Chemistry B.S.- University of California, Irvine Biology B.S.- University of California, Irvine

Medical Doctorate- Dartmouth Medical School (Geisel at Dartmouth)

Residency- Brown University

Concierge Private Practice- Vega Direct Medical, Family Practice

#### #1 Pain Question:

"Do you have pain?"

"What level on a pain scale 1-10 (10 being the worst)?"

65.5% Dropped their pain scale by at least 2 points or more

32.7% Dropped their pain scale by 50%

10.3% Eliminated their pain all together

#### **#2 Sleep Question:**

"How many hours do you sleep at night?"

43.1% Gained more hours of sleep

18.9% Gained more than 2 hours of sleep Q noc

"How long does it take you to fall asleep (min/hrs)?"

34.4% Decreased by 30min to fall asleep

25.8% Decreased by 45min to fall asleep

20.6% Decreased by 60min to fall asleep

#3 Abdominal Sx Question: (Pain, Nausea, Bloating, Diarrhea, & Constipation)

"Do you have any abdominal symptoms?"

"How often are you getting these symptoms(#days/week)?"

20.6% Eliminated at least 1 abdominal Sx

27.5% Decreased the frequency of Sx by 2 days/week

20.6% Eliminated all abdominal Sx

#### #4 Headaches/Migraine question:

"Do you have headaches or migraines?"

"How often do you get headaches or migraines(days/wk or mo)?

36.2% Reduced headache/migraine frequency

14.6% Eliminated headaches/migraines all together

#### **#5** Anxiety question:

"Do you tend to worry or have anxiety?"

"How often(days/week)?"

75.3% Reduction in intensity of anxiety symptoms

24.6% Reduced days/week of anxiety

#### #6 CBD Drip Recommendation:

"Would you recommend CBD Drip oil to another person?"

88.7% Yes they would recommend CBD Drip (now EcoDrip)

#### Other witnessed benefits of the Eco-Drip oil sublingually:

-Autism	-Facial Tics	-Varicose Vein pains	-Bipolar Hypomania
-PTSD	-Hemorrhoids	-Arthritis pain	-Telangiectasias
-Muscle Spasms	-Tendonitis	-Migraine prophylaxis	-OCD
-Concussion Sequela	-Bursitis	-Parkinson's Disease	-ADD/ADHD
-Diabetic Neuropathy	-Seizure	-Lowers Blood Sugar	-Crohn's
-Fibromyalgia	-Tourette's	-PMS	-IBS
-Tumor size reduction	-Alzheimer's	-Multiple Sclerosis	-Agitation
-Post Stroke Recovery	-Irritability	-Motion Sickness	-Claustrophobia
-High Blood Pressure	-Menstrual Cramps	-Hiccups	-Hoarding Disorder

Other benefits witnessed with CBD Drip (Eco-Drip) oil:



- -Canine arthritis pain relief
- -Canine separation anxiety reduction
- -Canine vomiting relief
- -Canine skin tumor reduction in size
- -Canine anxiety alleviation from thunder, fireworks, and company
- -Canine neurodegeneration

Other CBD products: PainQuench Cream & Fresh Leaf Edibles

Pain Quench gave relief and/or resolved the following conditions (clinical observation):

-Muscles spasm -Psoriatic patches -Rosacea -Skin Tags

-1<sup>st</sup> & 2<sup>nd</sup> deg burns -Arthritic pains -Plantar Fasciitis -Sun Burns

-Acne -Carpal Tunnel -Dyschromia -Diabetic Neuropathy

-Bug Bites -Cat Scratches

Fresh Leaf Edibles gave relief to the following conditions (clinical observation):

- -Anxiety
- -Sleep

Minimum Effective Dosing Observed: (Sublingual, Buccal, and Oral)

General Anxiety/Worry: 2.5mg – 5mg/dose twice a day

Acute Panic/Phobia: 5mg-15mg-25mg/dose as needed

PTSD Trigger Prophylaxis: 5.0-7.5mg/dose twice-three times a day

Migraine Prophylaxis: 5mg-10mg/dose once-twice a day

Migraine Abortive: 10mg-15mg-20mg/dose as needed

Post-Concussion: 7.5-10mg/dose three times a day x1 week, then twice a day

Acute Pain: 15mg-30mg-50mg/dose as needed

Autism (adult): 25mg-37.5mg/dose three times a day

Alzheimer's: 5mg-7.5mg/dose two times a day

Dementia Sundowning: 7.5mg-10mg/dose as needed

#### Most Common Negative Side Effects During the Study:

- -Too Relaxing
- -Mild Sx of hypoglycemia if taken a large dose without eating
- -Not Effective
- -Slight headache
- -Tastes odd

#### Clinician's thoughts about safety...

- -Prefer Sublingual Dosing
  - No complaints with medication interactions in trial
  - -Coumadin & Dialysis patients-no interaction complaints noted
  - -Do not have to worry too much about the First-pass effect (it uses CYT P-450)
- -Oral Consumption
  - -Use minimal dose necessary, no complaints with 50mg or less @ 1x-2x/day
- -Topical Application
  - -Used on dry skin without complaints, not recommended for open wounds
- -Biphasic effect (too much a good thing could be taxing)
  - -Therefore start with 1-2mg at first and increase slowly only to the desired effect

#### Clinician's thoughts about PUBLIC's safety issues...

- -Product testing for heavy metals, organophosphates, and pesticides
- -Lab Results should easily be found online or in packaging for consumer
- -Regulations for mass production to comply with sanitary standards
- -More research is needed on the effects of CBD
- -More research is needed on the methods of delivery of CBD and other cannabinoids
- -More education for physicians/providers since the public will be asking us for advice
- -Labeling "Hemp extract" VS "CBD mg", needs a definition
- -Labeling should have the amount of mg/smallest dosage unit (per drop, per edible...etc)
- -Labeling should include amounts of other cannabinoids, carriers of the CBD, & the other ingredients
- -Definition of what "Full Spectrum" vs "Broad Spectrum" vs "Isolate" on the labels

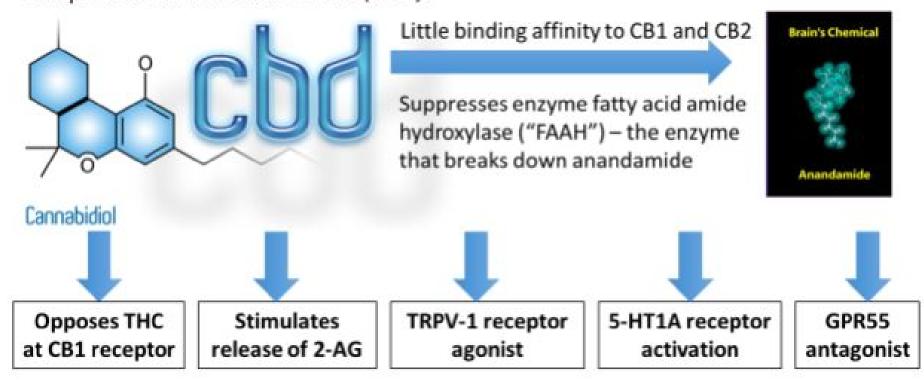
Cannabinoids: Multiple Medical Benefits

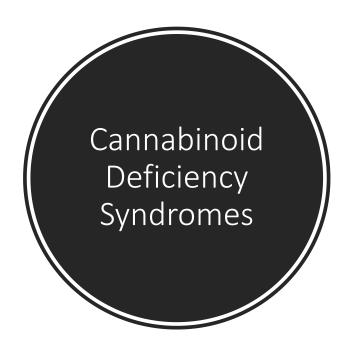


#### Cannabidiol

THC may be the psychoactive component of cannabis effecting CB<sub>1</sub> and CB<sub>2</sub> receptors, but it is most likely that other cannabinoids found in the plant are also providing effects.

The cannabinoid that has sparked the most interest is a non-psychoactive component called cannabidiol (CBD).





- ECS deficiencies have been implicated in:
  - Anorexia nervosa
  - Chronic motion sickness
  - Fibromyalgia
  - Huntington's disease
  - Irritable bowel syndrome
  - Menstrual symptoms
  - Migraine
  - Motion sickness
  - Multiple sclerosis
  - Parkinson's
  - PTSD
  - Schizophrenia

(reviewed in Russo, 2016)

# Cannabinoid Receptors

#### CB<sub>1</sub> located in:

- CNS
- Testes, uterus
- Adipose tissue
- · Connective tissue
- Endocrine glands
- Exocrine glands
- Leukocytes
- Spleen
- Heart
- Gl tract
- Liver

#### CB<sub>2</sub> located in:

- Monocytes
- Macrophages
- B-cells
- T-cells
- Liver
- Spleen
- Tonsils
- CNS
- Enteric nervous system

(reviewed in McPartland, 2008)

#### **Endocannabinoid System**



