

# The Benefits of Medical Cannabis

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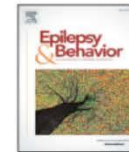
- CA Licensed 27 years
- Trained at Childrens Hospital Los Angeles (CHLA)
- Chief Resident CHLA
- Critical Care Transport Physician
- Pediatric Emergency Medicine LA County/USC
- Medical Director of Canna-Centers since 2008
- Over 10,000 patients treated with cannabis including ~500 children



Contents lists available at ScienceDirect

**Epilepsy & Behavior**

journal homepage: [www.elsevier.com/locate/yebeh](http://www.elsevier.com/locate/yebeh)



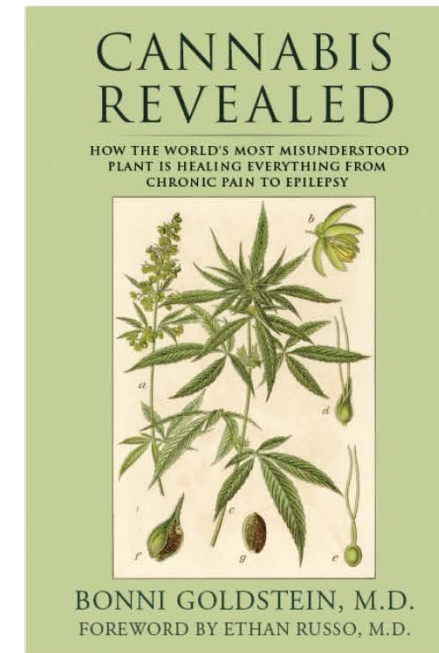
### The current status of artisanal cannabis for the treatment of epilepsy in the United States

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- Opened in 2008, located in Los Angeles area
- ~ 250 - 300 patients per month
- ~ 20+ new patients per month
- Youngest patient 6 weeks, oldest patient 100 years old
- Average age of adult patients 59 years
- Changing demographic: less seriously ill and experienced → very ill and cannabis-naïve

# Adult Conditions

- Chronic pain – Arthritis, Migraine, DDD, Post-Traumatic Injuries, Neuropathy, Fibromyalgia, Phantom Limb pain
- Sleep Disorders
- Autoimmune Disease – SLE, RA, Psoriasis, Hashimoto's
- Psychiatric Illness – Anxiety, Depression, Bipolar, PTSD, Schizophrenia
- Advanced Cancers – symptoms/chemo
- GI Disorders – IBS, Crohn's, Ulcerative Colitis, GERD, Nausea, Anorexia, Vomiting
- MS, ALS, Parkinson's, Epilepsy
- Interstitial Cystitis, PMDD, Menopause

# Pediatric Conditions

- Treatment-Resistant Epilepsy
- Autism Spectrum Disorder
- GI disorders
- Advanced Cancers
- Cerebral Palsy
- JRA, SLE, PANDAS/PANS
- ADD, Tourette Syndrome
- Severe Psychiatric Illness



# Goals of Treatment

- Pain relief
- Alleviate/lessen anxiety, depression, mood swings
- Improve sleep
- Stimulate appetite
- Alleviate/lessen nausea and vomiting
- Alleviate/lessen gut symptoms
- Enhance focus and concentration
- Reduce/eliminate seizures

# Goals of Treatment

- Neuroprotection
- Anti-inflammatory
- Anti-tumoral
- Sense of well-being
- Balanced Endocannabinoid System

**Control shifts from the condition back to the patient**

**Quality of life improves**

# Patient Report

36 yo female with 10 year history of fibromyalgia, insomnia, and anxiety, bouts of depression

Meds: Lyrica, ibuprofen/naproxen, hydrocodone, zolpidem, alprazolam; had recently weaned off ineffective SSRI

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**“I came into to see you last week and went straight to the dispensary. I have been trying all different sorts of cannabis for my insomnia and pain. I am very excited to report that my pain levels have gone down so much that I feel like a normal person again! And I don't even have to do it every day...it lasts for 2-3 days! My whole life is changed...thank you”**



# Patient Report

44 yo female with severe migraines, no response to numerous pharmaceuticals, debilitating to the point that she had to take leave of absence, overwhelming stress from chronic pain interfering with life

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**“It has been almost 8 weeks since I saw you, and I just wanted to give you an update. The CBD oil has been a miracle in controlling my chronic migraines. I have only had three very mild migraines since starting the oil. This is a huge improvement to the 10+ migraines I was getting monthly. I've titrated up to about 80mg daily, and have to add a couple drops of the 10mg/ml THC when I feel the migraines coming on. I definitely feel more relaxed overall, and finally have quality, restful sleep.”**

# Benefits in Children

**“Better sleep and appetite”**

**“More awake and alert, more interactive with the family”**

**“Smiling, happier”**

**“Started talking”**

**“Started walking”**

**“More energy for therapy and play”**

**“Better memory”**

**“ Reading and writing now”**

**“No more self-injurious behavior”**

**“Less aggression”**



# Patient Report

Intractable seizures due to brain malformation

Severe self-injurious behavior

Severe GERD with multiple episodes of vomiting daily

Unable to walk unassisted

10 AEDs ineffective

Started cannabis oil at age 7 years, February 2015

Stopped vomiting December 2015

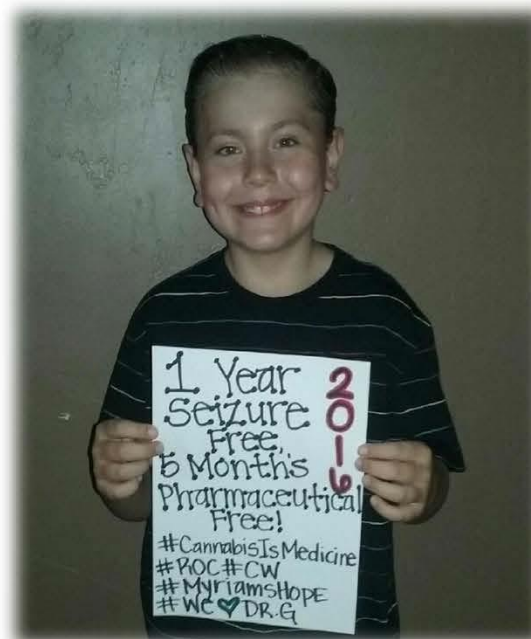
Started walking at age 9 years, July 2016



“He just keeps getting better...”- Thomas’ mom



# Patient Report



# Cannabis Medicine

## **THC-RICH**

- Virtually no CBD
- Intoxicating but can be controlled with dosing
- Low doses 1-10 mg/dose
- Tolerance may develop

## **RAW CANNABINOIDS: THCA +/- CBDA**

- Not intoxicating unless significant THC
- No tolerance
- Raw plant/juicing
- Wide dosing range

## **CBD:THC HIGH RATIO**

- 25:1, 20:1, 15:1, 12:1
- CBD buffers intoxication
- Dose by CBD: 10 -200 mg/dose
- Reverse tolerance
- Expensive for sustained high dose

## **CBD:THC LOW RATIO**

- 4:1, 2:1, 1:1
- Intoxicating for naïve patients, watch the THC dose
- No tolerance



# Products



THC- rich



CBD:THC  
High ratio



CBD:THC  
low ratio



THCA  
(raw cannabinoid)

# Terpenoids

Terpenoid	Found in	Medicinal Effects
Limonene	Lemon	Antidepressant, anti-anxiety, anti-tumor, alleviates GERD
Myrcene	Hops	Blocks inflammation, analgesic, sedating, muscle relaxant
Pinene	Pine needles	Anti-inflammatory, bronchodilator, aids memory, anti-staph
Linalool	Lavender	Anti-anxiety, sedating, anti-convulsant, analgesic, modulates glutamate and GABA
Beta-Caryophyllene	Peppers	Anti-inflammatory, anti-cancer, gastric cell protection, CB2 agonist

Russo, Ethan B. "Taming THC: potential cannabis synergy and phytocannabinoid-terpenoid entourage effects." *British Journal of Pharmacology* 163.7 (2011): 1344-1364.

# Which cannabinoid?

**Cannabis treatment is not “one size fits all”**

- Pain: THC, CBD, THCA; neuropathy 1:1
- Sleep: THC-rich, myrcene
- Anxiety: CBD:THC combo, linalool, limonene
- Nausea/Vomiting/Appetite: THC, THCA, CBDA
- Inflammation: CBD, THCA, beta-caryophyllene
- Seizures: CBD, THCA, THC, beta-caryophyllene, linalool



# Why Cannabis?





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**NEWMEXICO**  
**MEDICAL CANNABIS**  
C O N F E R E N C E