medical
CBD laws

Case-study Ptnt wants to remain on CBD – You
recommend ptnt should _____ with
PCM to validate use



Cannabis: Cures or Curse 2

Pharmacist's L.O. POST-TEST

Learning OBJ – Pharmacists (RPh) – POST-TEST:

T/F- DoD/DHA/USAF Policy all give 'green-light' to use CBD items

T/F - EnCBD binds wi CB1 receptors retrograde inhibition of NTMs

Case-study Ptnt is on _____ which COULD Rx-INX with CBD

T/F – There are 10 States that have no-medical CBD laws

Case-study Ptnt wants to remain on CBD – You recommend ptnt should _____ with PCM to validate use



Cannabis: Cures or Curse 2 Pharmacist's L.O. ANSWERS

Learning OBJ – Pharmacists (RPh) – ANSWERS:

F- DoD/DHA/USAF Policy all give 'green-light'
to use CBD items

T - EnCBD binds w/ CB1 receptors retrograde
inhibition of NTMs

Case-study Ptnt is on Statins which COULD Rx-
INX with CBD

F – There are 10 States that have no-medical
CBD laws

Case-study Ptnt wants to remain on CBD – You
recommend ptnt should CONSULT with PCM to
validate use





Cannabis: Cures or Curse 2 PharmTechs' Learning Obj



Learning OBJ - PharmTechs (CPhT):

Discuss DoD; DHA; Branches Policies on use of CBD Products

Discuss the EDCBD system; CBD PCOL; CBD products

Rvw on-going legal challenges from State-State to Federal issues

Evaluate VIP safety considerations for med-CBD use

Recognize “The Line-In-The Sand” between HEMP/Marijuana





Cannabis: Cures or Curse 2 PharmTechs' L.O. Pre-TEST

Learning OBJ - PharmTechs (CPhT) - PRE-TEST:

T/F – DoD/DHA/USAF's CBD-products use Policies all say “NO-JOY”

T/F – All 50 States have passed full-recreational OK Laws for marijuana

The “Line-In-The-Sand” for FDA Definition of HEMP vs Marijuana is....HEMP is defined as LESS THAN _____% by dry-weight of _____

CBD is eliminated by the _____ system / this could cause _____

T/F – There are 4 FDA-Approved CBD-based Rx-Meds available



Cannabis: Cures or Curse 2

PharmTechs' L.O. POST-TEST

Learning OBJ - PharmTechs (CPhT) - POST-TEST:

T/F – DoD/DHA/USAF's CBD-products use Policies all say “NO-JOY”

T/F – All 50 States have passed full-recreational OK Laws for marijuana

The “Line-In-The-Sand” for FDA Definition of HEMP vs Marijuana is....HEMP is defined as LESS THAN _____% by dry-weight of _____

CBD is eliminated by the _____ system / this could cause _____

T/F – There are 4 FDA-Approved CBD-based Rx-Meds available



Cannabis: Cures or Curse 2 PharmTechs' L.O. ANSWERS

Learning OBJ - PharmTechs (CPhT) - ANSWERS:

T – DoD/DHA/USAF's CBD-products use Policies all say “NO-JOY”

F – All 50 States have passed full-recreational OK Laws for marijuana

The “Line-In-The-Sand” for FDA Definition of HEMP vs Marijuana is....HEMP is defined as LESS THAN 0.3% by dry-weight of THC

CBD is eliminated by the C-P450 system / this could cause RX-INTX

T – There are 4 FDA-Approved CBD-based Rx-Meds available





Cannabis: Cures or Curse 2 Con

The Board of Certification
of the
CBD Training Academy
Has conferred the certificate of
CBD Certified Coach

Upon



Who has honorably fulfilled all of the requirements prescribed by the CBD Training Academy.
This certificate is granted with all the rights, privileges and responsibilities pertaining thereto

200-1950

Certificate Number



Date



Jeffery A. Johnson
President





Cannabis: Cures or Curse 2 One Last Thank You....



THANK YOU / Col J's Contact Info:....

Thank You....Appreciate Your Attention

SAFP/2020 Mid-Year Presentation

Selection Team



**THANK
YOU**

....My Contact Info:

Email: ntrxpathconsultants@outlook.com

Or

afrxcyjaj@yahoo.com

Or

TXT: 719-357-3785



Attendance Code

To obtain CPE credit for this activity, you are required to actively participate in this session. You will need this attendance code in order to access the evaluation and CPE form for this activity. Your CPE must be filed by **October 7, 2020, at 1700 EST** in order to receive credit.



Cannabis: Cures or Curse 2 Off We GO!

