



The Ultimate Guide to **CBD** (Cannabidiol)

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Cannabidiol (CBD) comes from the cannabis or hemp plant. People use it as a natural remedy for mood, sleep, inflammation, and pain.

Over the past five years, the popularity of CBD oil and other products has exploded. And the publishing of scientific papers on cannabidiol has also increased by threefold compared to the previous five years.

It's safe to say vastly greater knowledge exists about this remarkable cannabinoid now than ever before. However, between rapidly advancing research on the one hand, and dubious advertising claims on the other, separating fact from fiction isn't always straightforward.

That's why we've compiled this guide for beginners and anyone else who'd like to deepen their knowledge of CBD.

Keep reading to learn the science of how CBD works, 10 health benefits, how to take it, purchasing tips, and other helpful insights.

What is CBD (Cannabidiol)?

Cannabidiol or CBD is a naturally occurring compound from cannabis plants in the Cannabaceae family, particularly the species *Cannabis sativa*, which includes wild and industrial hemp as well as higher-THC strains or subspecies like indica- and sativa-dominant varieties [\[1\]](#).

People mainly take CBD to relax, lower their stress levels, and seek possible relief from a variety of symptoms. The most common ways to administer it are orally or under the tongue as an oil or tincture, mixed into foods or beverages, vaporized and inhaled, or rubbed on topically in the form of lotions or salves.

Although CBD does have some psychoactive effects, it doesn't provide a buzz or intoxicating high like the related cannabinoid tetrahydrocannabinol (THC).

And according to a 2018 report from the World Health Organization (WHO), "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." [\[2\]](#)

Often, high-grade "marijuana" has THC concentrations up to 30% and CBD levels below 1% [\[3\]](#). In contrast, hemp has CBD concentrations around 40%, while THC typically stays at 0.3% or less [\[4\]](#).

More recently, growers have also cultivated new varieties high in CBD and low in THC by hybridizing hemp to cannabis strains with high flower production [\[5\]](#).

How Does CBD Work?

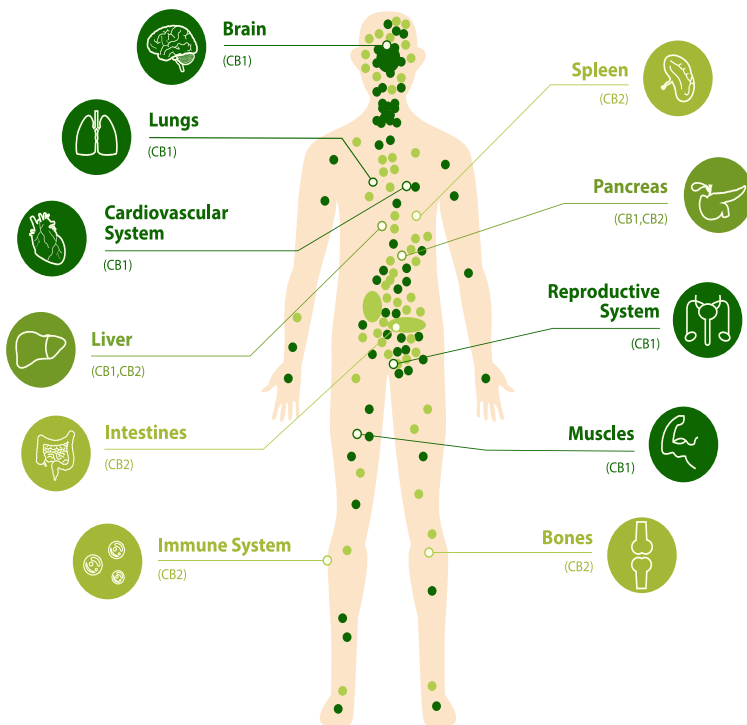
Cannabidiol has measurable effects in your brain, central nervous system, and throughout your body.

Like THC, CBD is lipophilic (fat-soluble), which enables it to cross your blood-brain barrier (BBB) [6].

Cannabis contains around 113 known phytocannabinoids (plant cannabinoids), of which CBD is only one [7].

Along with its isolated effects, CBD also acts in concert with other phytocannabinoids, including THC. For instance, it may decrease some of the adverse effects of THC, such as anxious or psychotic mental states from THC overdose [8][9v].

And tinctures and other broad- or full-spectrum extract products appear to exert stronger therapeutic effects than isolated formulas with CBD or THC only, which researchers call the “entourage effect” [10].



Potential benefits of activating the CB1 Receptors

- Lower anxiety
- Lower blood pressure
- Lower intestinal inflammation
- Relieve depression
- Reduce fear and paranoia

Potential benefits of activating the CB2 Receptors

- Help with alcohol and nicotine addiction
- Increase appetite
- Neurodegenerative diseases
- Reduce chronic pain
- Reduce inflammation
- Stress response

In other words, while CBD doesn't exert strong direct effects at the CB1 and CB2 cannabinoid receptors like THC does, it probably alters the effects of other cannabinoids that do.

Other potentially important phytocannabinoids that may work synergistically with CBD include cannabidiolic acid (CBDA), cannabichromene (CBC), cannabidivarin (CBDV), and cannabigerol (CBG) [\[11\]\[12\]\[13\]\[14\]\[15\]](#).

Another way CBD may work is by increasing the activity of endocannabinoids (cannabinoids your body produces naturally) like anandamide, which play a role in emotional regulation, reward, appetite, immune function, sleep, and the stress response [\[16\]\[17\]](#).

For example, CBD appears to decrease levels of the enzyme fatty acid amide hydrolase (FAAH), which may increase circulating levels of anandamide [\[18\]](#).

Finally, research also points to several other likely mechanisms of CBD, including:

- PPAR activation (associated with anti-inflammatory, anti-Alzheimer's, and anti-cancer effects) [\[19\]](#)
- GPR55 receptor antagonism (associated with anti-epileptic effects) [\[20\]](#)
- 5HT1A serotonin receptor agonism (associated with anti-anxiety and antidepressant effects) [\[21\]](#)
- TRPV1 ion channel interaction (a pathway that can regulate mitochondrial membrane potential) [\[22\]\[23\]](#)

If you found the topics in this section a little on the technical side, don't worry. You definitely don't have to become an expert in the science of how CBD works--just keep in mind that it's quite complicated, and researchers are still discovering new ways CBD interacts with your brain and body.

In the next section, you'll learn what science says about the possible beneficial health effects of CBD.

5 Health Benefits of CBD

#1: Promotes Relaxation and Healthy Sleep



While large trials are lacking so far, early studies of CBD's effects on relaxation and sleep are promising.

A Brazilian study of 57 men found that administering 300 milligrams of CBD before a public speaking test reduced anxiety [\[24\]](#).

Separately, a study of older Japanese teenagers concluded that four weeks of CBD treatment significantly reduced symptoms of social anxiety disorder [\[25\]](#).

In a case series published in 2019, 72 adult psychiatric patients with anxiety or poor sleep took a dose of 25-175 milligrams of CBD every day for three months [\[26\]](#). Two thirds of the patients experienced improved self-reported sleep, and nearly 80% reported less anxiety.

And in a separate 2016 case report, physicians successfully treated the anxiety and insomnia a child with PTSD was experiencing [\[28\]](#).

Other studies suggest CBD may help treat sleep disorders and excessive daytime drowsiness [\[29\]](#).

#2: May Boost Mood and Memory

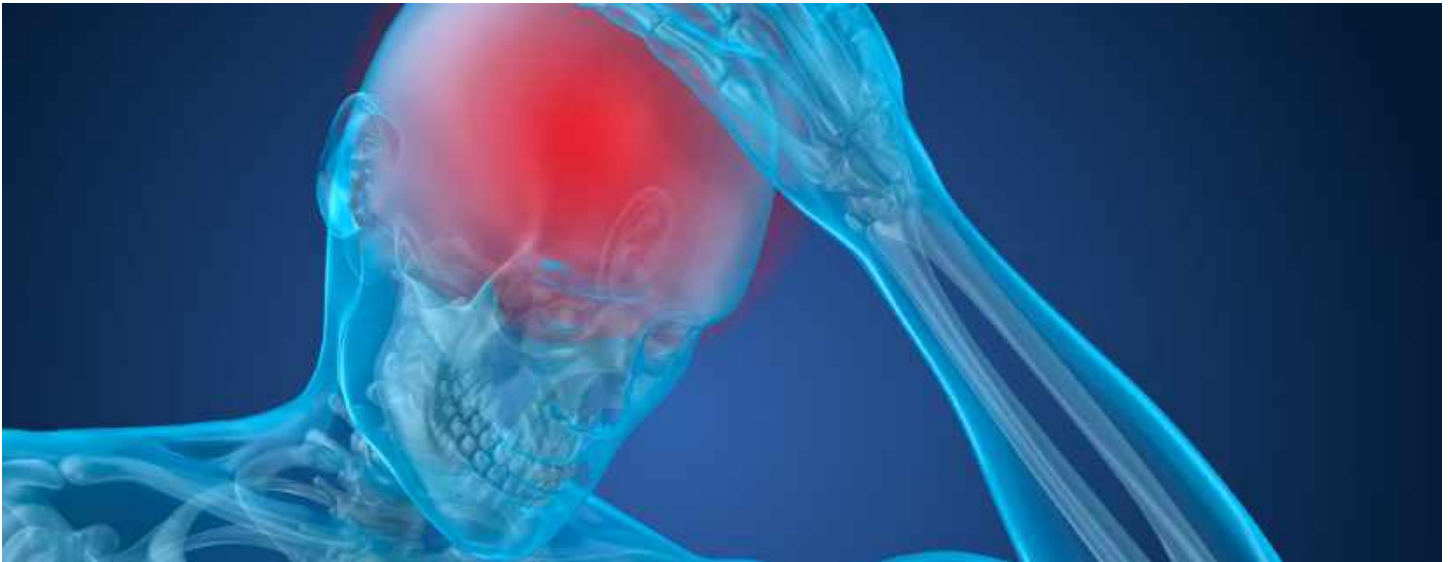
As the authors of a 2019 review published in the Journal of Chemistry and Neuroanatomy wrote, CBD animal studies suggest that CBD “promotes both a rapid and a sustained antidepressant effect” [\[30\]](#).

The researchers think that the mood-boosting effects of CBD are complex, involving multiple neurotransmitter systems as well as speeding up neurogenesis, the process of creating new brain cells [\[30\]](#).

At the crossroads of emotional regulation and memory, cannabidiol also seems to help reduce the impact of fear-based learning or to assist “emotional memory processing” [\[31\]](#). Some scientists think these effects could be helpful for treating trauma-related conditions.

Lastly, a study of regular cannabis users found that administering CBD helped reduce the memory loss and related side effects that are associated with THC use [\[32\]](#)[\[33\]](#).

#3: May Reduce Pain and Inflammation



Despite the fact that there are no large clinical trials yet, some scientists consider the prospect that CBD could reduce pain likely [\[34\]](#).

One reason CBD appears promising for pain relief is that it helps control inflammation [\[35\]](#).

A mouse study suggests that CBD may reduce the inflammatory symptoms of autoimmune arthritis [\[36\]](#).

And CBD may have local anti-inflammatory effects when applied topically, too [\[37\]](#).

#4: Could Diminish Acne

Two preliminary studies suggest that CBD oil may help treat acne, thanks in part to its anti-inflammatory properties.

An in vitro cell study found that CBD oil prevented sebaceous glands from secreting sebum and reduced inflammatory cytokines associated with acne [\[38\]](#).

And when other researchers produced similar results two years later, they concluded that cannabinoids “show promise to become highly efficient, novel anti-acne agents” [\[39\]](#).

#5: Anti-Seizure Effects



In 2018, the US FDA approved a commercial cannabidiol isolate spray called Epidiolex for seizures associated with two rare forms of epilepsy, Lennox-Gastaut syndrome and Dravet syndrome [\[40\]](#).

Additionally, pilot trials suggest cannabidiol may also be effective for treating other forms of drug-resistant epilepsy [\[41\]](#).

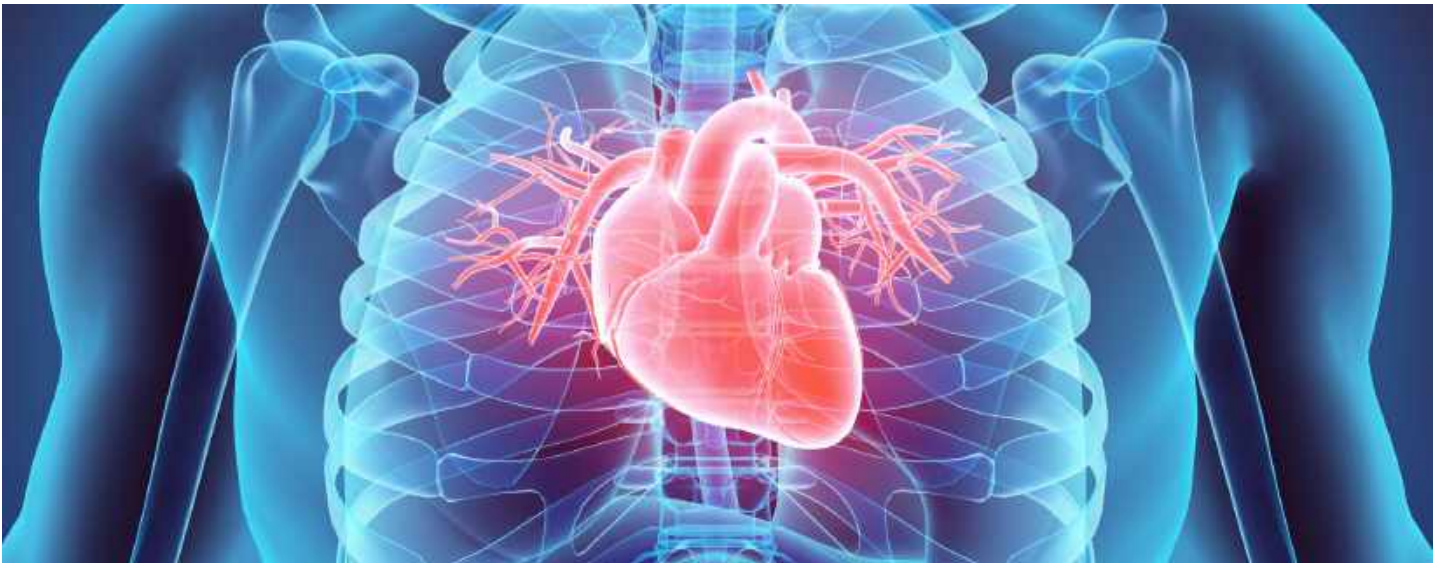
#6: May Promote Gut Health and Relief from Digestive Symptoms

Your digestive system contains plenty of endocannabinoid receptors, which means that CBD can exert effects there [\[42\]](#).

According to the authors of a 2020 review, data suggest that “cannabinoids may confer beneficial effects on the gastrointestinal and immune system, such as reducing intestinal permeability, regulating gut bacteria, and reducing inflammation” [\[43\]](#).

Evidence also indicates that CBD can suppress nausea and vomiting [\[44\]](#).

#7: May Support Cardiovascular Health

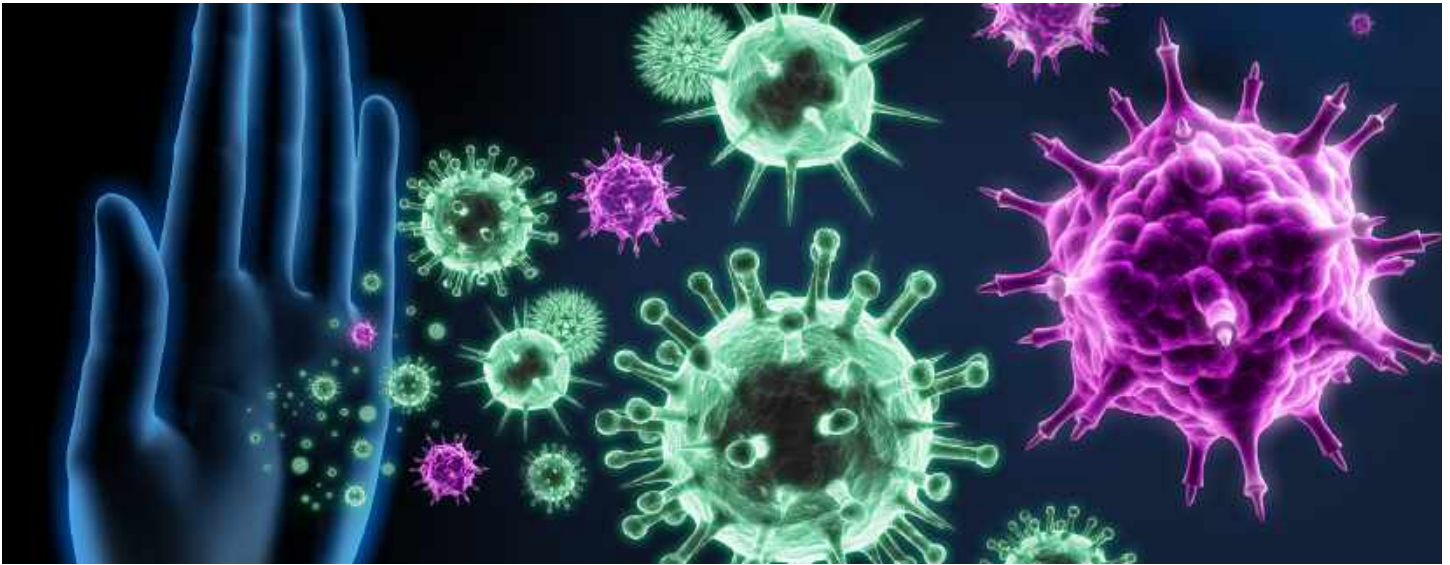


A study of nine healthy men found that a dose of 600 milligrams of CBD reduced resting blood pressure compared to placebo [\[45\]](#).

Additionally, the same study found that during stress tests, the men who took CBD had a smaller rise in blood pressure compared to others [\[45\]](#).

Another way CBD may support heart health is by decreasing cellular stress and preventing damage to heart cells [\[46\]](#).

#8: May Support Immune Health



Research shows that cannabidiol has immunomodulatory activity, meaning that it can help regulate the immune system [\[47\]](#).

Some scientists think that due to its immunomodulatory and anti-inflammatory effects, CBD could be an effective treatment for multiple sclerosis and other autoimmune diseases [\[47\]](#).

And in vitro cell studies also suggest that CBD has antibacterial activity against dangerous antibiotic-resistant bacteria, and could also help antibiotics work better [\[48\]](#).

#9: May Help Cancer Patients

Cell and animal studies show that CBD has anti-tumor effects and can cause apoptosis (programmed cell death) in malignant cancer cells [\[48\]](#)[\[49\]](#).

Animal models also suggest that CBD can slow or prevent the spread of aggressive cancers, including brain, colon, prostate, breast, and lung cancer [\[48\]](#).

And not only that, but cannabidiol also has other potential benefits that may be helpful for cancer patients, such as relaxation, better sleep, improved mood, and pain relief [\[26\]](#)[\[30\]](#)[\[34\]](#).

#10: Possible Neurological and Psychiatric Benefits



Because it can cross your blood-brain barrier, CBD could help treat people with neurological or psychiatric issues.

Pre-clinical evidence shows benefits for people with neurological conditions including Alzheimer's disease, Parkinson's disease, and multiple sclerosis [\[49\]](#).

It may also reduce brain damage from neurodegenerative or ischemic (stroke) conditions while decreasing symptoms like anxiety, depression, or psychosis [\[50\]](#).

A 2018 study of people diagnosed with schizophrenia found that alongside antipsychotic medication, 1000 milligrams per day of CBD reduced psychotic symptoms and resulted in significant improvement [\[51\]](#).

And finally, the authors of a 2019 review in *Frontiers in Psychiatry* concluded that “animal and human studies suggest that...cannabinoids [like CBD] have the potential to reduce craving and relapse in abstinent substance users...[and are a]potential treatment for substance use disorder, across a range of substances including nicotine, alcohol, psychostimulants, opioids, and cannabis” [\[52\]](#).

How To Take CBD?

CBD comes in many different forms, but they're not all equally effective.

Oral administration (oil, tincture, capsule, or edible) appears to have a bioavailability (the amount of CBD your body can absorb and use) between 6-19% depending on the study [\[8\]\[53\]](#).

Because it's fat-soluble, eating fatty foods while taking oral CBD oil, capsules, or edibles could improve the bioavailability [\[54\]](#).

You may be also able to increase the bioavailability and absorption rate by taking tinctures or oils sublingually (under your tongue). To do so, simply use a dropper to place the liquid under your tongue, then hold it there as long as you can (ideally one to five minutes). Then swallow the CBD dose.

On the other hand, inhaling CBD by smoking or vaporizing it absorbs nearly immediately and may double bioavailability compared to other routes [\[53\]](#). However, the long-term lung effects of smoking or vaping CBD are unknown.

Topical CBD--in the form of salves, balms, oils, or lotions--isn't as well-studied as oral or inhaled CBD. Without special delivery systems like transdermal patches, CBD is unlikely to absorb well into your bloodstream through your skin [\[37\]](#).

However, an animal trial did show effectiveness of topical CBD for treating some local symptoms, which means topical administration is worth a try if you would like to achieve pain relief or another local effect on a specific part of your body [\[54\]](#).

Determining Your CBD Dosage

According to the clinical trials we discussed in the health benefits section, CBD doses between 25-1500 milligrams per day can be effective.

Most people start with a low dose of 10-15 mg per day, then work up to higher doses if necessary. A common therapeutic dose is 50 milligrams, two or three times per day.

More isn't always better--CBD sometimes has what's called a "bell-shaped response curve," meaning that, for example, 50 milligrams could be more effective for you than 25 mg or 100 mg [\[24\]](#). It's worth taking the time to experiment and figure out your optimal dose.

Also, the longer you use CBD, the more it builds up in your system [\[53\]](#).

Therefore, if you want to achieve a therapeutic effect with cannabidiol, your best bet is probably to dose it one or two times per day, every day. Wait two weeks to gauge the effects, then increase your dose if needed. Repeat until you find the perfect amount for your body.

Who Should Take CBD?

You don't have to be unwell to consider taking CBD. Plenty of people without any diagnosis or disorder take CBD for stress relief, better sleep, and a brighter mood.

However, if you do take medication, or have an existing medical condition, speak to your doctor before you try CBD.

CBD can alter the function of some liver enzymes, which changes the effects of certain drugs, particularly valproic acid, clobazam, and coumadin [\[55\]](#)[\[56\]](#)[\[57\]](#)

And while the jury is still out on CBD's safety during pregnancy and breastfeeding, we recommend that pregnant or nursing women avoid it to be on the safe side until there's more evidence.

If you're worried about whether or not you can pass a drug test after taking CBD, the answer is it depends.

A 2019 study at Johns Hopkins University found that CBD isolate did not cause participants to fail a drug test, but after vaping a CBD product with 0.39% THC (slightly over the legal THC limit), two of six participants did test positive for THC metabolites [\[58\]](#).

In other words, in a job situation, those people would have failed a drug test. If you're drug tested at work, your safest option is to stick with CBD isolate products.

Is CBD Oil Safe?

Studies show that people generally tolerate CBD well, even up to 1500 milligrams per day [\[59\]](#).

In many studies, zero unwanted effects are noted [\[60\]](#).

When researchers do observe adverse effects, the most common ones are tiredness, reduced appetite, weight change, and diarrhea [\[60\]](#).

Overall, CBD is quite safe. If you experience unwanted side effects, try taking a break, reducing your dose, or changing to a different route of administration.



CBD For Your **Pets**



You may have noticed that some retailers sell CBD oil or other products made especially for pets. Because dogs and most mammals have similar endocannabinoid systems to humans, CBD may exert similar effects in many pets [\[61\]](#).

But first of all, is CBD safe for pets?

The answer is probably yes, at least for dogs. Research suggests that healthy dogs, dogs with seizures, and dogs with arthritis all tolerate CBD well [\[62\]](#)[\[63\]](#)[\[64\]](#).

However, one study found that some healthy cats exhibited unusual behaviors when given CBD, like head-shaking and excessive licking [\[62\]](#).

If you're considering giving CBD to a cat or another pet besides a dog, ask your vet first.

Most pet CBD products are similar to human ones, but may contain a lower concentration of CBD and flavors designed for animals. You can also give your pet human-grade CBD, as long as CBD is the only active ingredient.

For dogs, the typical dose used in studies is 2-4 milligrams per kilogram of body weight (0.9-1.8 mg per pound of body weight) per day, given in one or two doses [\[62\]](#)[\[63\]](#)[\[64\]](#).

Buyers' Guide:

4 Tips for Buying CBD

#1: Know the Source



The cannabidiol marketplace is booming, and there are now thousands of potential purchasing options.

Amidst all the chaos, one of the best ways to choose a trustworthy source is to search for online reviews by real people.

Alternatively, you can also read through testimonials on sites like Reddit or Facebook. Established CBD retailers and brands tend to attract a loyal following over time, so pay attention to the names that come up repeatedly.

Other factors you may want to consider are how long the retailer or brand has been in business, if the product is organic and environmentally friendly, and whether the CBD comes from a single origin source or not.

#2: Choose Your Extraction Method

The extraction method refers to the way a manufacturer processes hemp to extract CBD.

Different methods include CO2 extraction, steam distillation, and solvent-based extraction.

Each method has its pros and cons. CO2 extraction is precise and efficient but expensive, steam distillation is inexpensive but the heat may damage some cannabinoids, and careless solvent-based extraction can leave behind unhealthy contaminants.

Of the different CO2 methods, lower-pressure methods are less likely to damage cannabinoids, but take the longest.

Along with the different methods, manufacturers can also create CBD products with other cannabinoids (called full-spectrum) or without (called CBD isolate).

As we discussed earlier, CBD isolate is the safest choice for people who are drug tested for THC.

But the other cannabinoids in full-spectrum products may offer superior effects thanks to the “entourage effect” mentioned previously.

Lastly, in some cases, manufacturers in areas where THC is legal, sell full-spectrum Cannabis sativa extracts that are high in THC. If you’re in a legal area, make sure you look closely to know whether you’re getting a hemp CBD product or a full-spectrum that includes THC.

#3: Read the Label Carefully

In addition to telling you whether you’re buying a CBD isolate or full-spectrum product, the label also contains other essential information.

The most critical element to consider is the total CBD content, followed by the concentration of CBD.

You need to know the total CBD content to comparison shop for the best price, and the concentration is vital to understand for dosing purposes.

Often (but not always), manufacturers display a large number in milligrams that denotes the total CBD content. If that's the case, there's usually a smaller number in milliliters that refers to the liquid volume (for oil, tinctures, and other liquids).

For example, a CBD oil product might have a number like 5000 milligrams on the front with a liquid content of 100 milliliters, making the concentration 50 milligrams per milliliter (50mg/ml).

When you're trying to figure out the best price, you want as many total milligrams as possible for the lowest price (for a product of acceptable quality, of course). The amount of milliliters isn't relevant for the value you receive.

You can use any dose you'd like, but to get the proper dose you must divide total concentration by liquid volume, then consume an appropriate amount of liquid for your intended dosage. In the above example, you'd take a milliliter to get a 50 mg dose, or a half milliliter for a 25 mg dose.

Also, many products come with a dropper. Most of the time, a single drop from a dropper is 0.05 ml, which means that you can consume 20 drops to obtain a milliliter.

#4: Check the Certificate of Analysis



At this stage of the shopping process, you've investigated several companies, chosen the product and extraction method that best fit your needs, and done some math to figure out the best deal.

You're nearly ready to click Add to Cart or Buy Now. But wait--there's one more thing you still need to do to ensure you get the best, safest CBD product.

It's time to check the certificate of analysis (COA), a document from a third-party laboratory that contains important information like the THC content, CBD content, and sometimes tests for contaminants.

There's no formal requirement to provide a COA, and not every company posts them online. If you're not sure, you can try emailing and asking.

COAs may sound technical, but they aren't difficult to read. You're mainly looking at THC (which should be <0.3%), CBD (which should match what the product label says), and anything else of interest like contaminants or pesticides.

A 2018 analysis study of 14 commercially available CBD products found that the CBD amounts were anywhere from 5% to 38% different from what sellers claimed [v](#). Perhaps not surprisingly, all of the products were under, not over, the amount listed on the label.

Therefore, even if you pay a little bit more for a product with a proper COA, you might avoid getting ripped off. Avoid companies who won't provide a COA--that's a red flag.

Conclusion

Cannabidiol is exceptionally safe, and looks promising for a variety of ailments. With new CBD studies coming out every day, researchers are sure to discover more benefits in the near future.

That said, not all CBD products are created equal. A significant amount of CBD on the market is underdosed or contaminated. If you want to safely learn the benefits of CBD firsthand, stick with trusted suppliers and always check the certificate of analysis.

NourishMe Organics now offers a 30 ml bottle of premium-quality 1500mg Full Spectrum Hemp Oil with 50 milligrams per milliliter of cannabidiol. This product is a low-pressure-extracted, full-spectrum hemp oil product you can trust.



Full Spectrum Hemp Oil

To discover more about NourishMe Organics Full Spectrum Hemp Oil and experience it for yourself.

[\[Click here\]](#)