CBD 101: How Does CBD Fit into a DC's Treatment Plan?

Breaking down the confusion and myths about CBD using the latest research



Definition, History and Legality of CBD

- Introduction
- Cannabis Definition
- History of Cannabis Federal and State CBD Laws
- Current FDA Regulations do's and don't
- Overview of US Patent on CBD
- Different CBD Extraction Methods
- Compounds Derived from the Cannabis Plant
 CBD, CBC, THC, etc.
- How to read CBD Labels and Certificates of Analysis



Joe Kryszak, MBA

- CEO Stirling Professional Started in 2018
 - Lead billion dollar business for Amazon, Lenovo, HP, Dewalt
- Stirling is a proud sponsor of dozens of State Associations
- > We pride ourselves on "Cannabinoid Thought Leadership"
 - 6X Article Contributor to Chiro Economics (2 of 5 top Read CBD Articles)
 - CEU Approved Training in 10 States
 - Speaker at Chiro Congress
- President ChiroHeros National organization devoted to stopping and helping victims of Human Trafficking and Sex Slavery in the U.S.
- > 2.5 Year + Cancer Survivor



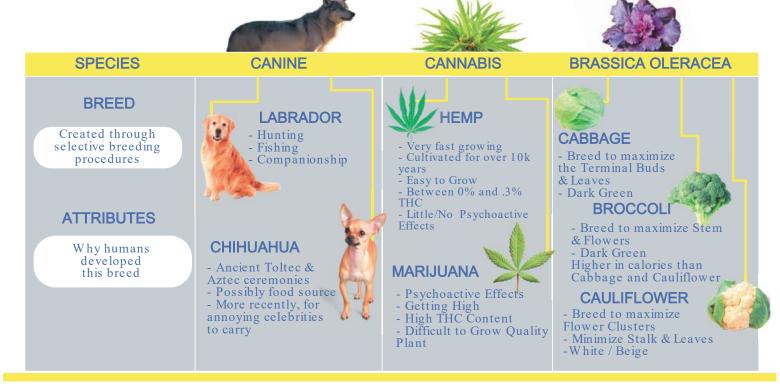


What is Cannabis?

- cannabis, (genus *Cannabis*), genus of medicinal, recreational, and fibre plants belonging to the family Cannabaceae.
- 2. Closely Related to Hops
 - i. More distantly related to Bamboo
- 3. Cannabis refers to a group of three plants
 - i. Cannabis sativa Industrial Hemp / Stimulating Marijuana
 - *ii. Cannabis indica Purely Marijuana When you smoke this you are in -da-couch Cannabis ruderalis*
- 4. As Cannabis laws relax, names for it are evolving.
- 5. Many people are using the term "cannabis" to refer to marijuana, but as you will see that is not Taxonom ically correct



Cannabis, Marijuana, Hemp - What is the Difference?



Cannabis, Marijuana, Hemp - What is the Difference?



A Brief History of Cannabis

- > Cannabis has a special relationship with Humans
 - Growing fast (up to 6 inches/ Day)
 - Grows HUGE and in all types of Soil
- Most likely the first domesticated crops
 First cultivated by tribes in China & Southern Turkey as early as 8000 BC.
- > What would Humans use Cannabis for:
 - Feed early humans animals
 - Used to feed their animals, make their clothing, shoes, rope, tents, etc
 - Get High during religious festivals



Canines are Humans best friend in the Animal World... Cannabis is Humans best friend in the Plant World...



Does the U.S. Government have a CBD Patent?



The U.S. Patent Office issued the patent to the Dept. of Health and Human Services.

There is a U.S. Patent on CBD issued to the Govt. Patent: #6630507

The CBD Patent was initially filed in 1999 and awarded a patent in $2003 - a \mod 20$ years ago.





Who Applied for the Patent?

A Team lead by Nobel Laureate Julius Axelrod applied for the CBD Interesting to p Axelrod's the deve



Nobel Laureate Julius Axelrod

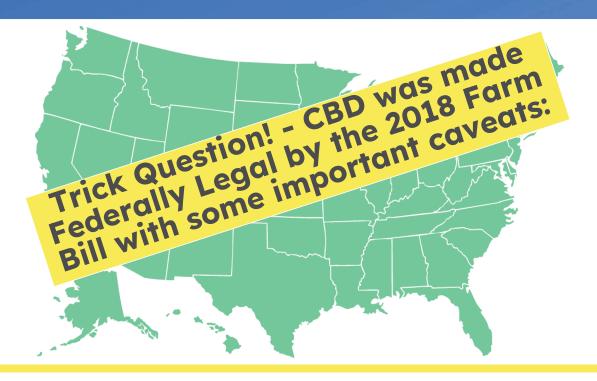
What does Patent 6630507 Say?

Cannabinoids have been found to have <u>antioxidant properties</u>, unrelated to NMDA receptor antagonism. This new found property makes cannabinoids <u>useful in the treatment</u> and prophylaxis of wide variety of <u>oxidation associated diseases</u>, <u>such as ischemic</u>, <u>age-related</u>, <u>inflammatory and</u> <u>autoimmune diseases</u>. The cannabinoids are found to have particular application as <u>neuroprotectants</u>, for example in <u>limiting neurological damage</u> following ischemic insults, such as <u>stroke and trauma</u>, or in the <u>treatment of neurodegenerative diseases</u>, <u>such as Alzheimer's disease</u>, <u>Parkinson's disease and HIV dementia</u>. Nonpsychoactive cannabinoids, such as cannabidoil, are particularly advantageous to use because they avoid toxicity that is encountered with psychoactive cannabinoids at high doses useful in the method of the present invention. A particular disclosed class of cannabinoids useful as neuroprotective antioxidants is formula (I) wherein the R group is independently selected from the group consisting of H, CH₃, and COCH₃.

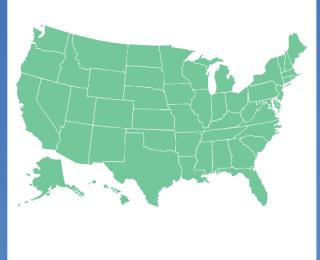
🖹 Download PDF 🛛 Q Find Prior Art 🛛 🚬 Similar

Inventor: Aidan J. Hampson, Julius Axelrod, Maurizio Grimaldi Current Assignee : US Department of Health and Human Services

What States is CBD Federally Legal?



CBD Federally Legal as Long as...



- 1. Made with Federally Approved Industrial Hemp
- 2. Less than .3% Delta-9 THC by Weight
- 3. Labeled Properly
- 4. Not sold to people under 18
- 5. Does not Contain other illegal compounds
- 6. Misleading Advertising
 - a. Stating it can Prevent/ Cure Disease



Famous Hemp / Cannabis Growers

" Make the most you can of the Indian Hemp seed and sow it everywhere."



Declaration of Independence, Constitution written on Hemp Paper. "tlemp is of first necessity to the wealth & protection of the country."

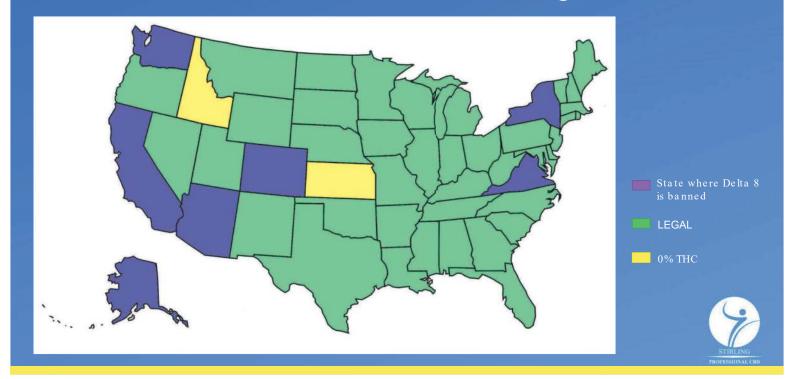
-Thomas Jefferson

"Hemp is of first necessity to the wealth and protection of the country." Thomas J efferson



"You can smoke it, you can eat it, you can wear it, it's a perfect plant!" Cheech and Chong

What Are State Laws Concerning CBD?



New VA Laws on THC - July 1st, 2023

> <u>2 New Laws:</u>

- HC 2294 Creates framework for selling CBD and low dose THC Products in VA, while also creating a registration process for businesses selling CBD Products.
 § HC 2294 can be found <u>here</u>
- HC 1922– Prohibits sale of Delta 8. § HC 1922 can be found here
- Implications:
 - Strict Labeling and Testing Requirements
 - Can't sell to people under 18
 - Sets up a Registration System for Sellers of CBD & THC Products w/ \$1000 a year fee

Stirling's Analysis:

- We believe this is Good News for VA Chiropractors and your patients!
 - Does not include Topicals, Tinctures, or Non THC Products
 - Protects VA residents from unscrupulous companies
 - Chiropractors are Exempt from Paying the \$1000 Year Fee!

VA Chiropractors are Exempt from \$1000/

EXEMPTION FROM THE EDIBLE HEMP PRODUCTS DISCLOSURE FORM IS LIMITED TO RETAIL ESTABLISHMENTS THAT MEET ALL OF THE FOLLOWING CRITERIA:

(a) Compliant with Article 5 of the Virginia Food and Drink Law;

(b) Sell only food or beverages that are sealed in packaging by the manufacturer and come from an approved/inspected source;

(c) Do not prepare or serve food;

- (d) Do not offer beverage service (i.e. coffee pot, fountain drink machine);
- (e) Do not sell infant formula;
- (f) Do not sell salvaged foods;
- (g) Do not sell <u>unwrapped</u> produce;
- (h) Do not sell store packaged ice;
- (i) Do not offer self-service of unwrapped foods (i.e. donut cases, bulk nuts, pickles);

(j) Do not sell food or beverages, including edible hemp products, to other businesses for resale (wholesale); and

(k) Certify to the Virginia Department of Agriculture and Consumer Services that they meet the foregoing criteria.

VA Chiropractors are Exempt from \$1000/



VIRGINIA DEPARTMENT VDACS Office of Hemp Enforcement PO Box 1163 Richmond, VA 23218-1163 (804) 786-3520 nt@vdacs.virginia.gov

DEPARTMENT US	EONLY	
DATE RECEIVED		
CONFIRMED EXEMPT	YES	NO
CONFIRMED EXEMPT BY		-

EXEMPTION FROM INSPECTION - RETAILERS OFFERING EDIBLE HEMP PRODUCTS

Pursuant to the Code of Virginia § 3.2-5145.2:1 (8), any person who offers for sale an edible hemp product must first obtain a permit from the Virginia Department of Agriculture and Consumer Services Food Safety Program, unless EXEMPT from a permit pursuant to subdivision C 6 of § 3.2-5130.

THIS EXEMPTION IS LIMITED TO RETAIL ESTABLISHMENTS THAT MEET ALL OF THE FOLLOWING CRITERIA:

- (b) Sell only food or beverages that are sealed in packaging by the manufacturer and come from an
- approved/inspected source; Do not prepare or serve food;
- (c)
- (d) Do not offer beverage service (i.e. coffee pot, fountain drink machine);
 (e) Do not sell infant formula;
- (f) Do not sell salvaged foods;(g) Do not sell unwrapped produce;
- (h) Do not sell store packaged ice:
- Do not offer self-service of unwrapped foods (i.e. donut cases, bulk nuts, pickles);
- Do not sell food or beverages, including edible hemp products, to other businesses for resale (wholesale); and (k) Certify to the Virginia Department of Agriculture and Consumer Services that they meet the foregoing criteria.

Please note that firms qualifying for the exemption are still obligated to comply with the Virginia Food and Drink Law

and the Regulatio n Consumption. Nothing in this language shall prevent the Virginia Department of Agriculture and Consumer Services from inspecting any retail establishment if a consumer complaint is received or if an investigation is warranted.

2023 FDA Legal Rules

- Never make a Health Claim.
 Cancer, PTSD, Parkinson's Disease, HIV/ AIDS, Epilepsy
- 2. Never say the CBD can treat any disease or ailment.
- 3. Use non disease descriptions.
- 4. Be aware of current FDA positions and the inherent risk in marketing CBD.
- 5. Need to put the FDA warning at all pages on the website.
- 6. SOCIAL MEDIA.
- The research presented in this training deck is developed for informational purposes only. It cites reputable medical studies conducted by the most prestigious sources.
- Stirling is making no claims that our products prevent or cure any disease. Any medical references are for informational purposes only and Stirling is merely referencing the studies, not making our own claims.



CBD Market Dynamics

- 26% of Americans are using CBD in 2022
- \$5.31 billion was spent on CBD products in 2021
 22% Growth Rate
- \$560 million was spent on pet CBD products in 2021
- 23% or nearly 1 in 4 say they aren't familiar with CBD, while 20% or 1 in 5 are wary of using CBD
- 16% of the respondents find CBD expensive, while 13% are worried about CBD side effects
- Examples of businesses selling CBD













Extraction Challenges

How can manufacturers get the Cannabinoids (CBD) from the Trichomes off the Hemp Plant Naturally?



How can manufacturers get the Cannabinoids (CBD) from the Trichomes off the Hemp Plant Naturally? Snoop Dogg Calls them the "Sticky Icky"

- 115+ Naturally occurring Cannabinoids compounds (CBD, CBN, CBG, THC, etc) in the Cannabis Plant
- As you can imagine, getting sticky material off organic materials is not easy
- Manufacturers have come up with three solutions to get the Trichomes off

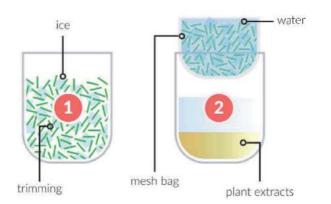
 Ethanol Extraction
 - Co2 Extraction
 - Cavitation





<u>#3 Solventless Extraction - Used in 1% of Extraction (Stirling)</u>

ICE WATER EXTRACTION



- Put Hemp in 33 Degree Distilled Ice Water - which crystalizes (freezes) the Trichomes.
- Once Trichomes are frozen the plant matter is piped through to a impeller circulating at 20,000 RPM - which creates billions of micro - bubbles
- This process is called cavitation.
- Bubbles explode, Trichomes come off.
- Use 40 micron filter to extract trichomes.
- This is Stirling's Process.
- No one else can do this.



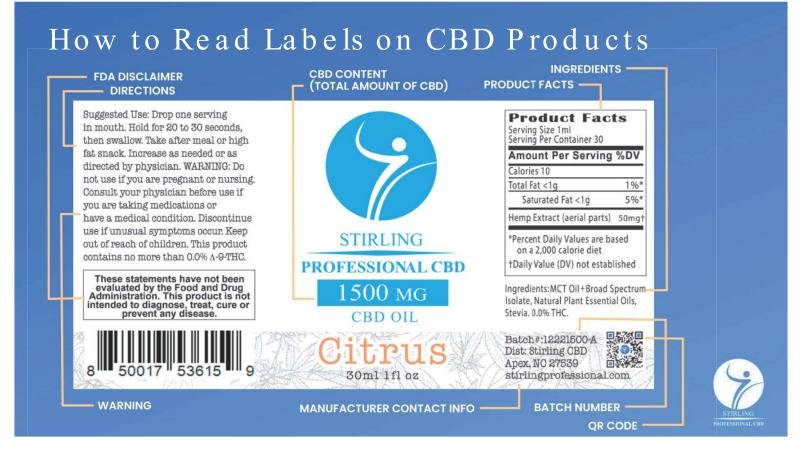


Is CBD Legal & Safe

- CBD is NOT a controlled substance according to the FDA CDC and the 2018 US Farm Bill which legalized CBD as long as:
 - It is less than .3% Delta 9 THC by weight
 - Labeling, warning requirements
- In November 2017, the WHO Expert Committee on Drug Dependence (ECDD) confirmed CBD "does not appear to have abuse potential or cause harm." The Study stated "physical dependence on CBD has not been identified".
- There have been no confirmed cases of CBD overdose
- No DWI due to CBD intoxications
 - \circ $\,$ Of course, this does not include THC $\,$
- US Olympic Athletes can use Pure CBD (No THC)

https://www.congress.gov/bill/115th -congress/house -bill/5485 https://www.usada.org/spirit -of-sport/education/six -things -know -about cannabidiol/





QR Codes - how does Stirling do it?





- QR Codes on each of our Products
- Each individual batch tested
- <u>QR Codes</u> Take you to Stirlings COA Page



Cannabinoids are the MOST IMPORTANT compounds - EVER for Chiropractors . Why?



The Endocannabinoid System:

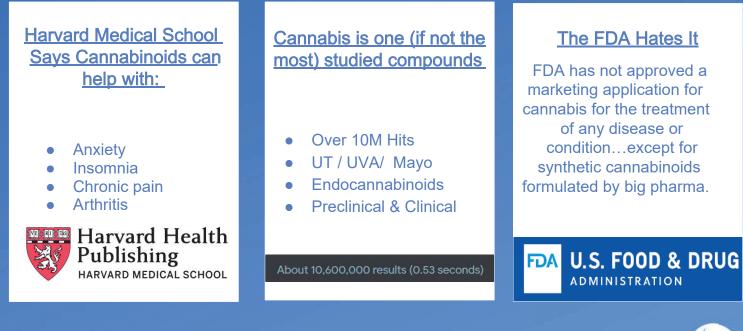
The most important system in your body to create homeostasis.





https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5576607/ https://www.health.harvard.edu/blog/the -endocannabinoid -system -essential -and -mysterious -202108112569 https://www.mayoclinicproceedings.org/article/S0025 -6196(19)30007-2/fulltext https://www.ccjm.org/content/85/12/943

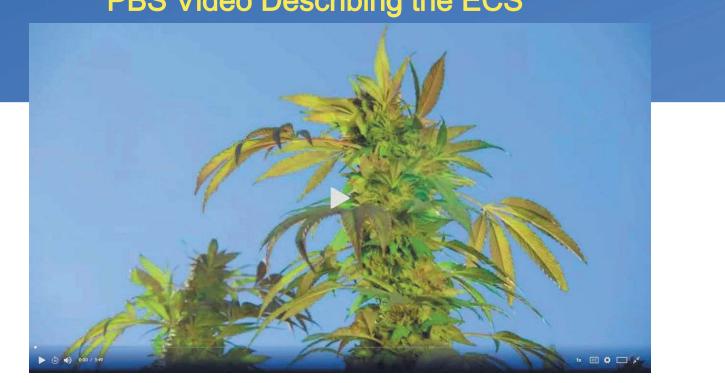
National Institutes of Health



- https://www.health.harvard.edu/blog/cannabidiol____cbd-what -we-know -and_-what -we-dont -2018082414476____
- https://www.fda.gov/news -events/public -health -focus/fda -and -cannabis -research -and -drug -approval -



PBS Video Describing the ECS



NOVA | Cannabis Reverses Brain Aging in Mice | Season 48 | Episode 11 | PBS

The Endocannabinoid System At Work

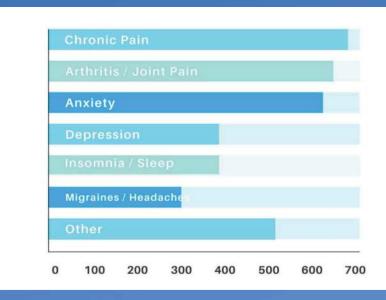
The Key System in your Body for Organs to "Talk" to other Organs and systems A Few Examples

- Stomach communicating retrograde and telling to your parietal cells that it has enough acid
- Over stimulated neurons communicating to other neurons to stop firing
- Joints and muscles telling your immune system to stop producing histamine and prostaglandins



https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5576607/ https://www.health.harvard.edu/diseases -and -conditions/what -is-chronic -inflammation_____

Let's Look at the Research on the Top 3+ Reasons People USE CBD

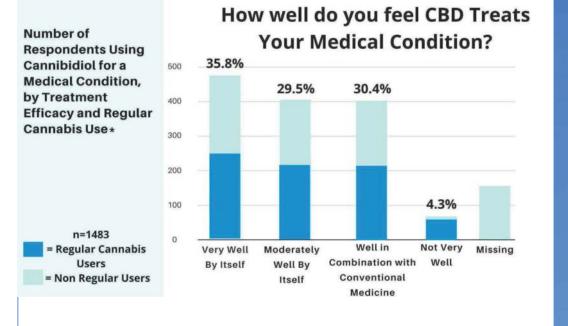




*Materials and Methods: A self -selected convenience sample (n = 2409) was recruited via an online survey designed to characterize whom, how, and why individuals are currently using CBD. The anonymous questionnaire was accessed from October 25, 2017 to January 25, 2018. Participants were recruited through social media.



NIH Research - Does CBD Work?



95.7% of Respondents say Well or Very Well

Question: Why do people buy CBD, and does it work? According to the US National Library of Medicine in the National Institutes of Health.



Find a Company that YOU can Trust



What is the #1 Thing DCs Sell? <u>PATIENT TRUST!</u>

- <u>Trust</u> that when a patient comes to see you, they will feel better walking out
- <u>*Trust*</u> that the patient will get great treatment for their \$\$\$
- <u>*Trust*</u> that when you have their neck in your hands, you will not make it go 360 Degrees
- <u>*Trust*</u> that the products you are selling in your office are tested and will improve their lives

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5576607/

STIRLING PROFESSIONAL CBD

https://stirlingprofessional.com/

joe@stirlingoils.com +1 (800) 201-2840

Research on the Top 3+ Reasons People Use CBD

- Pain and Discom fort
- Mental Concerns
- Sleeplessness



Research on the Top 3+ Reasons People Use

#1 Physical Pain & Discomfort

- <u>NIH</u> CBD was found to demonstrate therapeutic potential for the *relief of arthritic pain* -*related behaviour* and to exert an anti -*inflammation* effect without any evident high -brain -center psychoactive effects.
- <u>Openaccessgovernment.org</u> the Endocannabinoid system *CBD can lower inflammation and pain* by its interaction with the endocannabinoid system (ECS). The ECS is a complex cell -signaling system responsible for regulating body processes, including our mood, metabolism, energy levels and pain output.



<u>Arthritis.org</u> - <u>Does CBD</u> work for arthritis?</u> - Animal research suggests *pain relieving and anti -inflammatory properties*, but human validation is needed.
 Some individuals with arthritis report benefits, but more research is required.
 We're partnering with the University of Michigan and the Arthritis Society of Canada to explore CBD and THC use in arthritis patients.



What is <u>NOT</u> the Solution for Pain?

OPIOIDS

Some drugs, such as opioid painkillers, have a higher risk and cause addiction more quickly than others.



2 million persons in the United States suffer from addiction to heroin and other short-acting opioids.

It is estimated that over 37 million persons have misused short-acting opioids such as oxycodone and hydrocodone.

Mood symptoms:

Behavioral symptoms:

Mood swings Depression

Anxiety

Irrita bility

MAYO

- Forging prescriptions for opiates Stealing narcotics from friends and familv
- Robbing pharmacies and other Euphoric mood medication dispensaries
- Not fulfilling familial and other for a few hours • responsibilities
 - Decreased performance at job or school
 - Preoccupation with obtaining, using, and recovering from usage of opiates dvances

https://www.mayoclinic.org/diseases-conditions/drug-addiction/symptoms-causes/syc-20365112

What IS a Solution for Pain?

Examples of CBD Products DCs use for Patient Pain



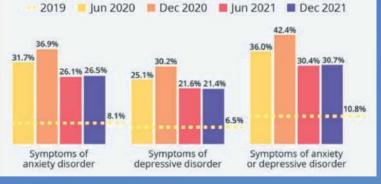


Research on the Top 3+Reasons People Use

#2 Mental Concerns

Pandemic Causes Spike in Anxiety & Depression

% of U.S. adults showing symptoms of anxiety and/or depressive disorder*



Recent Mayo Clinic research sites the major causes of insomnia are stress, depression, poor eating habits, lack of exercise, and a demanding work schedule. CLINIC



[1] https://www.mayoclinic.org/diseases-conditions/insomnia/symptoms-causes/syc-20355167

Research on the Top 3+ Reasons People Use

#2 Mental Concerns

NIH - CBD is widely claimed to have potential uses in treating various medical and psychiatric conditions such as depression, anxiety, post -traumatic stress disorder (PTSD) Alzheimer's, cognitive illnesses, and pain. Additionally, there is a growing trend of using CBD for the treatment of opioid use disorder.

US Health & Human Services through the US Patent Office





<u>Psychology Today</u> - The WHO's expert committee on drug dependence has identified numerous conditions that may benefit from CBD. Human research studies have indicated that CBD may help reduce feelings of isolation, alleviate symptoms of autism, and mitigate the effects of post-traumatic stress disorder (PTSD) . CBD appears to have a calming effect on the brain and supports the hippocampus, a crucial brai region involved in regulating emotions and memory.



What is <u>NOT</u> the Solution for Anxiety?



Side Effects of Medications:

Blurry vision, dizziness, drowsiness or fatigue, dry mouth, feeling agitated or restless, headaches, nausea, sexual problems or erectile dysfunction , sleep problems, an upset stomach, weight gain



30% of adults experience severe anxiety

- Chemical imbalance: Severe or long-lasting stress can change the chemical balance that controls your mood. Experiencing a lot of stress over a long period can lead to an anxiety disorder.
- Environmental factors: Experiencing a trauma might trigger an anxiety disorder, especially in someone who has inherited a higher risk to start.
- Heredity: Anxiety disorders tend to run in families. You may inherit them from one or both parents, like eye color.

What are the types of anxiety disorders?

There are several types of anxiety disorders, including:

- Generalized anxiety disorder (GAD).
- Panic disorder.
- Phobias.



https://www.medicalnewstoday.com/articles/323666#side -effects https://my.clevelandclinic.org/health/diseases/9536 -anxiety -disorders What's a Great Solution for Anxiety?

Examples of CBD Products DCs use for Patient Anxiety

What's a Great Solution for Anxiety?



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New Pandemic Sleep

#3 Sleeplessness

Devastating Cycle - Poor Sleep makes Covid worse and Covid makes Sleep Worse



- Sleep disorders linked with more severe outcomes from COVID-19 - a 35% Higher Hospitalization and Death Rate
 - Hospitalized COVID -19 Patients Were Five Times More Likely to Suffer From Total Sleep Deprivation Compared to Non-COVID -19 Patients
- COVID 19 and sleep medicine is the hypothesis that virus attacks central nervous system (CNS) directly by adhesion to ACE2 receptors in different parts of CNS

Frontiers in Neuroscience

Cleveland Clinic NIH





NIF

How Can DC's Solve the Sleep Problem?

#3 Sleeplessness



According the the NIH:

"Cannabidiol may hold benefit for anxiety related disorders. "[1]

The study outlined how CBD with a low THC product has proved to be effective in the fight against anxiety and insomnia. The study results showed that patients taking the CBD/ low THC combination had great results.

"Anxiety scores decreased within the first month in 79.2% of the patients and remained decreased during the study duration. *Sleep scores improved* within the first month in 48 patients 66.7% of the patients but fluctuated over time."



What is <u>NOT</u> the Solution?

AMBIEN



According to the Mayo Clinic, prescription sleep medications have some serious side effects – including:

- Headache
- Severe allergic reaction
- Sleep-related behaviors, such as driving or eating when not fully awake
- Daytime memory and performance problems
- Dizziness or lightheadedness, which may lead to falls
- Gastrointestinal problems, such as diarrhea and nausea
- Prolonged drowsiness, more so with drugs that help you stay asleep

1] https://www.mayoclinic.org/diseases-conditions/insomnia/in-depth/sleeping-pills/art-20043959

Stirling Sleep Solutions

Examples of CBD Products DCs use for Patient Sleeplessness





STIRLING PROFESSIONAL CBD

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