

**THE**  
**SCIENCE-BASED**  
**TRUTH**  
**ABOUT CBD OIL**



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A curious look always comes over my patients faces before they ask. And trust me, they're asking. Chances are, you have the same question.

Usually it's a patient who is in pain, but not always. Some of them have arthritis or other joint aches and pains. Sometimes it's a person with a neurologic problem. Lots of folks with anxiety and difficulty sleeping. No matter what the problem, they always get the same look on their face before they ask.

## CAN CBD HELP ME?





There are all sorts of reasons why people feel a little uncomfortable asking me about CBD. Most of those reasons are questions that you've probably wondered yourself. Here are the top 10 questions I get about CBD in my practice:

1. Can CBD help me with my ( *insert your medical problem here* )?
2. Is CBD the same as marijuana, weed, or pot?
3. Does CBD get people high?
4. What's the difference between CBD and THC?
5. What does the research say about the benefits and risks?
6. Is CBD legal in the US?
7. Will CBD make me fail a drug test?
8. Can I take CBD with my ( *insert your medication or supplement here* )
9. Where can I buy CBD products?
10. What is the right dose?

After hearing these questions over and over again... I decided that it would probably be a good idea to write down the answers. That is what this special report is all about. I hope that it helps you.

-JL







## SPOTLIGHT ON CBD

There are very few plants that have attracted as much attention recently as *Cannabis sativa* and the CBD which is derived from it. CBD stands for cannabidiol, which is one of many naturally occurring “cannabinoid” compounds in the plant. THC (short for tetrahydrocannabinol) is another famous cannabinoid found in the plant which we’ll be discussing more in depth below.

In the last few years, we have seen an explosion of interest in CBD which is being touted as a “miracle cure” for epilepsy, chronic pain, and many other conditions. CBD was first chemically isolated and identified in the 1940s, but it’s chemical cousin THC held the spotlight for decades because of its mind altering properties...until now.



# CBD TAKES CENTER STAGE

In order to fully understand what CBD is all about, it's important to learn a little bit about the plant that it comes from. So...I have a quick botany lesson for you. CBD comes from a plant called *Cannabis sativa*. The “*Cannabis*” part of the name is the “genus” of the plant, and the *sativa* part is the species. There are other species of *Cannabis* plants as well, including *indica* and *ruderalis*...and there are wide range of unique variations of the plant that are the product of selective breeding that has been done by humans for generations. In a similar way that humans have bred all sorts of different versions of apples (red delicious, granny smith, gala, fuji, honeycrisp, etc), humans have also bred and created a wide variety of cannabis plants as well.

Some of the oldest *Cannabis* varieties were bred for their sturdy fiber which can be used to make rope, canvas, or clothing. We generally use the term “industrial hemp” to refer to these plants because the products that are made from it are used in industry. Hemp advocates like to point out that hemp has a rich history in the United States. Even the founding fathers were big fans...the record shows that even George Washington himself grew hemp for rope, twine, and textiles. In addition to its valuable fiber, industrial hemp also contains significant concentrations of CBD and very little (if any) THC. That's right, CBD is derived from industrial hemp...which is what this special report is all about.



The more recent developments in the botany of *Cannabis* have been focused on a non-industrial use of the plant...getting stoned. Cannabis plants (both *sativa* and *indica*) naturally contain THC, which is famously psychoactive. Over many generations of humans (and many more of plants), breeders have developed varieties or strains of Cannabis that have a different chemical compositions and different medicinal and psychoactive effects. These medicinal and psychoactive versions of the plant are typically referred to by common names like: marijuana, weed, pot, dope, reefer, ganja, and many many more. There are varying concentrations of CBD found in different strains of marijuana, right there alongside THC and a whole family of other cannabinoids.





## HEMP IN HISTORY (AND CBD'S BRIGHT FUTURE)

Hemp has been cultivated for commercial and medical purposes since ancient times. We have evidence that it was used as a folk remedy in China as early as 6000 BCE. The Emperor Shen-Nung was among the first to formally catalog its uses and he is credited with developing hemp oils, topicals, and teas to provide pain relief.

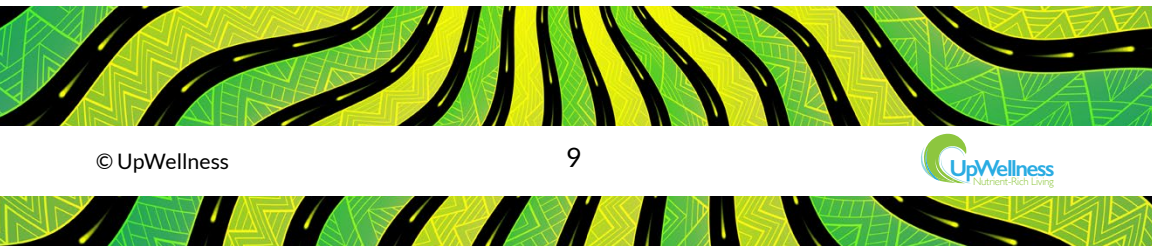
The ancient Greeks, Romans, and Egyptians also made use of hemp to treat pain, improve the appetite, relieve coughs, and fight infections. The herb has long occupied a revered place in both Ayurvedic medicine and Middle Eastern cultures, where it has been used for centuries to treat seizures, inflammation, digestive discomfort, and pain.



America's founding fathers were especially fond of hemp, too, as it was an integral part of the colonial economy. In fact, early settlers were even required to grow it and the herb was often used as a form of currency.

In the 19th century, an Irish physician named W.B. O'Shaughnessy undertook the first Western experiments on hemp (and its close cousin cannabis). He was the first Westerner to discover that cannabis sativa plants had analgesic and antispasmodic properties.

In the 1930s, the U.S. began a campaign against the cannabis strain known as marijuana. Industrial hemp, which is botanically and visually similar, but not psychoactive, became a casualty in the war against "reefer." This development had the unfortunate effect of hampering research on the possible health benefits of CBD, which was first identified in the 1940s.





Today, scientists are keenly interested cannabidiol, which appears to have powerful anti-inflammatory, analgesic, anti-epileptic, and antispasmodic properties. As Congress finally lifted the unjustifiable ban on industrial hemp 2018, it has provided a clearer path for researchers investigating CBD's potential to help treat anxiety, depression, PTSD, Alzheimer's, fibromyalgia, stroke, MS, Crohn's disease, cancer, and a host of other conditions.





# CLEARING THE AIR ON CBD

The fact that CBD can be extracted from both industrial hemp *and* marijuana has led to plenty of interest, but also lots of confusion and concern. Is CBD an effective medicine? Can CBD really be used to treat my disease? Will it get me high? Could I fail a drug test after taking a CBD product? What does the research say about the benefits and risks? We'll get to the answers of all of these questions and more starting with the basics:

- Hemp is a plant that has been cultivated since antiquity in civilizations across the globe. For centuries, it has been used to make thousands of products including paper, rope, textiles, fuel, foods, and much more.
- Marijuana plants have been cultivated, bred, and ingested all over the globe for hundreds of years, mostly by people in search of the psychoactive effects. Breeding has primarily focused on ever-increasing THC content.
- Scientists have recently discovered that many strains of industrial hemp are rich in CBD.
- In early research, CBD has shown promise in treating chronic inflammation, pain, anxiety, autoimmune diseases, and seizure disorders.





- CBD is not psychoactive. Consuming hemp (or the CBD that comes from it) will not get you “stoned” or cause you to fail a drug test.
- Anecdotal evidence and early clinical studies suggest that CBD may have a number of therapeutic benefits, but randomized controlled trials have been limited.
- So far, most of the research indicates that CBD is generally safe and well-tolerated.
- CBD is believed to counteract (or at least mitigate) some of the anxiety-producing and adverse psychological effects of THC.



# IS CBD A MIRACLE CURE [OR JUST HYPE?]

For years, scientific and medical interest in CBD was curtailed because of the compound's association with marijuana. But today the pendulum is swinging in the opposite direction. Celebrities like Michael J. Fox, Morgan Freeman, and Seth Rogen are publicly touting the benefits of CBD and a number of high-profile patients have claimed that CBD has helped cure or treat serious conditions like epilepsy, basal cell carcinoma, and arthritis. Today, extracts, tinctures, and oils containing CBD can be found on and offline, in health food stores, pharmacies, mall kiosks, and even beauty shops all across the country.

Advocates of CBD claim it can be used to treat everything from Alzheimer's to wrinkles. Here's a quick overview of the ongoing areas of research where CBD has shown promise:

- Anti-inflammatory properties.
- Neurogenic and neuroprotective effects.
- Antispasmodic properties.
- Anticonvulsant effects.
- Antitumor properties.
- Analgesic (pain relieving) effects.
- Anti-anxiety and mood-boosting properties.

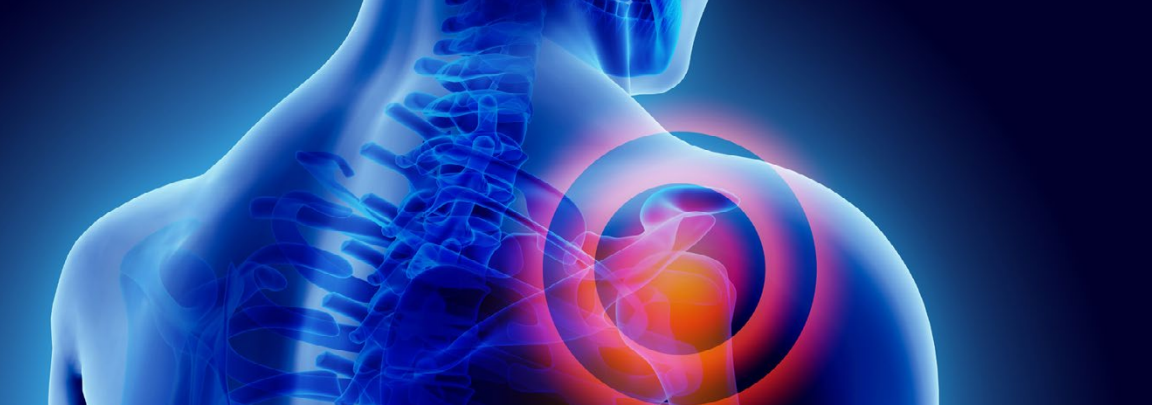




## WHAT SCIENTISTS ARE DISCOVERING ABOUT CBD

To date, many of the specific health benefits people hear about on the Internet or in the media remain unsubstantiated. Part of the difficulty in assessing the medicinal value of CBD is the limited number of rigorous human studies that have been conducted. Physicians and scientists like to see large, randomized, placebo-controlled trials in order to validate or “prove” the effectiveness of a treatment...and in most cases we’re just not there yet with CBD. That said, there have been published studies (and many more in the works) that provide ample reason for optimism. Here’s a representative summary of what researchers are discovering about CBD.





Scientists agree that CBD itself is non-toxic and non-intoxicating. Researchers have been investigating the safety of the CBD in animals and humans since the 1960s and have not identified any serious health risks. Recently, the director of the National Institute of Drug Abuse acknowledged that CBD is generally safe. But researchers caution that cannabidiol can produce minor side-effects that can include drowsiness, dry mouth, and (in rare cases) low blood pressure. It may also interfere with the way the body metabolizes medications. A small percentage of subjects who consume CBD regularly will see increases in liver enzyme tests. That's why I agree with the medical experts, who recommend that patients should only take CBD if they are under the care of a health provider who understands the compound.

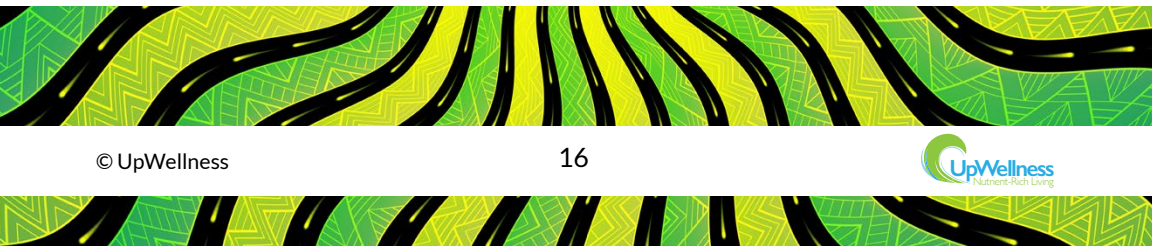
- According to a 2012 study in the [Journal of Experimental Medicine](#), CBD inhibits inflammatory responses and neuropathic pain by targeting glycine receptors which are important in pain signaling.
- A rigorous (double-blind) study published in [The New England Journal of Medicine](#) found that CBD helped reduce epileptic seizure activity in children with Dravet syndrome.
- An exploratory trial published in the [Journal of Psychopharmacology](#) suggest that CBD may improve quality of life in patients with Parkinson's Disease.







- A recent multi-center study published in the [\*American Journal of Psychiatry\*](#) suggests that CBD may be a useful adjunctive therapy in schizophrenia.
- The journal [\*Addictive Behaviors\*](#) published a small controlled trial that suggest that CBD reduced cigarette consumption in tobacco smokers.
- Research conducted on animals and published in the journal [\*Neuropharmacology\*](#) suggests that CBD may help protect against the metabolic and autoimmune processes that lead to Type 1 Diabetes.
- The FDA has approved the CBD-based drug Epidiolex to treat two rare but serious forms of childhood epilepsy.

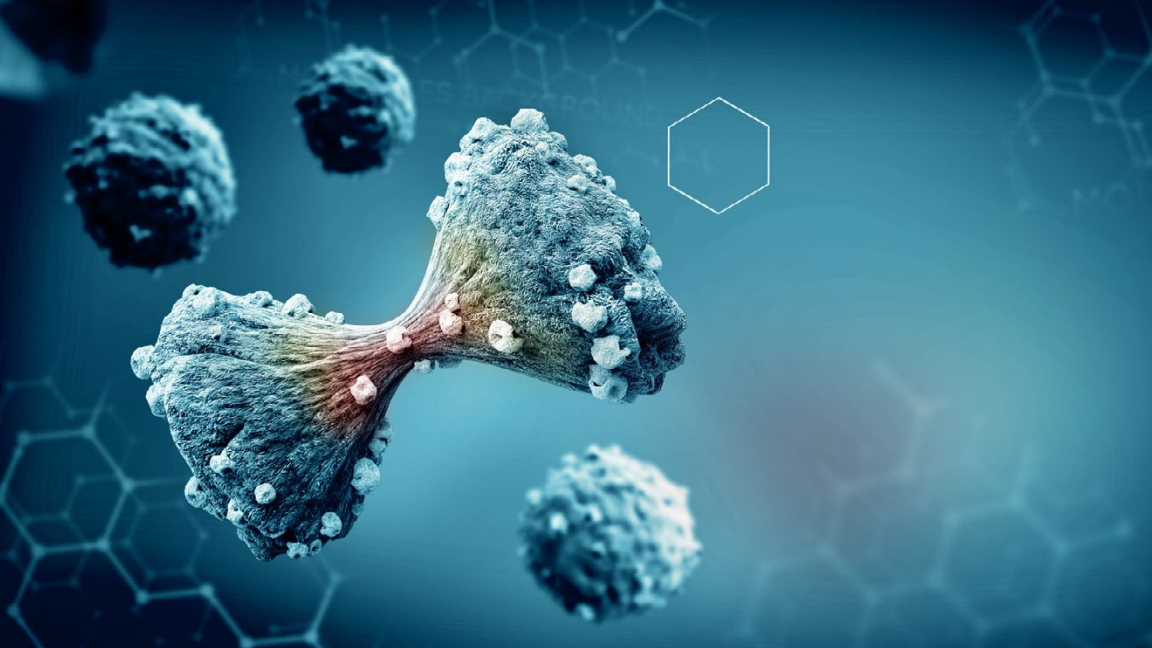




In addition to the scientific literature, there have been a number of high-profile cases where CBD is being hailed as a “miracle cure.” In at least one condition (a rare form of juvenile epilepsy) the evidence appears to strongly support the anecdotal reports. It is welcome news indeed that CBD is proving itself as a safe and effective herbal medicine is a serious condition like pediatric epilepsy. In those cases, CBD is clearly making a difference in the lives of many young patients who would otherwise face debilitating seizures.

If CBD can be a life-changing (and even life-saving) remedy for a condition as intractable and severe as epilepsy, then might it prove effective for other conditions too? This thinking is hardly far-fetched as animal studies suggest that CBD may have anti-inflammatory, analgesic, and perhaps even neuroprotective and anti-cancer properties. This has prompted CBD advocates to tout the compound as offering a broad-spectrum of therapeutic benefits including:

- A natural sleep aid.
- A mood-boosting antidepressant.
- Anxiety and stress relief.
- A remedy for the inflammation and pain associated with rheumatoid arthritis.
- As a topical that heals wounds and protects the skin.



- A broad-spectrum anti-inflammatory agent, which can lower cholesterol and other risk profiles for cardiovascular disease.
- An immune-modulating agent that helps optimize your body's defenses.
- Cancer symptom management and possible tumor-inhibiting properties.

Here, the anecdotal evidence can be compelling, but the research is still preliminary. The lack of larger controlled clinical trials means we really have no basis for drawing firm conclusions. The problem here is two-fold. First, CBD has unfairly gotten swept up in the federal government's long-running campaign against marijuana which has created obstacles to research into cannabinoids for decades. Second, many patients are taking matters into their own hands and purchasing CBD products on their own, often from unregulated sources. This means we researchers don't get good data, and patients are uncertain about what they are taking in terms of quality, purity, and dosage.

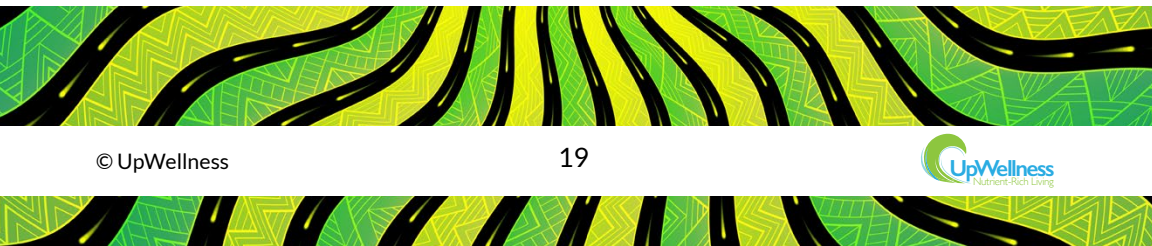






Marcel Bonn-Miller, an adjunct assistant professor of psychology in psychiatry at the University of Pennsylvania School of Medicine, really sums up the current environment when it comes to CBD products when he says “it’s the wild-wild-West” out there.

Dr. Timothy Welty, chair of the department of clinical sciences at Drake University's College of Pharmacy and Health Sciences, in Des Moines (Iowa), makes a similar point when he calls attention to the lack of placebo-controlled studies that have been conducted. In these types of studies, he explains, “There’s no control, so it’s basically how do you know if we’re dealing with the true effect of the drug or just simply a placebo effect because somebody thinks they’ve been given a drug that will be beneficial?”



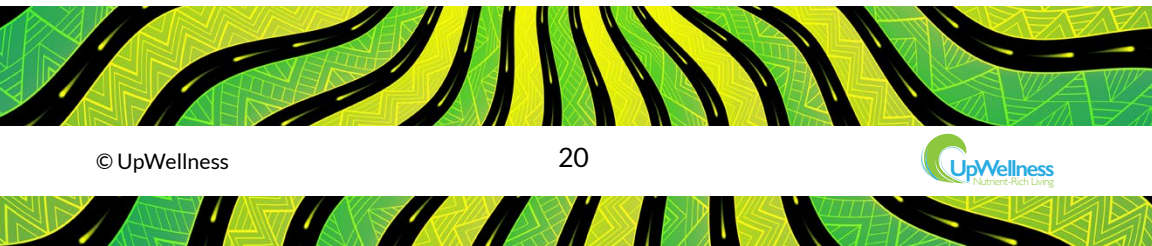




## IS CBD LEGAL?

Congress recently passed legislation in the 2018 Farm Bill that allows farmers to cultivate industrial hemp in the United States. Previously, the hemp plant and products derived from it (including CBD) had been banned because it can be difficult to visually distinguish it from marijuana. It's not as simple as growing tomatoes though...there are heavy restrictions on farmers who grow industrial hemp, including the rule that it must contain no more than 0.3% THC.

Changing the legal status of industrial hemp farming is likely to be the first step toward reclassifying CBD as well. For now, CBD still occupies a “gray area” within both the US Food and Drug Administration (FDA) and the Drug Enforcement Agency (DEA).





For now, CBD remains a Schedule I substance on the federal government's list of controlled substances. That puts it up there with heroin, LSD (acid), and MDMA (ecstasy) on the list of substances that the federal government defines as drugs with no accepted medical use and a high potential for abuse. Interestingly, Schedule II drugs include cocaine, methamphetamine and a variety of opiates including oxycodone and fentanyl which are killing tens of thousands of people every year. Clearly, it is time for the DEA to reconsider "rescheduling" CBD even if they leave marijuana (or THC) as a Schedule I drug.

That might sound scary, but the FDA and DEA have made it known that they are not interested in prosecuting users who possess or consume CBD products. That's the good news... but this "no man's land" approach to the compound comes with another side-effect. The FDA does nothing to help ensure that products containing CBD meet stringent dosage, quality, and purity standards. When it comes to CBD oils, lotions, tinctures, and topicals, it really is a case of *caveat emptor*.





A sign of progress came from a surprising source in late 2018 when the FDA actually rescheduled a prescription form of CBD called Epidiolex. That decision made Epidiolex a Schedule V substance which is the least restrictive. CBD advocates and enthusiasts, hoped that the decision would apply to all CBD products, but for now, it only applies to Epidiolex. Other CBD products remain Schedule I substances from the perspective of the US government.

Individual states have made different decisions about the legal status of CBD...the cannabis advocacy organization NORML has an interactive map that you can use to look at your state [here](https://norml.org/states):  
<https://norml.org/states>



## CBD: BAD FOR PESTS BUT GOOD FOR PEOPLE

Cannabidiol is just one of many molecules that the hemp plant manufactures to protect itself from pests and predators. Like caffeine, which is found in coffee beans, CBD is a compound that is part of a plant's defense mechanism, intended to deter insects and other critters from nibbling on it. But just like many compounds found in edible and medicinal plants...what's bad for pests can be quite good for people. The cannabinoids, flavonoids, and terpenes found in Cannabis have many beneficial effects on the human digestive, immune, and nervous systems. We're only beginning to understand the complex impacts of these plant compounds on human physiology and but it is becoming clear that they offer beneficial effects including anti-inflammatory, antimicrobial, immune modulating, stress-relieving, and even anti-cancer properties.





# HOW CBD WORKS: THE ENDOCANNABINOID SYSTEM

One of the most overlooked results of increasing *Cannabis* research is the discovery of the endocannabinoid system (ECS) within the human nervous system. As researchers worked to understand the effects of CBD, they discovered a biochemical communication system that was previously unknown. This communication system receives signals with little chemical docking stations called cannabinoid receptors. Of course, these receptors can be stimulated by plant-derived cannabinoids like CBD and THC, but it turns out that humans can make our own cannabinoid molecules too...no *Cannabis* required.

Those internally manufactured cannabinoids are known as *endocannabinoids* which are “feel-good” molecules similar to endorphins. In fact, the most well studied endocannabinoid molecule is called anandamide, named for the Sanskrit word for bliss. We produce our own internal cannabinoids when we exercise, when we sleep well, and when we enjoy the company of people we love.

You can think of the ECS as the body’s “central station” because its job is to modulate many of the internal systems that are essential to your health. The ECS has known roles in memory, mood, immunity, endocrine balance, metabolism, temperature control, sleep, hormonal system, central nervous system activity, reproduction, pain control, and responses to physical exercise. .





Endocannabinoids are even found in breast milk and are produced in higher levels by lactating mothers. It is these endogenous endocannabinoid molecules, which likely play a role in helping infants respond to stress, regulate inflammation and pain, and manage hormonal and metabolic physiology.

Ongoing research is being conducted to illuminate the complex ways that CBD interacts with the endocannabinoid system. It is becoming increasingly clear that CBD has far-ranging effects when it binds to ECS receptors. Because the ECS system is part of the human central nervous system which influences the activity of all of human physiology, CBD may offer a wide spectrum of benefits. Here are just a few of the body functions which are regulated or controlled by the endocannabinoid system:

- **Gastrointestinal function:** It is well known that cannabinoids have appetite-stimulating effects and are widely used in cases of chemotherapy-induced nausea. They also likely play a role in gastrointestinal motility and preliminary research suggests that the ECS may be a target for reducing inflammation and protecting the intestinal lining in inflammatory bowel diseases like Crohn's and colitis.





- **Stress management:** The ECS is intimately involved in the human stress response. It appears that stimulating the ECS system with cannabinoids has a “chill pill” effect, and improves the emotional and physical responses to stress.
- **Muscle tension:** Activation of the ECS has a relaxing effect on muscles. This effect has been observed in healthy people with tight muscles and in people with diseases like multiple sclerosis that cause muscular spasticity.
- **Mood and memory:** Early research suggests that cannabinoids binding to receptors in the ECS can have a positive impact on memory and mood. This can be especially true for people who have anxiety. It has also been shown that habitual marijuana smoking (including the THC component) has a negative effect on memory, and can make some people paranoid.
- **Immunity:** Activation of the ECS has definite effects on the immune system. Researchers use the term “immunomodulatory” to describe the balancing effect that cannabinoids have on the immune system. Many patients with multiple sclerosis and other autoimmune diseases report reduced pain and inflammation with the use of cannabinoids.







- **Glucose regulation:** We're not ready to declare that CBD is good for diabetes, but early research suggests that the ECS is involved in insulin signaling and metabolism.
- **Pain control:** This is one of the areas where cannabinoids and the ECS are critical. Stimulation of the ECS (with endocannabinoids or plant-based cannabinoids) reduces the intensity and severity of pain. Early data suggests that more liberal *Cannabis* laws may also reduce the opiate related complications and deaths. CBD's effect on pain is discussed in more detail below.
- **Sleep:** One of the most commonly reported side effects of high-dose CBD in epilepsy research is...tiredness. This is what has prompted researchers to investigate the role that the ECS plays in sleep. CBD is widely used as a sleep aid, and research is clear that the ECS is involved in sleep/wake cycles and quality of sleep.





# CBD AND PAIN

Endocannabinoid receptors are present throughout the body including the brain and nerves, the digestive tract, the muscles, and even the skin. This may help to explain why CBD appears to offer promise in relieving such a wide range of painful conditions.

CBDs most compelling benefits come from the evidence that evidence that it modulates metabolic pathways in the endocannabinoid system that mediate pain sensation. This helps explain the attitude of CBD advocates like Emma Chasen, who insist that while CBD does not produce intoxication, it nevertheless leaves the feeling relaxed and refreshed. As she explains, "It [CBD] can give you a "body high," like when you sit in a hot tub and come out with your muscles super-relaxed--but you're not high [like on drugs]. There's a change in your physiology, but you can still drive to work and engage."

The opiate crisis and a growing recognition that conventional pharmaceutical pain medications entail serious adverse side effects is prompting physicians and patients seek out safer, more effective, and more natural alternatives. Dr. Charlton Woodly, a podiatric surgeon in Texas, expresses the increasing interest in CBD for pain management when he says, "I use it in my practice because, unlike pain medications, such as Tylenol, CBD does not cause kidney or liver issues while providing the same pain relief."



Studies investigating CBD's analgesic properties are still their infancy, but the results have been promising. Here's a quick look at the state of this research:

- A 2019 study published in the journal [\*Pain\*](#) found that low-dose CBD can reduce anxiety and neuropathic pain.
- Research published in the [\*European Journal of Pain\*](#) concluded that transdermal cannabidiol can reduce both inflammation and arthritic pain in lab mice.
- A 2012 study published in the *Journal of Experimental Medicine* found that CBD alleviates neuropathic pain.
- The [\*National Cancer Institute\*](#) of the NIH has pointed to CBD as a possible therapeutic agent to help manage pain associated with cancer and chemotherapy.
- Research published in the *JAMA Psychiatry* suggests that cannabidiol can help reduce [\*psychotic symptoms\*](#) and could prove helpful in the treatment of schizophrenia.

CBD researchers believe there may be as many as 150 mechanisms through which CBD effects pain signaling. Many of these are poorly understood. We are a long way off from being able to say if CBD can ever be a preferred method when it comes to alleviating chronic pain. But so far, the evidence has been particularly encouraging when it comes to treating [\*intractable pain\*](#) (such as the pain associated with multiple sclerosis).





## FREQUENTLY ASKED QUESTIONS (AND DR. JOSH'S ANSWERS...)

**We see CBD products everywhere, but is it really legal? I've heard that cannabidiol is still considered a controlled substance by the DEA. Could I get in trouble for using it?**

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From a practical standpoint, cannabinoids derived from hemp are no longer restricted. There is still a little murkiness, but CBD's status was made a bit clearer with the passage of the 2018 farm bill, which effectively [legalized industrial hemp](#) farming. Until recently, both the FDA and the DEA were reluctant to acknowledge that cannabidiol derived from hemp should be exempt from the controlled substances act because they believed doing so would undercut anti-marijuana efforts and international treaties. But those rationales are beginning to crumble.



But even the FDA's parent agency, The U.S. Department of Health, has been forced to acknowledge that "CBD has negligible potential for abuse. The World Health Organization and the Expert Committee on Drug Dependence are even more emphatic. In a joint report, they write that "Recent evidence from animal and human studies shows that its use could have some therapeutic value for seizures due to epilepsy and related conditions and that it is not likely to be abused or create dependence."

Formally, CBD remains a Schedule I substance under federal law, but neither the FDA nor the DEA will prosecute anyone for using or possessing CBD derived from hemp. So, no, you can't get in trouble for using it.





## **I'm starting to see a lot of CBD topicals and skincare products out there. Do they really work?**

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Mist cannabinoids (including CBD) are “fat soluble” which means that they will dissolve in oil, but not in water. Because human cell membranes are made of long-chains of fatty acid molecules, this means that CBD can be absorbed across the cell membrane. Additionally, the skin is suffused with cannabinoid receptors so topical applications of CBD may indeed have therapeutic effects both on and beneath the skin.

Cannabinoids have antimicrobial, anti-inflammatory, and antioxidant activity. Early cell studies suggest that topical cannabinoids may counteract damage caused by infection, inflammation, and oxidative stress. We still need more human studies to confirm the benefits that have shown up in preclinical research. But one study involving lab mice found that CBD may help treat skin cancer. Now, that sure would be a new wrinkle in skincare.





## What is the right dose of CBD?

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This may be the toughest question of them all. This may sound silly, but the right dose of CBD is...*the dose that works*. More specifically, the lowest dose that delivers the intended effect is the “right” dose. For reference, therapeutic doses of CBD for epilepsy are 500-600 mg per day, doses for anxiety/pain/sleep are variable but usually in the range of 50-200 mg per day.

It can be tricky to determine the dose of many of many CBD products on the market. You might expect a product to list the amount of CBD in a single serving, but many products simply list the amount of CBD in the entire container, and leave it to you to do the math. For example, a one ounce bottle (which contains 30 servings of 1 ml each) might contain 150 mg CBD, which equates to 5 mg CBD per serving. Another, more expensive one ounce bottle might contain 750 mg CBD in the bottle, or 25 mg CBD per serving.

## Is CBD safe?

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Despite its classification as a Schedule I substance, CBD is generally regarded as safe. The World Health Organization sums up the scientific consensus with this statement: *In humans, CBD exhibits no effects indicative of any abuse or dependence potential.... To date, there is no evidence of public health-related problems associated with the use of pure CBD.*



## Does CBD interact with medications?

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We know that CBD is metabolized by cytochrome p450 enzymes in the liver. To be specific and technical, CBD is a potent inhibitor of CYP3A4 and CYP2D6 which means that it could theoretically cause increased blood levels of with other drugs that are metabolized by those enzymes including: macrolide antibiotics, calcium channel blockers, benzodiazepines, cyclosporine, sildenafil, antihistamines, SSRIs, tricyclic antidepressants, antipsychotics, beta blockers, opioids, and some statins. Those interactions are “theoretical” because we still don’t have definitive data that proves that there is a relevant clinical interaction.

If you take prescription medication, I recommend that you discuss the use of any nutritional or herbal supplement (including CBD) with your physician.



## Can I use CBD if I'm pregnant or nursing?

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This is a common and important question. Many women are interested in using CBD products for pregnancy symptoms such as morning sickness, musculoskeletal pain, anxiety, and depression. Although studies demonstrate that CBD has a favorable safety profile, there is very little data about the use of CBD during pregnancy.

We do know from a number of studies that pregnant mothers who use marijuana are at increased risk of having a low birth weight baby. One small study suggested that CBD might [reduce uterine contractions](#). Additional research on [CBD on placental cell lines](#) suggest that CBD might alter placental protective function.

Until we have more definitive evidence of the safety of CBD in pregnancy and lactation, pregnant or lactating women should avoid using CBD, unless approved by a midwife or obstetrician.





## **How can I be sure that CBD products are non-toxic? I've heard about products being contaminated with pesticides or even testing positive for THC.**

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CBD products are not well regulated by the FDA, which means there is no federal standard for dosage, purity, and quality. With products being marketed online and sold in small convenience stores, it really is a “wild west” situation. Unfortunately, there are many snake oil salesmen out there selling low quality (and even dangerous) products.

Determining which products are safe and effective is ultimately up to you. In a recent article, [Consumer Reports](#) offered some sensible tips that can help you choose the most reliable CBD products. Here's a quick summary of things to look for:

- Know where the hemp in your product comes from. States like Colorado, Oregon, and Kentucky have had robust hemp programs for some time and they have the best track record of making sure that hemp products do not contain contaminants, pesticides, or THC. Most agricultural experts recommend choosing hemp from these domestic sources rather than international ones.





- Ask your retailer for the certificate of analysis (COA) for any product you purchase. This document should tell you how much CBD is in the product and the levels of possible contaminants. If your supplier can't (or won't) provide a COA, then it may be best to take your business elsewhere.
- Be skeptical of products that make grand, sweeping health claims. Dramatic claims are likely a sign that you are dealing with a less than reputable manufacturer.
- Avoid vaping products. These oils are often processed and extracted using solvents, which if they remain in the final product, can turn into potent toxins like formaldehyde when heated. This is a chemical you want to stay away from since it has been linked to both an increased risk of asthma and cancer.
- CBD extracted from the hemp plant material using carbon dioxide (CO<sub>2</sub>) will generally yield the purest and highest quality products.



## FUN FACTS

The [market for CBD products](#) is expected to exceed \$20 billion by 2022.

One of the hottest areas for CBD products is topical skin care. Cannabidiol derived from hemp has powerful antioxidant, antimicrobial, and anti-inflammatory properties. Many dermatologists and beauty experts are recommending hemp-based lotions and oils to treat acne, eczema, sunburn, and other dermatologic conditions.

One of the most exciting frontiers of CBD research involves cannabidiol as a treatment for [anxiety disorders](#). A 2015 review of the scientific literature concluded that the “preclinical evidence strongly supports CBD as a treatment for generalized anxiety disorder, panic disorder, social anxiety disorder, obsessive-compulsive disorder, and post-traumatic stress disorder.”





CBD acting on the endocannabinoid system may represent a valuable treatment for addiction. Researchers speculate that low doses of CBD may help reduce cravings for nicotine, alcohol, and opiates. A [pilot study](#) found that cannabidiol reduces tobacco consumption among smokers.

CBD is multi-generational. It is extremely popular among millennials and baby boomers.

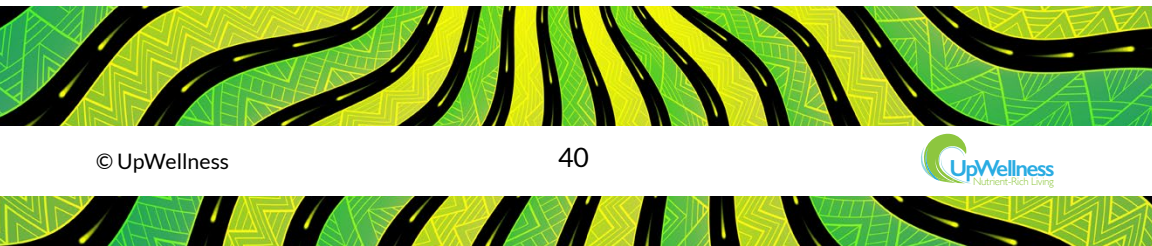
The booming CBD industry is booming with [female entrepreneurs](#). The CBD movement, with its emphasis on personalized and plant-based medicine, represents a sharp contrast with the status quo.



## DR. JOSH'S FINAL THOUGHTS:

CBD has undeniable medical benefits, but its potential has been obscured by both historical hysteria and modern marketing hype. There is convincing evidence that the compound can alleviate seizure activity in children with some forms of epilepsy, which is why the FDA recently approved a CBD-based drug (called Epidiolex) to treat Dravet syndrome.

Will CBD prove as safe and effective for other conditions? It's too early to tell....but it's looking good. There are certainly strong grounds for optimism. CBD has a strong safety profile and preclinical research suggests that the compound has powerful anti-inflammatory, anti-microbial, and antioxidant properties. The evidence is also mounting that CBD can play a critical role in modulating mood, immunity, gastrointestinal function, hormonal balance, and pain control thanks to the way it interacts with the body's endocannabinoid system.





CBD has many of the same advantages of other plant-based remedies. It appears to be safe, generally well-tolerated, and any adverse side effects appear to be negligible compared to conventional pharmaceutical drugs.

The good news about should not lull us into buying into all the hoopla surrounding it. Be cautious and thoughtful when you see CBD being hailed as a miracle cure for everything under the sun. Remember that to date, there is very little high-quality data from human clinical trials on hemp-derived CBD. Currently, hope and hype are well ahead of the evidence we need to support such claims.

Donald Abrams, an oncologist and professor of clinical medicine at the University of California at San Francisco, who is also member of the National Academies of Sciences, Engineering and Medicine committee, which issued the most comprehensive report to date on the evidence related to the health benefits of cannabinoids, explains that “in vitro and animal studies do suggest many potential therapeutic applications for hemp-based CBD.” But he’s also the first to acknowledge that we are only beginning to scratch the surface when it comes to understanding how this compound may benefit human health.

For that, we urgently need more rigorous studies involving human subjects. It may be some time before we in the medical community can cut through the haze that has surrounded CBD. But it is through the scientific process that we will discover if the future of medical CBD is as bright as it appears to be.