The 419 on Cannabidiol

(CBD)

419 Holistics, llc

Contents

"What Nature Intended"

419 Holistics

419 Holistics, an Atlanta based company founded in 2017, strives to be the premier hemp/cannabis company in the south.

We understand the years of misleading information and the stigma that has been put on HEMP and are striving to change that by providing a unique buying experience to our customers; one that focuses on knowledge first.

419 Holistics offers access to unbiased information on hemp and how it can positively impact both the consumer's wellbeing and the overall health of the planet.

We offer a wide range of hemp-based CBD products that are exclusively sourced in the continental U.S. Our products go through extensive testing by three independent laboratories to ensure the highest level of purity and quality.

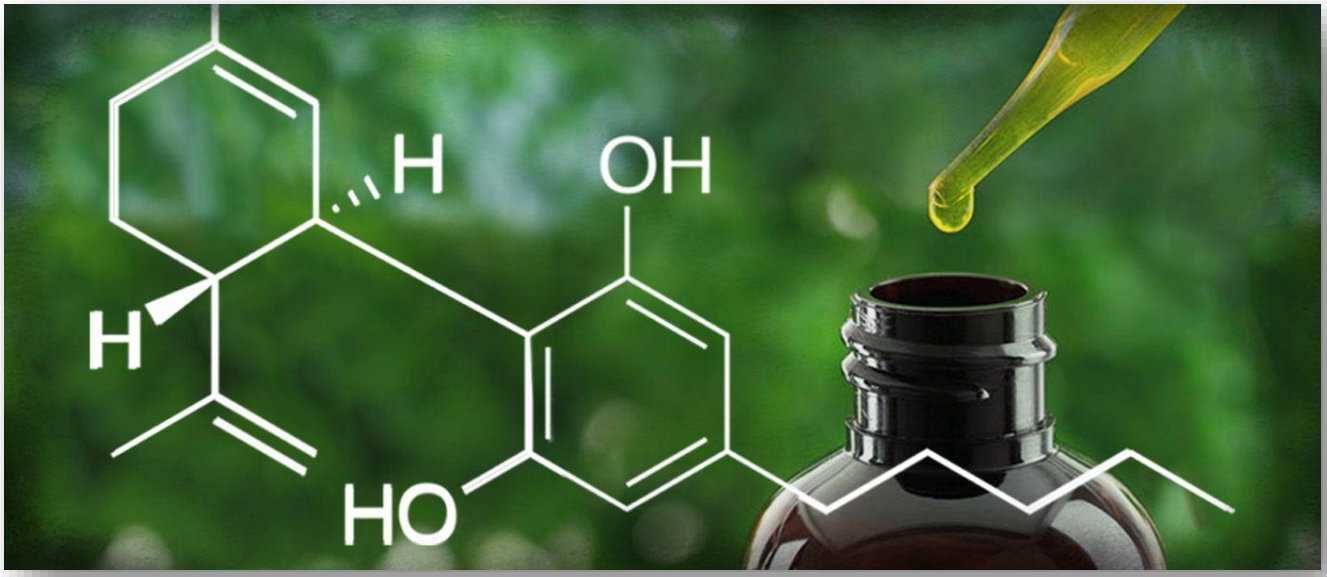
419 Holistics operates solely with integrity and compassion. We want our customers to not only view us as a quality hemp store but as an experience. 419 Holistics is "What nature intended".

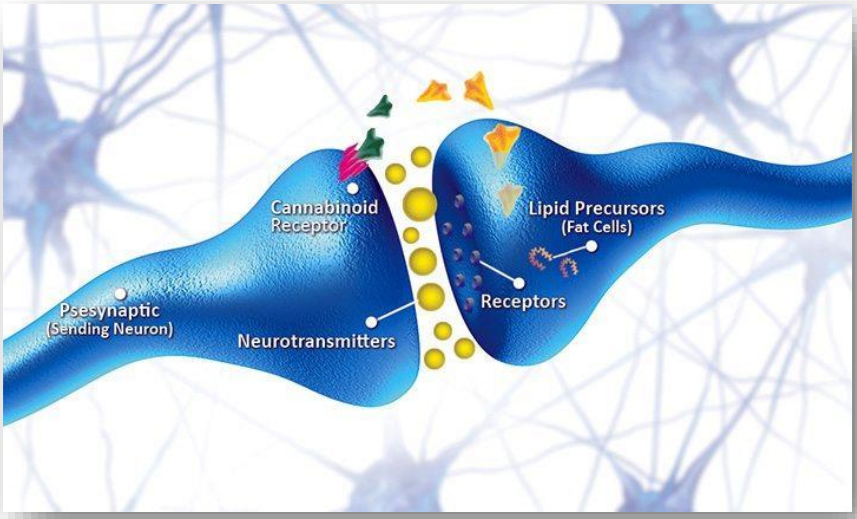
#GetThe419

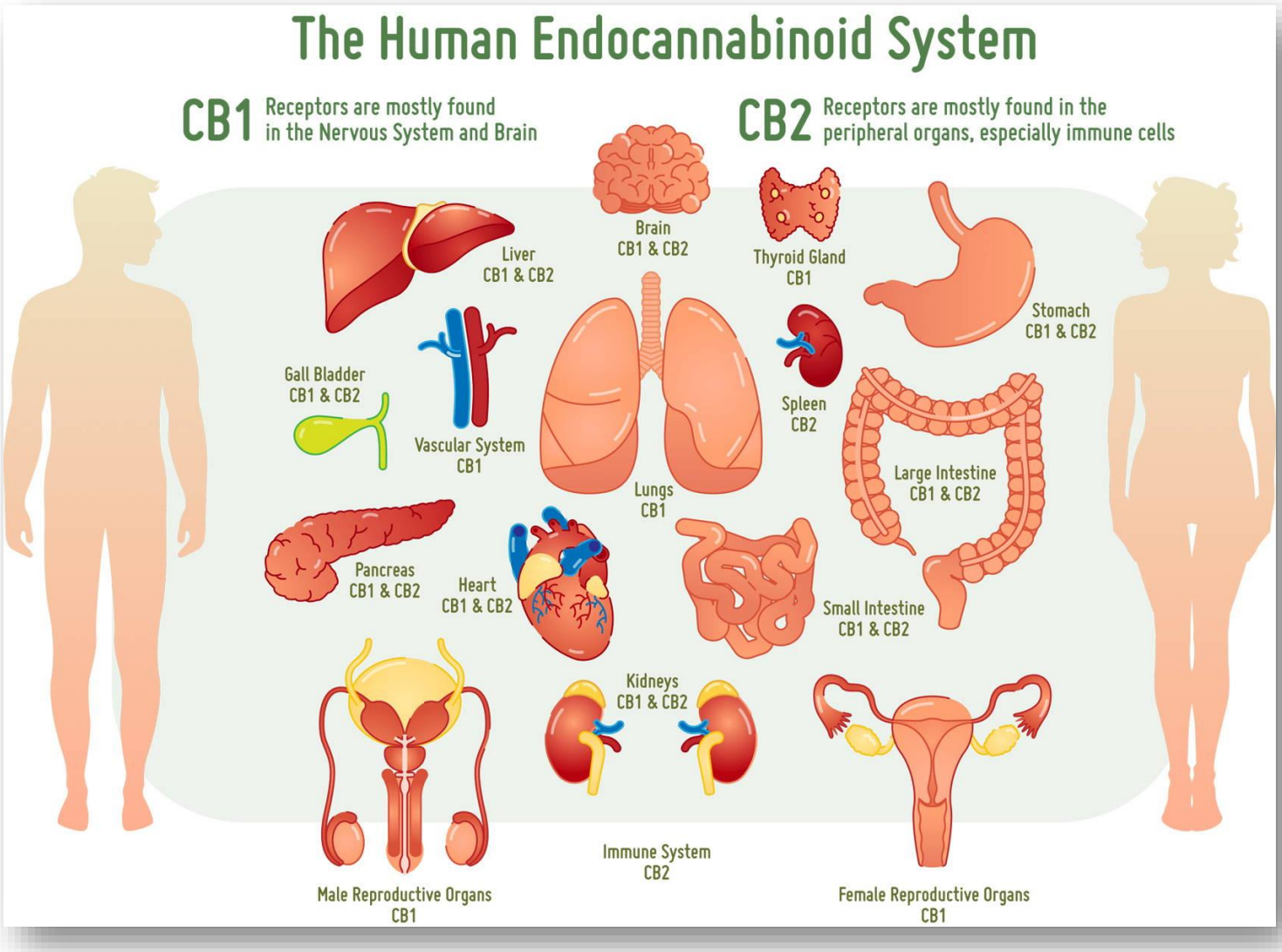
The hemp trinity: Essentials, Nutritionals and Therapeutic

What is CBD?

Cannabidiol—CBD—is a cannabis compound that has significant medical benefits, but does not make people feel “stoned” and can actually counteract the psychoactivity of THC. The fact that **CBD-rich cannabis** is non-psychoactive or less psychoactive than THC-dominant strains makes it an appealing option for patients looking for relief from inflammation, pain, anxiety, psychosis, seizures, spasms, and other conditions without disconcerting feelings of lethargy or dysphoria.







The Human Endocannabinoid System

The endocannabinoid system is a biological system composed of endocannabinoids, which are endogenous lipid-based retrograde neurotransmitters that bind to cannabinoid receptors, and cannabinoid receptor proteins that are expressed throughout the mammalian central nervous system and peripheral nervous system.

How Does CBD Work?

Most predominant inside the resin glands (trichomes) of the female cannabis plant, CBD is one of over 80 chemical compounds known as cannabinoids. Cannabinoids are agonists that bind to special receptors on your cells, called cannabinoid receptors.

Certain receptors are heavily concentrated in the central nervous system while others are found in almost every organ of the body. Cannabinoid receptors are even found in the skin, digestive tract, and even in the reproductive organs.

You can think of agonists as keys and cannabinoid receptors as locks. By consuming cannabis, you are taking in agonists that interact with different locks on cells in the body. Together, these cell receptors make up a larger endocannabinoid system (ECS).

The ECS is a vast network of cell receptor proteins with many functions. Some describe the ECS as the greatest neurotransmitter system in the body. It lends a hand in seemingly just about everything, including: mood, memory, motor control. immune function, reproduction, pain perception, appetite, sleep, bone development

Four primary purposes of the ECS include neuroprotection, stress recovery, immune balance, and homeostatic regulation. The last one is a fancy way of referring to a system that creates optimum energy balance in the body.

Somehow, CBD seems to tap into this balancing system to produce its therapeutic effects. CBD is able to interact with cells in our bodies because the molecule has a similar composition to similar chemicals that the human body produces naturally, called *endocannabinoids*.

Endo means inside and *cannabinoid* refers to action on cannabinoid receptors. In contrast, the cannabinoids in the cannabis plant are technically called *phytocannabinoids*.

It's not often that a plant compound can make headlines over and over again. However, CBD is a phytocannabinoid with some serious life-saving potential.

How else does CBD work?

There is still much to learn about CBD. However, scientists have discovered that the compound does a lot more than engage cannabinoid receptors. The effects of CBD in the body are broad and far-reaching. Thus far, the cannabinoid is known to also directly or indirectly affect the following:

Vanilloid receptors (important for pain modulation)

Adenosine receptors (important for the sleep-wake cycle)

Serotonin receptors (important for mood and stress management)

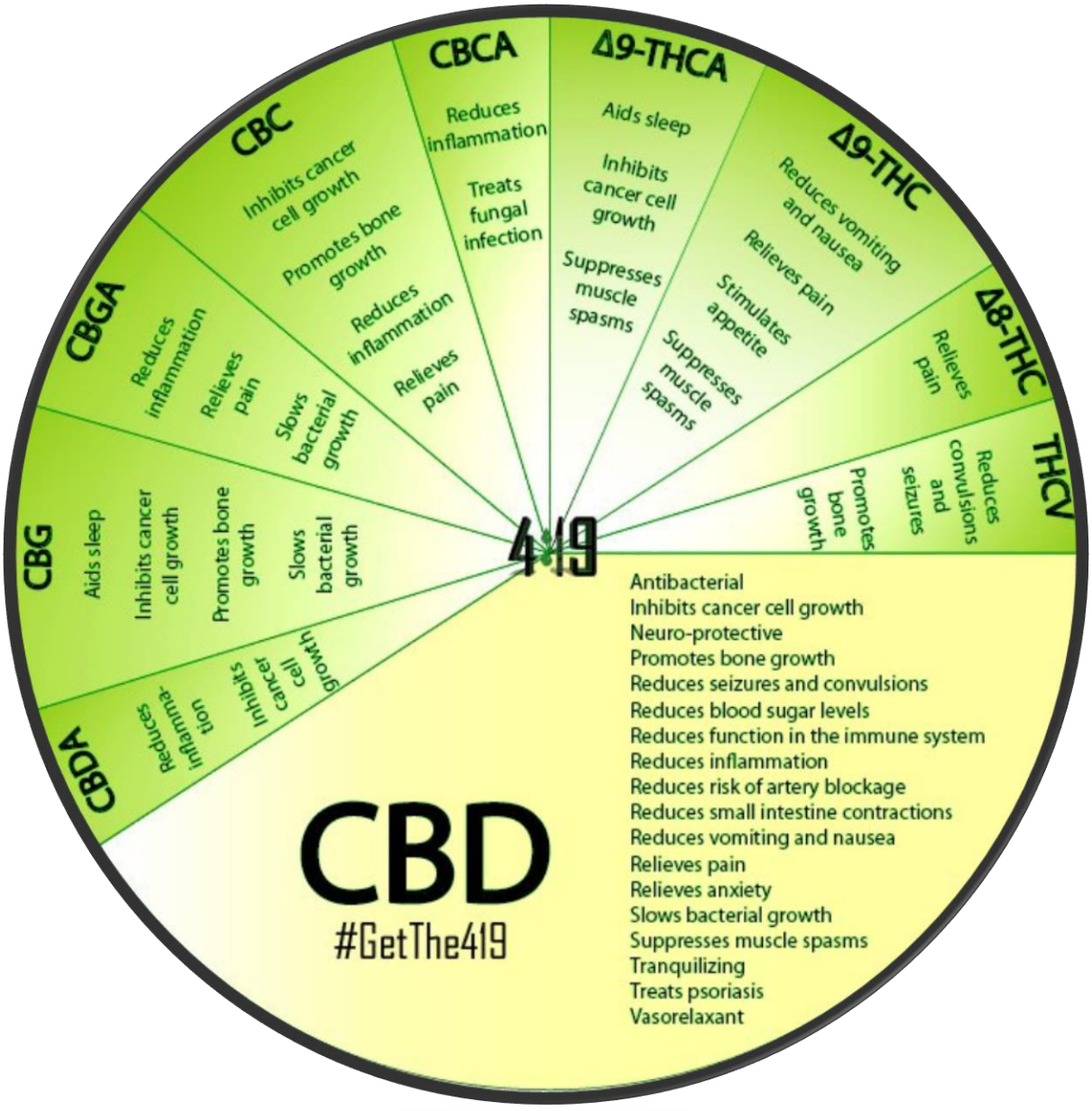
Some rodent studies suggest that CBD may also work by blocking a particular fatty acid known as fatty-acid amide hydrolase (FAAH). The enzyme that's responsible for breaking down the naturally occurring endocannabinoid anandamide in your body.

Anandamide is also known as the "bliss molecule" or the human THC. It helps regulate basic functions like pleasure and reward, appetite, ovulation, memory, sleep, and pain.

The oversimplified theory was that with nothing to break anandamide into smaller parts, CBD boosts the amount of this chemical in your system. In some cases, this could theoretically improve endocannabinoid tone.

However, a 2015 study published in the *Journal of Biological Chemistry* suggests that CBD does not inhibit FAAH in humans. Rather, they suggest that the compound engages proteins that bind anandamide to FAAH, not to FAAH itself. Regardless, the cannabinoid is still linked to a spike in the bliss molecule. However, how it achieves this is unknown.

The Cannabis CBD Spectrum



The Endocannabinoid System

The endocannabinoid system (ECS) refers to a collection of cell receptors and corresponding molecules. You can think of cell receptors like little locks on the surface of your cells. The keys to these locks are chemical molecules called agonists. Each time an agonist binds to a cell it relays a message, causing a cascade of chemical effects.

The endocannabinoid system is the name for a series of cell receptors that respond to certain kinds of agonists. Two primary cell receptors make up the ECS, Cannabinoid Receptor 1 (CB1) and Cannabinoid Receptor 2 (CB2). The keys to these receptors are called endocannabinoids.

Endocannabinoids are like the body's natural THC. In fact, endocannabinoids got their name from cannabis. Plant cannabinoids were discovered first. *Endo* means within, and *cannabinoid* referring to a compound that fits into cannabinoid receptors.

There are two main endocannabinoid molecules, named anandamide and 2-Ag. Funny thing, scientists wouldn't have discovered anandamide without THC. Psychoactive (THC) was first discovered by Israeli scientist Raphael Mechoulam back in the 1960s. His finding quickly spurred a rush to figure out how THC worked, and whether or not our own bodies produced a similar compound.

More than two decades after the search began, anandamide was found. The human version of THC! Yet, once they isolated the chemical, they faced another challenge. What should it be called? They turned to Sanskrit. Anandamide comes from the Sanskrit word *Ananda*, which means bliss. So, basically, anandamide means bliss molecule.

What does the ECS do?

Cannabinoid receptors are found all throughout the body, giving them a wide variety of functions. However, certain receptors are more concentrated in specific regions. CB1 receptors are abundant in the central nervous system. CB2 receptors are more often found on immune cells, in the gastrointestinal tract, and in the peripheral nervous system.

The diversity of receptor locations shows just how important endocannabinoids are for day-to-day bodily function. They help regulate the following:

> Sleep. Appetite, digestion, hunger, Mood, Motor control, Immune function, Reproduction and fertility, Pleasure and reward, Pain, Memory, Temperature regulation

Endocannabinoids are the chemical messengers that tell your body to get these processes moving and when to stop. They help maintain optimal balance in the body, also known as homeostasis. When the ECS is disrupted, any one of these things can fall out of balance. Dysregulation in the ECS is theorized to contribute to a wide variety of conditions, including fibromyalgia and irritable bowel syndrome.

The ECS theory of disease is termed "Clinical Endocannabinoid Deficiency". The idea is simple: when the body does not produce enough endocannabinoids or cannot regulate them properly, you are more susceptible to illnesses that affect one or several of the functions listed above.

Where do endocannabinoids come from?

If your body cannot produce enough endocannabinoids, you might be in for some trouble. But, where do endocannabinoids come from, anyway? This question has another simple answer: diet.

Your body creates endocannabinoids with the help of fatty acids. Omega-3 fatty acids are especially important for endocannabinoid health. Recent research in animal models has found a connection between diets low in omega-3s and mood changes caused by poor endocannabinoid regulation.

Fortunately, hemp seeds are a quality source of omega-3s. However, fish like salmon and sardines produce a form of omega-3s that is easier for your body to put to use.

Beyond cell receptors

Cannabinoid receptors are often what we associate with the endocannabinoid system. But, the ECS is more complicated than that. Enzymes also have a crucial role to play in the process. In an overly simplified way, enzymes are kind of like Pacman. They gobble up various compounds, change them, and then spit out the parts. In the ECS, enzymes break down leftover endocannabinoids. Enter non-psychoactive CBD.

Enter non-psychoactive CBD. While THC binds with cannabinoid receptors directly, CBD does not. Instead, it works it's magic on an enzyme. The enzyme in question is called FAAH, and it is responsible for pulling excess anandamide out of circulation.

CBD puts a stop to this. Psychoactive THC works by mimicking the body's own endocannabinoids. But, CBD increases the availability of endocannabinoids in your system.

CBD stops enzyme FAAH from breaking down all of the anandamide and therefore makes more of it available for use by your cells. Therefore CBD is often considered a natural mood-lifter without psychoactive effects. If you prefer not to smoke, you can still introduce CBD into your system in several ways. 419 Holistics offers CBD oils, tinctures, edibles and many other products, all our hemp is sourced only from the trusted fields of North America. Our Therapeutic products go through extensive testing by three independent laboratories to insure the highest level of purity and quality.

This is just a brief overview of the endocannabinoid system. Each year, new studies shed light on what this amazing network does inside our bodies. The discovery of the ECS is what makes medical cannabis such a big deal.

Is CBD the same as THC?

Cannabidiol, or CBD, is one of over 60 compounds called cannabinoids. Cannabinoids are found in many plants but are most commonly linked to cannabis.

Unlike other cannabinoids such as tetrahydrocannabinol (THC), CBD does not produce a euphoric "high" or psychoactive effect. This is because CBD does not affect the same receptors as THC.

The human body has an endocannabinoid system (ECS) that receives and translates signals it receives from cannabinoids in the body. The body produces some cannabinoids on its own, which are called endocannabinoids. The ECS helps regulate functions such as sleep, immune-system responses, and pain.

THC produces a "high" feeling by affecting the brain's endocannabinoid receptors. This activates the brain's reward system, producing pleasure chemicals such as dopamine.

CBD is an entirely different compound, and its effects are very complex. It is not psychoactive, meaning it does not produce a "high" or change a person's state of mind. Instead, it influences the body to use its own endocannabinoids more effectively.

According to one study posted to *Neurotherapeutics*, this is because CBD itself does very little to the ECS. Instead, it activates or inhibits other compounds in the endocannabinoid system.

For instance, CBD stops the body from absorbing anandamide, one compound associated with regulating pain. Increased levels of anandamide in the bloodstream may reduce the amount of pain a person feels.

Cannabidiol may also limit inflammation in the brain and nervous system, which may help people experiencing pain, insomnia, and certain immune-system responses.

How Does The Body Absorb CBD?

How CBD is absorbed depends on the route of administration, or how it's consumed. Whether CBD oil is ingested, situated under the tongue, inhaled, or applied topically plays an important role in the uptake, distribution, and elimination of the compound. It can therefore influence how effective cannabinoid treatments will be at eliciting their natural balancing effects.

Absorption After Ingestion and Sublingual Methods

The most common route of CBD oil administration is orally, or through the mouth. When CBD is ingested, it is absorbed by the digestive system. From the stomach, the compounds enter the hepatic portal system, where they are carried through the portal vein into the liver. The liver then metabolizes the CBD molecules, in what's referred to as the "first pass effect." CYP450 mixed function oxidases enzymes in the liver act upon CBD, reducing the concentration of the compounds before passing on what remains to the bloodstream.

Ingestion, while considered by most to be the easiest administration method, isn't the most efficient for absorbing high levels of CBD. Studies have found, however, that consuming CBD oil with fatty acids can help bypass first pass metabolism and increase how much CBD is absorbed through ingestion.

If CBD oil is held under the tongue for 60 to 90 seconds before being swallowed, the mucus membranes in the mouth can absorb the compounds. This sublingual method allows CBD to completely bypass the digestive system and liver metabolism, so the compounds can avoid being broken down by enzymes and reach the bloodstream more quickly.

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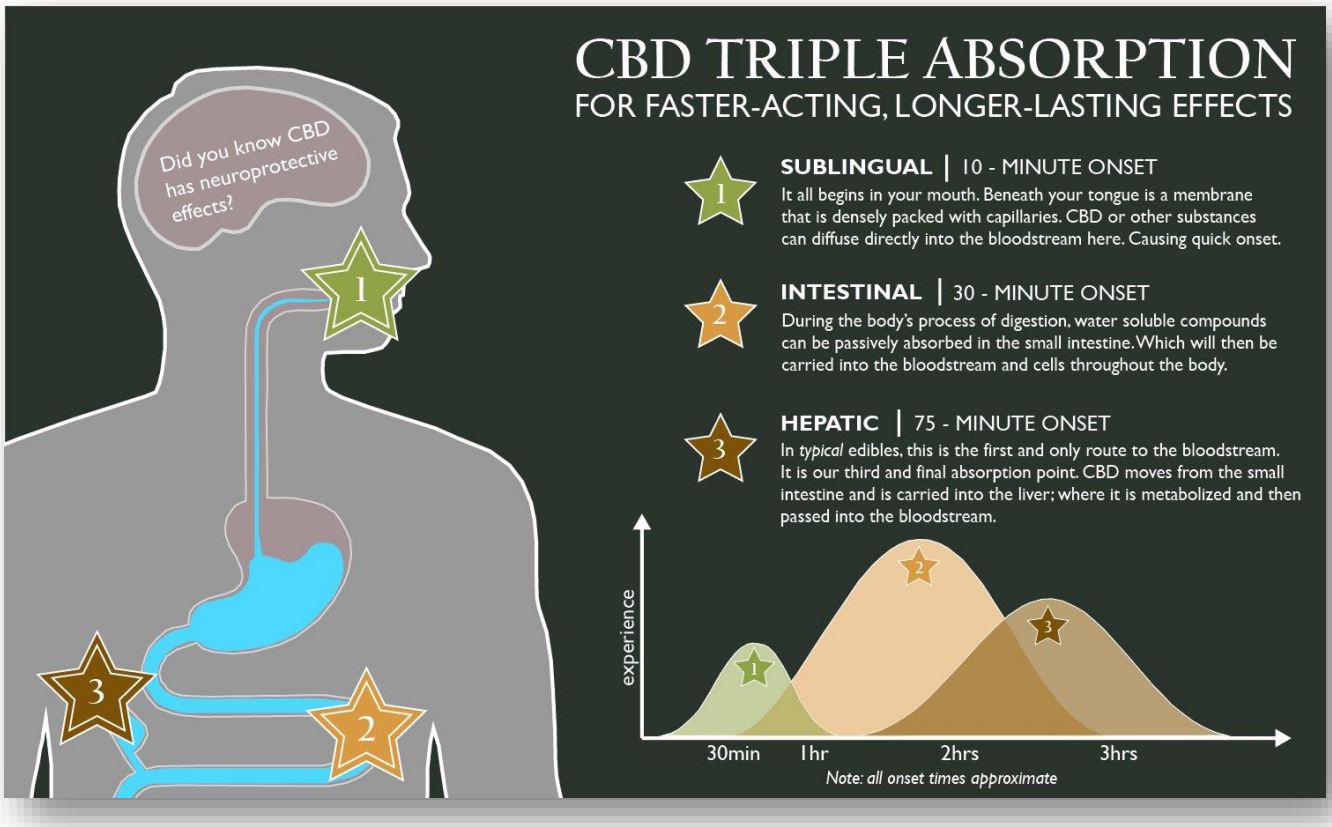
Absorption After Inhalation

When CBD oil in inhaled, such as through vaporization, the compounds are absorbed through the alveoli in the lungs, which offer a large absorptive surface area. Once through the alveoli, the CBD molecules are immediately transferred into the bloodstream. Compared to ingestion, the inhalation method allows more CBD to be absorbed and offers faster absorption.

Absorption After Topical Application

When CBD oil is applied topically, or directly to the skin, it never reaches the bloodstream but can be absorbed through the skin's surface to interact with nearby cannabinoid receptors.

Human skin in general has low permeability, which means it blocks most substances from entering. The skin has a particularly low absorption rate for cannabinoids, so application of CBD balms, salves, and lotions need to be heavy enough to overcome this barrier. However, when applied liberally, CBD is permeable to the skin through its pores.



CBD Isolate

CBD isolate is cannabidiol in its purest form. To produce this extract, **CBD** is isolated and then refined to strip out any additional cannabinoids, terpenes, and plant components found in the hemp plant. The final product is a fine white powder that contains around 99% cannabidiol. CBD **isolate** powder and CBD **isolate** crystals are the purest, most powerful punch of CBD you can get your hands on.

CBD isolate has quickly become popular among patients, because it gives users the ability to formulate their own CBD foods, supplements, edibles, and other products. CBD isolate has zero taste and no odor, allowing it to be dissolved into oils and fats like butter, or infused into liquids like coffee, smoothies, or honey.

Dosage:

For those needing more specific CBD doses, isolate gives patients complete control of exactly how much CBD goes into each serving. Because CBD isolate is over 99% pure, each milligram of CBD isolate represents a milligram of active CBD. Accurately measuring out CBD servings requires a scale that measures small weights in milligram.

Many customers buy CBD Isolate 1000 mg but do not configure the dosage correctly. An incorrect dosage will mar the experience and is likely the primary reason why it is not working for you.

Try starting out with a low dosage, as suggested. From then on, double or triple up every 2 hours until you have reached your comfort zone. Research different dosages to understand the effects. Know what you are looking for. Rather than going for a high dose straight away, and later not feeling the results, try instead to go slow and build your way up. Sometimes, this process requires patience. However, it is better than taking incorrect dosages and not feeling the full effects like you should be.

What's the best dose?

Most probably you wonder how much CBD you should take to enjoy its benefits. Well, you need to know that each person may require a specific, personalized dose, which is determined by a series of factors.

Condition Range	Size Person 31-60 lbs	Size Person 61-100 lbs	Size Person 100-175 lbs	Size Person 175-250 lbs +
Mild **1**	2mg-4mg +	4mg-6mg +	6mg-8mg +	8mg-10mg +
2	4mg-8mg +	6mg-12mg +	8mg-18mg +	12mg-20mg +
Medium **3**	8mg-12mg +	12mg-18mg +	18mg-24mg +	22mg-30mg +
4	12mg-18mg +	18mg-24mg +	24mg-32mg +	32mg-40mg +
Severe **5**	18mg-30mg +	24mg-40mg +	32mg-60mg +	42mg-60mg +

**** Standard dosage as a guide, not as an individual recommendation***

While the lines of this article are meant to inform you, you should not use them as recommendation when it comes the right CBD dosage for you.

Ways to Use CBD Isolate

CBD isolate powder has no taste or smell and can be integrated into a number of products to infuse them with the benefits of CBD.

Cannabinoids like CBD are fat soluble, so for edibles and other products taken orally, it is best to dissolve CBD isolate coconut oil or a similar high fat product like olive oil or butter. Because it's 99.99%, CBD isolate is safe for use by all customers and all ages.

Here are just a few ways to take CBD.

Orally: The easiest way to take CBD isolate is by placing it under your tongue and swishing it around your mouth before swallowing. This allows the CBD to be absorbed by the mouth's mucous membranes, a fast and efficient way to take CBD.

Vaporizing: CBD isolate can be vaporized in a number of ways. Firstly, it can be dabbed or flash vaporized using a specially equipped water pipe. CBD isolate can also be vaporized in a special extract vape pen that will heat your isolate to a specific vaporization point.

CBD isolate can be added to vape liquid to be used in most standard liquid vape pens. To make your own CBD-infused vape liquid, add 200 mg of isolate to 10 ml of vape liquid. First, heat the vape liquid to around 120 degrees Fahrenheit; then stir in CBD isolate until dissolved. Allow to cool and drip into vape pen.

Tincture: CBD isolate can be suspended in an oil-based tincture by warming the oil to about 120 degrees and stirring in CBD isolate until fully dissolved. Allow oil to cool and take sublingually.

Topicals: CBD isolates can be melted into a carrier oil like coconut oil, shea butter, cocoa butter, olive oil, or another favorite skin care oil. These oils can then be applied topically as a lotion or oil by themselves or blended with additional ingredients like fragrant essential oils.

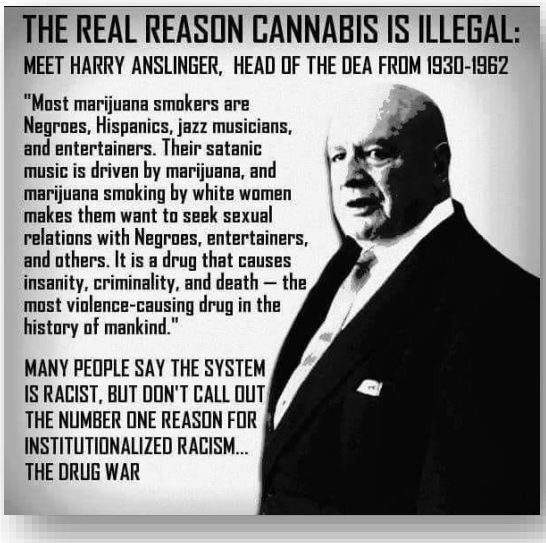
Oils and Butter: CBD isolate can be dissolved into fatty oils like butter, coconut oil, and other cooking oils. CBD-infused butter can be spread on toast. CBD olive oil can be used in dressings, and CBD-infused coconut oil can be added bulletproof coffee.

Hemp History in the U.S.

North America was first introduced to hemp in 1606. Ever since, American farmers grew hemp that was used across multiple different products, such as paper, lamp fuels, and ropes. In the 1700s, farmers were even legally required to grow hemp as a staple crop. Many of our founding fathers grew hemp and advocated its uses and benefits. Most notably, Thomas Jefferson wrote the draft of the Declaration of Independence on hemp paper.

Marijuana Tax Act discourages Production

Although hemp was a big part of early US history, attitude towards the crop started to change in the early 1900s. When the US government increased its resolve to fight against drugs such as marijuana, hemp somehow got grouped with its cannabis cousin.



The Marijuana Tax Act of 1937 started the major decline of the hemp industry, as all hemp sales started to get heavily taxed on. There has been some controversy over this bill, as some have argued that this policy was aimed to reduce the size of the hemp industry in order to help the emerging plastic and nylon industries gain market share.

US realizes need for Hemp in WWII

The United States reversed its stance in 1942 when they realized they needed hemp for the war effort. The Department of Agriculture started to heavily promote hemp and started publishing various benefits that hemp offered (i.e. findings that hemp produces 4 times more paper per acre than trees). The peak of the hemp promotion was when the US government released a pro-hemp documentary called Hemp for Victory which encouraged farmers throughout the Midwest and Southeast to grow hemp to support the war. This led to over 400,000 acres of hemp being planted during 1942-1945

Drug War leads to the Demise of Hemp

Shortly after this program, the US government went back to its original stance on hemp again and the industry continued to decline. Other alternative sources, such as plastic and nylon, were encourages across multiple industries. This led to fewer farmers cultivating hemp and many hemp processors declaring bankruptcy. The last commercial hemp farm in the US was planted in Wisconsin in 1957. Hemp farming was eventually officially banned altogether in 1970 with the passage of the Controlled Substances Act in which hemp was included as a Schedule 1 drug, grouping this crop with drugs like heroin and LSD.

Hemp makes a comeback

After almost 30 years of being forbidden, the US allowed businesses to import dietary hemp products in 2004. In the new century, application of hemp started to diversify as hemp fiber was imported to be used for clothing and textiles. The first big win for US farmers came in 2007, when two North Dakota farmers were granted hemp licenses—the first time in over 50 years. Building on this, in 2014, the Farm Bill was signed into law, which allowed hemp cultivation as part of university research in states that permitted hemp farming.

The 2018 Farm Bill: The Return of Hemp

Now, for the first time since the end of World War II, states are slated to be able to create federally legal hemp programs under the 2018 Farm Bill, which President Trump signed into law December 2018. The bipartisan legislation, which passed overwhelmingly in the Senate and House allows states to submit plans created by their respective Secretaries of Agriculture in coordination with their governors and chief law enforcement officers to the Department of Agriculture to grow and process hemp and hemp-derived products.

Seed to Sale

As the law is written, state applications would need to include methods for tracking land used for hemp production and audit producers to make sure that the hemp they are growing contains less than 0.3% THC. Programs would also need to be approved by the Secretary of Agriculture, Sonny Perdue, in consultation with the Attorney General within 60 days of being submitted. Additionally, states would not be permitted to ban the transportation of hemp and hemp products through their jurisdictions, but production and sales would only be permitted in states with approved programs. The bill also contains a number of directives for research on hemp and hemp cultivation.

Scheduling

Hemp-derived cannabidiol (CBD) would be exempted from the Controlled Substances Act (CSA) in states with approved programs, but CBD will remain a Schedule 1 substance under the CSA and illegal at the federal level. The Farm Bill also does not impact the current Food & Drug Administration ban on CBD products or its ability to regulate the substance in the future.

Industry Employment

The law prevents anyone with a drug-related felony from working in legal state hemp industries, preventing many people who have been impacted by the unequal enforcement of cannabis prohibition from participating in the economic opportunities created by new programs. However, a late compromise led to the inclusion of a ten-year sunset period from either the date of conviction or the start of the state program, whichever is more recent.

-The National Cannabis Industry Association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