


# **Reefer Madness: Cannabis vs CBD oil:** **Facts & Misconceptions**

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1hr basic technical

**Course Description: Cannabis and CBD oil are upon us. Sort through the facts & misunderstandings of this coming tidal wave. How is Optometry involved? What else do we know about a multitude of health conditions & how these new(old) supplements may affect our profession & our own lives.**

## 1) Facts and Misconceptions

- Hemp(cannabis) vs Marijuana vs CBD oil
- Hemp cultivated for over 28,000 yrs
- 2 broad general classes --- Sativa & Indica
- Cannabis botanical name, hemp common plant name (6000+ hybrids 2018)
- Marijuana street name
  - SMALL subset of cannabis
  - BRED with high THC/low CBD
- Over 400 chemical entities in cannabis
- Over 100 cannabinoids with various effects
- CBD oil a cannabinoid of hemp, it's NOT marijuana
- Michigan does have medical marijuana, but CBD is legal & OTC

## 2) Facts and Misconceptions

- 1899 -- CBN - 1<sup>st</sup> Cannibinol identified
- 1940 -- CBD oil – Cannabidiol - opposes THC
- 1941 -- Hemp is federally outlawed
- 1964 -- THC – “the high chemical”
- 1988 -- Cannabinoid receptors researchers found, looking for “THC” site
- 1992 -- Endocannabinoid System “declared”
  - Found throughout the human body
  - All vertebrates & some invertebrates have system

## 3) Medical marijuana

- Personally not for/against
- Will be legal in US within 2 years
- Research flawe
- 70% of use if for high, not medical reasons
- Possible benefits
  - Pain & nausea relief
  - Cancer
  - Sleep

- Addiction withdrawal
- MLS/MS/Parkinsons
- Glaucoma
- Negative effects
  - Damages brain
    - Cognition
    - Memory
- Negative effects
  - Heart attacks
  - Smoking – cancer risk
  - Genetics
- Marijuana & the eyes
  - Glaucoma vs std meds
  - Effects on vision motion perception, object localization, speed detection, spacial perception, reactions
  - Effects scotopic & photopic functions
  - Visual field defects central, up/left, OU temporal
  - Decreases AWARENESS of deficits

#### 4) Endocannabinoid System

- THC vs CBD
- THC = “the high chemical”
  - Makes you “feel WOW”, but heart attack, lungs, alters vision perception, destroys brain tissue & function
  - The “only” psychotropic cannabinoid
  - 36 states legal for cannabis (medical) 16 recreational
- CBD = “feel OK”
  - 50 states legal for CBD (OTC)
  - Makes you “just feel OK”, many ways
  - Where majority medical benefits come from
- Anandamide: the BLISS chemical
  - Body produces & binds to CB1 sites
  - Affects mood, pain, appetite, memory, creative thinking, motivation, fertility, stops cancer proliferation
  - External sources – dark chocolate, truffles, “in the zone”- what YOU love, exercise
- CBD oil – nature’s way to enter our diet
  - Doesn’t work on any conditions
  - Doesn’t Diagnosis, treat, or cure anything.
  - We live in a constant state of “dis-ease”
  - Doesn’t care what “dis-ease” you have, it’s just trying to assist your body to get back to normal balance(homeostasis).
- How the system works
  - Sympathetic/parasympathetic systems
  - Our body defense mechanisms
  - ‘Fight or flight’ when “challenged”

Constant unresolved stress  
Inflammation meant to protect  
Endo-cannabinoid system is bridge  
2 receptors  
CB1 brain, central organs (core)  
CB2 throughout body, lymph, detox organs, peripheral  
Reduce inflammation everywhere  
Primary purpose – Homeostasis, supports & modulates immune response

#### 5) CBD oil – All about the Eyes

What are the eyes...really?  
Eyes are specialized receptor of brain, not “separate organ”  
We are energy (electrical, chemical) beings  
Vision connects us to the world (80%+),  
Then keeps us alive to play the game of life  
All life is a challenge, the goal is so BE YOU  
ODs see many neurologic & systemic conditions through the eyes,  
Eyes/brain DO have cannabinoid receptors(CB1 & CB2)

#### Cataracts

UV ionizing damage (the act of vision, destroys vision)  
sun exposure, smoking, poor diet triggers inflammation response  
Damage X yrs = cataracts  
Preventable ? sunglasses/diet / \*\*\* CBD oil  
Reversible ?! surgery, eyedrops  
\*\*\* CBD can't claim to diagnose, treat, or cure ANY medical condition, but it's not our fault if it does

#### Glaucoma

Debris from normal metabolism clogs drainage system triggering antibody defenses = Inflammation X yrs =Nerve destruction  
Controllable – yes  
Eyedrops/surgery/Marijuana – dosing/CBD oil ???  
Reversible - NO

#### Macular Degeneration

Sun HEV radiation triggers cellular toxic waste  
Defense system attacks and creates drusen in tissue  
Damage from inflammation X yrs = MD  
Controllable - eye protection/diet/eye supplements/CBD oil  
Reversible - “kind-a”

#### Dry Eyes & Allergies

BOTH now confirmed to be problems of auto-immune responses resulting in inflammation out of control  
Not blinding disease, but DAILY irritation & constant complaints  
10x “google” of BIG 3  
Controllable - “well...”  
Dry eye – OTC drops, Steroids, Rx Drops(\$)

Allergies – OTC drops, Steroids, Rx drops(\$)

Iritis & Uveitis

Undefined autoimmune reaction causing rampant inflammation & triggers eye self-destruction

Secondary to: TB/Sarcoid, Cellulitis, Retinitis, RA, Fibromyalgia, Lupus, AIDS, Syphilis

Controllable - yes

6) CBD & the rest of the body -Anxiety, Auto-immune, & Alzheimers Oh, My !

*We created problems with our diet, lifestyle, and technology*

Psychiatric disorders

Depression	Anxiety
Panic attacks	Migraines
ADD/ADHD	OCD
PTSD	Concussion

Auto-immune disorders

RA	Lupus
MS	Parkinsons
Fibromyalgia	Diabetes

Non-specific chronic pain

Dementia/Alzheimers

ODs can see this through the eyes - NOW

Body transforms inflammation into Amyloid plaque – same process as Mac Degeneration.

CBD reduces inflammation and breaks down Amyloid, plus has many benefits including blood flow, neuroprotection, & other metabolic balances.

We can't claim "to cure or reverse" any specific disease or condition, but lacking any other good options, CBD oil is relatively inexpensive, OTC, doesn't have severe side effects, nor overdose.

7) Docs & drug tests?

Doc's don't know about CBD, nor approve.

NO peer reviewed outcome studies

Schedule 1 means NO research unless NIH approved

"studies" either retrospective, or using NIH 3% THC vs. current % on street.

Limited number of subjects in published studies

NOT studying CBD at all.

Only studies showing cannabis "successes" aren't taking into account CBDs presence/benefits

8) Pay attention to the 3 "Cs"

1 Quality - Certificate of Analysis(COA) is it even CBD oil in the first place?

2 Concentration, carrier, course – there is NO correct “dose”

Typical starting point is 5mg – 10mg, but...

Read the label for how much

How many doses/bottle

What all is in the mix besides CBD (carrier)

How it gets into your system counts also.

3 Cost

Good CBD isn't cheap, bad CBD isn't cheap either.

Nobody realizes about quality (COA), concentration & carriers

Lower quality won't have effectiveness, gives CBD bad rap.

9) Conclusions

Marijuana & CBD oil are here

Marijuana has issues, BUT has THE HIGH

CBD oil has many health benefits

More research is underway

Quality of product is critical

Dosage isn't established

Side effects appear minimal even with higher doses

Everyone is a possible “candidate”

The market is going to explode