

## CBD Overview

### Benefits

While we attribute the healing effects to CBD, it may be more accurate to say that CBD enables the body to heal itself through balancing the endocannabinoid system. Cannabinoids can be used as a general preventative medicine, protecting the body against the damages of stress and aging. Cannabinoid therapy is connected to the part of the biological matrix where body and brain meet. Since CBD and other compounds in cannabis are so similar to the chemicals created by our own bodies, they are integrated better than many synthetic drugs.

CBD has been shown to have therapeutic use for several different conditions. Here is a brief rundown of the main ones. This short list is not exhaustive. An effort has been made to avoid sensational claims.

#### EPILEPSY

“CBD has been touted for a wide variety of health issues, but the strongest scientific evidence is for its effectiveness in treating some of the cruelest childhood epilepsy syndromes, such as Dravet syndrome and Lennox-Gastaut syndrome (LGS), which typically don’t respond to antiseizure medications. In numerous studies, CBD was able to reduce the number of seizures, and in some cases it was able to stop them altogether. Videos of the effects of CBD on these children and their seizures are readily available on the Internet for viewing, and they are quite striking.” quote is from Peter Grinspoon MD.

#### SLEEP

CBD is commonly used to aid patients who suffer through the misery of insomnia & sleeplessness; studies suggest that CBD could help with both falling asleep and staying asleep. CBD oil has even been used to safely treat insomnia and anxiety in children with post-traumatic stress disorder.

#### PAIN

A study from the European Journal of Pain showed, using an animal model, CBD applied on the skin could help lower pain and inflammation due to arthritis. More study is needed as there is a lack of human studies on chronic pain and the use of CBD but some people are experimenting and finding benefits. An oral spray known as Sativex, which is a combination of THC and CBD, is approved in several countries to treat pain related to multiple sclerosis. Severe pain however is generally not the best application for CBD, but CBD can often be a very useful adjunct. “Cannabis enhances the pain relief of opioids, and if they work together,[the effect] is more powerful,” according to Dr. Dustin Sulak.

#### ANXIETY

In one study, 24 people with a social anxiety disorder were given either 600 mg of CBD or a placebo before a public speaking test. The group that received the CBD had automatically less anxiety, cognitive impairment, and discomfort in their speech performance, as opposed to the placebo group. (1) Generally the majority of evidence seems to support CBD as useful for mild stress, anxiety, and nervousness on a short-term timeframe. (ie within 30 days)

#### HEART HEALTH

Several animal studies have shown that CBD may help reduce the inflammation and cell death related to heart disease due to its dominant antioxidant and stress-reducing properties. For example, one study found that treatment with CBD reduced oxidative stress and stopped heart damage in diabetic mice with heart disease. (2)

## MENTAL HEALTH

There is some evidence to back CBD's use as an anti-depressant. (3)

Also In a [2012 clinical trial](#) involving 39 schizophrenics at a German hospital, 800 mg of pure pharmaceutical-grade CBD proved to be as effective as standard pharmaceutical treatments without causing the harsh side effects typically associated with antipsychotic drugs. This was a small sample size though and so it's important to note that we are not advocating you abandon your current medication regime.

With that caveat aside, there has been a long history of corruption, side effects, and flawed theories in the pharmaceutical industry. This is largely what has fueled the boom in alternative health despite the lack of hard data in many cases. **Use your own best judgment and consult with those who have experience (preferably with a holistic understanding) before making major changes to your current health routines.**

The list of other ailments that CBD & cannabis may be helpful for includes skin conditions, cancer, autoimmune conditions, neurodegenerative diseases, concussions, asthma, and more . CBD and other cannabis-based medicines have the potential to be a major tool in the battle against the current epidemic of pharmaceutical drug abuse and overdose in the US & elsewhere. They have been used successfully as a substitute for opioid-based pharmaceuticals for pain relief, allowing people to lower their dosages and preventing addiction

## History/Background

Cannabis is quite simply a common, adaptable, sun-loving weed that can be grown in many climates. Its origins date to 36 million years back to the Altai Mountains in the high plateau of Central Asia.

CBD is really just the latest iteration in the use of cannabis as medicine. More than 100 cannabinoids have been isolated from cannabis; the two significant compounds are cannabidiol (CBD) and  $\Delta^9$ -THC. CBD was first isolated from marijuana in 1940, and its structure was reported in 1963. The structure of the main psychoactive phytocannabinoid, THC, was determined in Israel by Mechoulam and Gaoni in 1964

Records of the medicinal use of cannabis appear before the Common Era in China, Egypt, and Greece (Herodotus), and later in the Roman empire (Pliny the Elder, Dioscorides, Galen). Cannabis also provided fibers for ropes and nets, food, and seeds for oil.

The god Shiva supposedly favored cannabis, which had a religious role as an agent for mystic inspiration. Under names such as *Vijaya* , cannabis has been used for thousands of years in ayurvedic medicine to reduce pain, nausea, and anxiety, improve appetite and sleep, relax muscles, and produce a feeling of euphoria.

China has some of the earliest records of cannabis use, as does Egypt. The topical application of cannabis for inflammation is mentioned in the Ebers papyrus, written in Egypt in about 1500 bc.

Spain introduced the cultivation of hemp in central Chile, in Quillota near Valparaíso, within the first decade after the *Conquista* . (4) Louis Hébert, an apothecary with a practice in Paris, is credited as

being the first colonist to grow hemp in 1606 in Acadia (today, Nova Scotia).

When the thirteen U.S. colonies were getting established, farmers were required to produce crops consisting of at least 25 percent hemp. Sails and ropes were needed for trade ships. It was the common source of paper and clothes; the Declaration of Independence was written on hemp paper. Hemp was the backbone of the development of America and its founding fathers. Both George Washington and Thomas Jefferson were hemp farmers.

The prohibition era that we are emerging from now that restricted the growth of cannabis and its many uses is really a sad chapter of history. This started around 1934 and runs until the current day in many places worldwide but the tide has finally shifted with more and more countries considering full legalization and/or decriminalization.

There is no good reason for the non-psychoactive constituent CBD to be restricted or controlled given what we now know.

### **General Effects**

- **Relief of Inflammation**
- **Seizure suppression**
- **Anxiety suppression**
- **Mindfulness**
- **Possible Sleepiness**
- **Muscle relaxation** - Some users report that CBD produces a mild to moderate degree of muscle relaxation that is weaker than that of benzodiazepines and muscle relaxants. However, other users do not experience this effect.
- **Pain relief**
- **Addiction suppression**

This is not an exhaustive list of subjective general effects but helps to give some idea

### **Dosing & Safety**

CBD has a great safety profile. 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. This from a WHO review done in 2018. (5)

“Dosing cannabis is unlike any therapeutic agent to which I was exposed in my medical training,” says Dustin Sulak, D.O., the director of Integr8 Health, which serves patients at offices in Maine. “Some patients effectively use tiny amounts of cannabis, while others use incredibly high doses. I’ve seen adult patients achieve therapeutic effects at 1 mg of total cannabinoids daily, while others consume over 2000 mgs daily without adverse effects.” This quote is from **projectcbd.org** It highlights the difficulty in determining optimal doses for a wide array of unique people.

The list of factors affecting dosage includes

- The medical condition or problem
- The condition’s stage or intensity
- The patient’s biology and metabolism and how they respond to CBD
- The patient’s endocannabinoid system and how it functions and

acclimates to CBD over time

- The patient's body weight
- The patient's sensitivity to cannabis—this is the most important factor
- The patient's body chemistry, including pharmaceuticals and foods ingested

### **Generalized guidelines are as follows**

1. Micro doses are considered a low level of medication, in the range of 0.5 mg to 20 mg of CBD per dose per day (CBD/dose/day).

- Micro doses can be effective for sleep, headache, mood disorders, nausea, PTSD, stress, and metabolic disorders.

2. Standard doses are the mid-range, between 10 mg to 100 mg of CBD/dose/day.

- Standard doses have been shown to be effective for pain, inflammation, autoimmune disorders, Lyme disease, anxiety, depression, arthritis, some mental disorders, fibromyalgia, multiple sclerosis, inflammatory bowel syndrome, autism, and weight loss.

3. Macro (or therapeutic) doses are at the high range, between 50 mg and 800 mg of CBD/dose/day.

- Doses at this level are often used to treat cancer, epilepsy, seizure disorders, liver disease, and other severe life-threatening conditions.

### **Generalized Dosing for Pets**

Dose: 0.1–0.5 mg/kg/day

- Calculated dose should be divided for twice-daily dosing
- Doses up to 5 mg/kg/day have been reported for difficult seizure cases

Keep in mind that all cannabinoids are nontoxic, non-lethal medicine. Researchers have failed to find a lethal acute dosage of cannabis and have found that the doses of long-term cannabis required to produce toxicity and death in animals were so high it would be nearly impossible for a human to consume such quantities via ingestion or inhalation.

CBD is not subject to the concerns associated with the use of THC-laden marijuana which makes it an attractive therapeutic agent. Side effects of CBD could include nausea, fatigue and irritability, tiredness, changes in weight & appetite. Some have written that CBD can increase the level in your blood of the blood thinner coumadin.

### **References**

- 1) <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3079847/>
- 2) <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3026637/>
- 3) <https://pubmed.ncbi.nlm.nih.gov/26711860/>
- 4) <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7605027/#ref7>
- 5) <https://www.who.int/news/item/13-09-2018-40th-ecdd-news-briefing>

'CBD: A Patient's Guide to Medicinal Cannabis' 2017 by Leonard Leinow and Juliana

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<https://projectcbd.org/>