



# INTRODUCING CBD:

WHY AND HOW  
IT WORKS

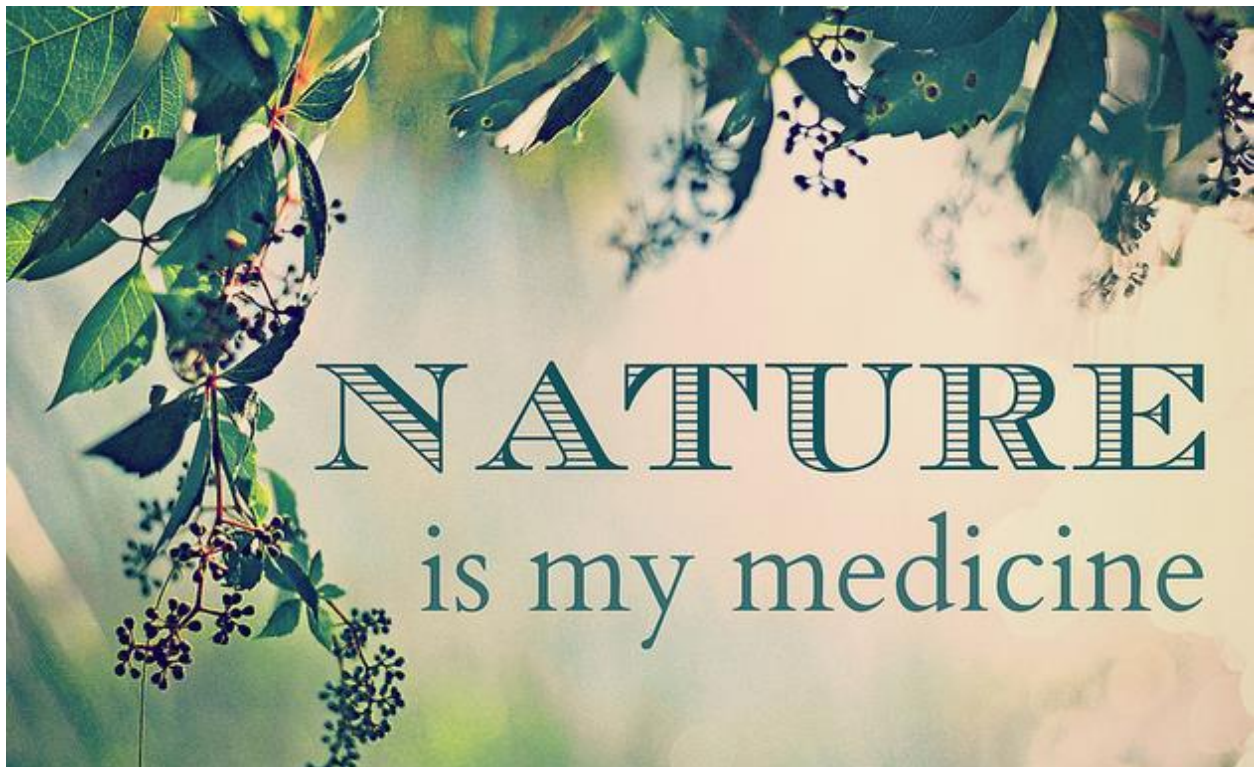


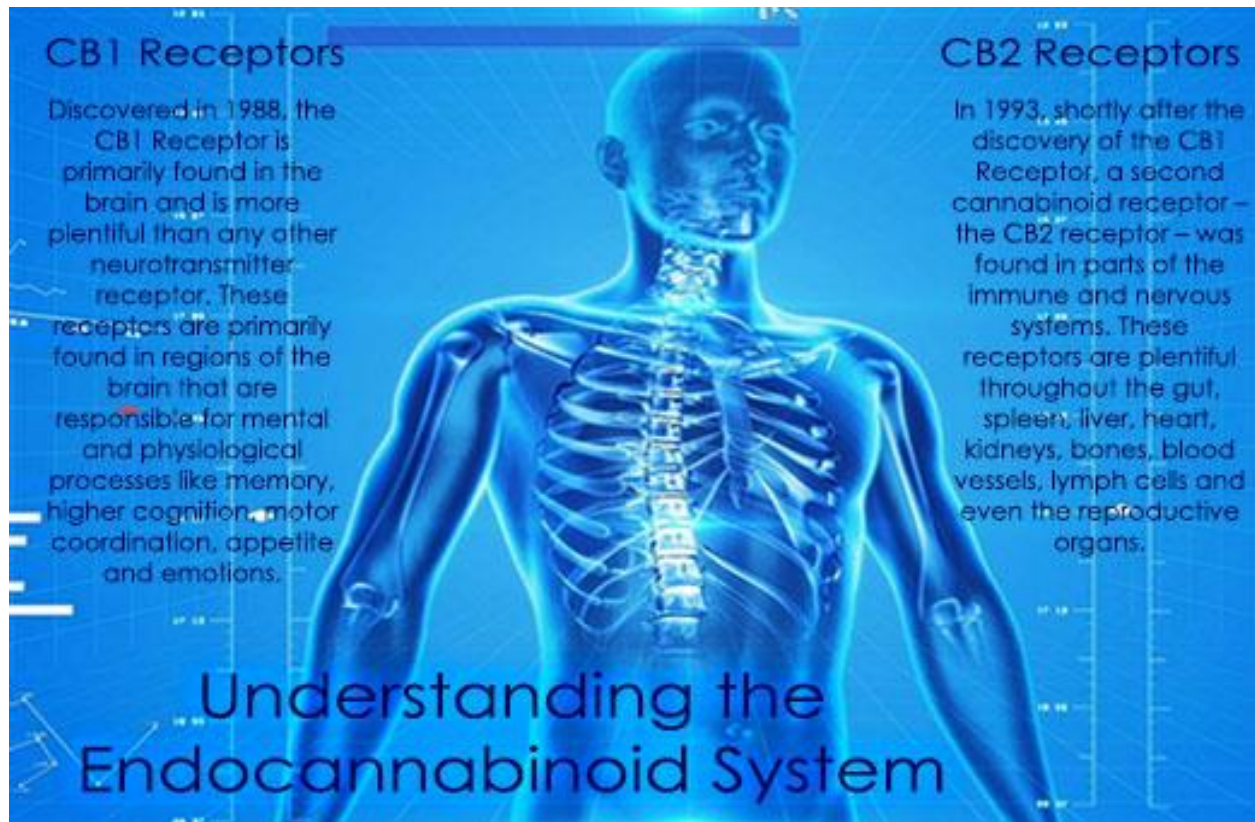
# WHAT IS CANNABIDIOL?

**Cannabidiol**, better known as **CBD**, simply put, is a compound or cannabinoid found in the cannabis plant – and it is responsible for many of the herbs known medicinal benefits.

While most people associate medical cannabis with the psychoactive effects of THC, you can get many of the same benefits from CBD – and you don't need a doctor's recommendation or a medical marijuana card to buy it.

CBD is often found in higher concentrations in strains of cannabis that are low in THC. When derived from strains of cannabis with less than 0.3 percent THC – also known as industrial hemp – it is legal and easily accessible throughout the United States. However, quality varies depending on the strain of hemp the oil was made from, which is why it is important to do your research before investing your money in a CBD hemp oil.





The **Endocannabinoid System** (ECS) would never have been discovered if Israeli scientist Raphael Mechoulam had not managed to identify and isolate THC back in 1964.

“By using a plant that has been around for thousands of years, we discovered a new physiological system of immense importance,” [says Raphael Mechoulam](#), the dean of the transnational cannabinoid research community. “We wouldn’t have been able to get there if we had not looked at the plant.”

Interestingly, the Endocannabinoid System is a biological system that can be found in just about any living species with vertebrae and is responsible for maintaining our normal bodily functions. It plays a part in everything from maintaining a healthy bone density to naturally preventing diabetes – and it is possible that many medical conditions are caused by an endocannabinoid deficiency.

These CB1 and CB2 receptors that make up the Endocannabinoid System work similarly to the neurotransmitters found in the nervous system – except it works in reverse. Instead of the brain sending messages to the body like most biological systems do, the endocannabinoid system sends messages from the receptors to the brain.

While it is debated whether CBD fully binds to either of these receptors – but it does have an affinity for the receptors which is responsible for its medicinal benefits.

# WHAT CAN CBD DO?

Cannabidiol offers many of the same benefits of THC, without the often-unwanted psychoactive effects. Some of its potential benefits include reducing inflammation, painkilling effects, anti-anxiety and anti-depressant properties – and these are only the tip of the iceberg, so to speak.

People use CBD to treat conditions ranging from chronic pain to intractable epilepsy. In fact, a CBD based medicine out of England was recently approved by the FDA for the treatment of Dravet Syndrome and Lennox-Gastaut Syndrome, both rare and severe forms of epilepsy.

Even though it is not prescription – CBD Hemp Oil coming from a trusted source has been found to provide many medicinal benefits.



CBD can be used to treat many conditions – so let's break it down into three main categories: Pain Management, Mental Health, and Physical Conditions.

# PAIN MANAGEMENT

Chronic pain is something that millions of people live with – and the reliable treatments recommended or prescribed by most doctors include NSAIDs that are available both over-the-counter and via prescription for higher dosages, examples include Tylenol (acetaminophen), Motrin (ibuprofen), and Aleve (naproxen). When NSAIDs are not effective, the next step is usually opioids like Vicodin, Hydrocodone and OxyContin to name a few – all of which have potential for addiction and dependency with long-term use.

One of the most common reasons people turn to medical marijuana is to find a safer alternative to pain management – and for those who want to avoid psychoactive effects, CBD is often the logical choice. CBD offers anti-inflammatory and analgesic effects that make it an effective herbal supplement for those looking to treat their chronic pain.



**Arthritis** affects approximately 350 million people worldwide – and nearly 40 million in the United States alone. There are distinct types of arthritis and not all are as severe as others, and not all affect the body in the same way. For example, the most ordinary form of arthritis is **osteoarthritis**, which is caused by wear and tear on the body as we age and affects seniors more than any other age group. On the other hand, you have **rheumatoid arthritis**, which is an autoimmune disease.

In the end, regardless of what type of arthritis you have, it is guaranteed to cause pain in one or more of your joints due to inflammation and deterioration.

A study conducted by the Departments of Pharmacology and Anaesthesia, and Pain Management and Perioperative Medicine at Dalhousie University in Halifax, Nova Scotia in Canada, found that CBD is likely a safe and useful medicine in treating joint neuropathic pain related to osteoarthritis.

The study, [published in December 2017](#), was conducted over a period of 14 days and found that local administration of CBD blocked pain associated with osteoarthritis and that it may have the potential to prevent the development of pain and nerve damage in the joints later.



**Fibromyalgia** is a chronic pain disorder that affects about 10 million people in the U.S. and an estimated 3-6 percent of the population around the world. The condition is considered a syndrome – which is a condition characterized by a set of associated symptoms. In the case of fibromyalgia those symptoms include widespread chronic muscle pain, fatigue, insomnia and painful or tender “trigger points”.

While the condition mainly affects women with 75-90 percent of all patients diagnosed with fibromyalgia being women, it affects people across all ages and races with no discrimination whatsoever and an underlying cause or reliable treatment has yet to be found.

Rather, patients are forced to do their best to cope with their condition by attempting to manage the symptoms often through NSAID and opioid pain killers, anti-depressants, muscle relaxers and sleep aids – though many suggest that medical cannabis and CBD are just as, if not more beneficial than any of these bandage treatments.

A study [published in April 2011](#) and conducted by the Human Pharmacology and Neurosciences Unit from the Institut de Recerca Hospital in Barcelona, Spain found that cannabis was associated with beneficial effects for some of the severe symptoms of fibromyalgia.

Another study [published back in April 2008](#) by GW Pharmaceuticals (the company who is behind Epidiolex, the CBD medication that just received FDA approval) suggests the concept that a clinical endocannabinoid deficiency could be the underlying cause behind fibromyalgia, as well as other conditions like migraine headaches (which we will go over next), and irritable bowel syndrome, among others.

If their hypothesis is correct – and evidence points in the direction that it might be – then cannabinoid-based medicines might be the first true treatment for these conditions.



Unfortunately for all of us, headaches are something we are going to experience from time to time – and the causes can vary from stress to severe weather and anything in between. While most of us will experience a bad headache only once or twice a month, there are over 4 million people who have chronic daily **migraines** with 15 or more occurring throughout the month.

More than 90 percent of people who suffer from these **severe migraine headaches** are unable to work or even function normally during the headache – and over-the-counter and prescription medications are not always effective.

Though the scientific research on cannabis and migraine headaches is extremely limited, the anecdotal evidence is overflowing on the web. However, [a 2017 study](#) published in Cannabis and Cannabinoid Research found that participants in their small-scale study reported more improvements in the frequency and severity of their migraine headaches and a better quality of life when taking cannabis rather than regular pain medications alone.

Just a year before [in 2016](#), a study published by Pharmacotherapy found that 40 percent of those treating their migraines with medical marijuana reported having fewer migraines overall. The only complaints about treating with medical marijuana were drowsiness and difficulty finding the right dosage.

Both studies suggest that cannabis may be a potentially beneficial treatment for migraine headaches – though neither specifically focused on CBD. However, their findings are consistent with the theory that migraine headaches are caused by an endocannabinoid deficiency – and if that is in fact the case, cannabidiol certainly has the potential to be a beneficial treatment.

# MENTAL HEALTH

One-in-four people around the world will live with a mental health or neurological disorder in their lifetime – but mental health is also an area that scientists and doctors are still trying to understand. This means that treating most mental health disorders is a guessing game – trial and error with different medications until something seems to work. Oftentimes, people become dependent on pharmaceuticals like anti-anxiety and anti-depressant medications that can have a long-list of potentially harmful side effects.

Cannabis has long been considered for the treatment of several mental health conditions – but most notably is depression and anxiety disorders. Interestingly, when it comes to these conditions, though THC may be the more well-known treatment option, CBD may actually be a better cannabinoid to fight these disorders.



Anxiety and depression are the most common mental health disorders out there – with an estimated 40 million adults in the U.S. suffering from an anxiety disorder of some sort; and roughly 300 million people around the world have depression. In the United States alone, approximately 16.2 million adults have experienced a major depressive episode in the past year.

The treatment for these disorders generally start with talk-therapy with a psychologist or psychiatrist – but if this is ineffective then the next step is often pharmaceutical drugs. Unfortunately, the downsides with these medications start from day one in the fact that it takes weeks or even months of consistent medicating for the drugs to finally start working – and for some people no combination of meds will seem to provide any relief.

In some cases, the side effects of the medication can even make the original symptoms worse, causing panic attacks and even suicidal thoughts. Clearly, even with FDA approval, there is a lot of room to improve on treatments for these conditions – which is where CBD comes in.



A study done on OBX mice (mice that are surgically modified to act as a stand in when testing depression medications) [found that there was near instant improvement](#) after treatment with CBD. This means that not only is CBD a potentially useful medicine in the treatment of anxiety and depression disorders, but it may be able to provide relief faster than any medication currently available to patients through pharmacies.



Post-Traumatic Stress Disorder is by all technicality, an anxiety disorder – so it should not be surprising that CBD may be beneficial in treating this mental health disorder. Approximately 7.8 percent of Americans will experience PTSD at some point in their lifetime, with women twice as likely to develop the disorder than men. Roughly 3.6 percent or 5.2 million adults age 18 – 54 will suffer from PTSD over the course of a year.

Of those who suffer from PTSD, many are veterans of the armed forces. Between 11 and 20 veterans out of every 100 who served in Operation Iraqi Freedom and Operation Enduring Freedom following the events of 9/11 have suffered from PTSD in a given year.

Unlike general anxiety disorder, PTSD is usually triggered by an event that causes a person to flash-back to the trauma they experienced – which is why a lot of veterans can no longer enjoy the fireworks celebrating their efforts to protect our freedom.

A study [published in 2016](#) and conducted by researchers from the School of Psychology at the University of Birmingham, Birmingham, UK, the School of Biosciences, University of Nottingham, Sutton Bonington Campus, Loughborough, UK, and the Department of Pharmacology, University of Sao Paulo, Sao Paulo, Brazil, found that CBD could be better suited to treat PTSD than we had previously realized.

The study found that CBD has both acute and long-lasting effects reducing fear memory expression. They found that under conditions of strong fear conditioning, CBD was able to reduce contextual fear memory expression both during the session and at a later fear retention test. Basically, this suggests that CBD may be able to help manage stress levels induced by “fear conditioning” or the traumatic trigger event – which should reduce the likelihood of a panic attack, flashbacks and blackouts.

# TREATING INSOMNIA WITH CBD



Insomnia is a complicated condition that does not have one single definition. You may think of insomnia as a lack of sleep, and a lack of the ability to fall asleep – and while you would not be wrong, you would be leaving out many people who also suffer from insomnia. If you wake up frequently and are unable to sleep through the night or wake up early – hours before you are supposed to – and simply cannot fall back asleep, well then you also suffer from insomnia.

While this condition is a physical condition, it is often rooted in other conditions like anxiety and depression – which can lead your brain to keep you up with stressful thoughts, or wake you up with nightmares, for example.

Around 1-in-3 people have at least mild insomnia – and while sleep aids are often a quick and easy solution, they can also be dangerous. If you become dependent on sleep aids they may become less effective over time – which will increase your risk of overdose in hopes of getting a full night of sleep. Treating the underlying cause of your insomnia is the best way to go about treatment – and if anxiety or depression is the underlying cause, then CBD is certainly a good starting point when it comes to natural health alternatives.

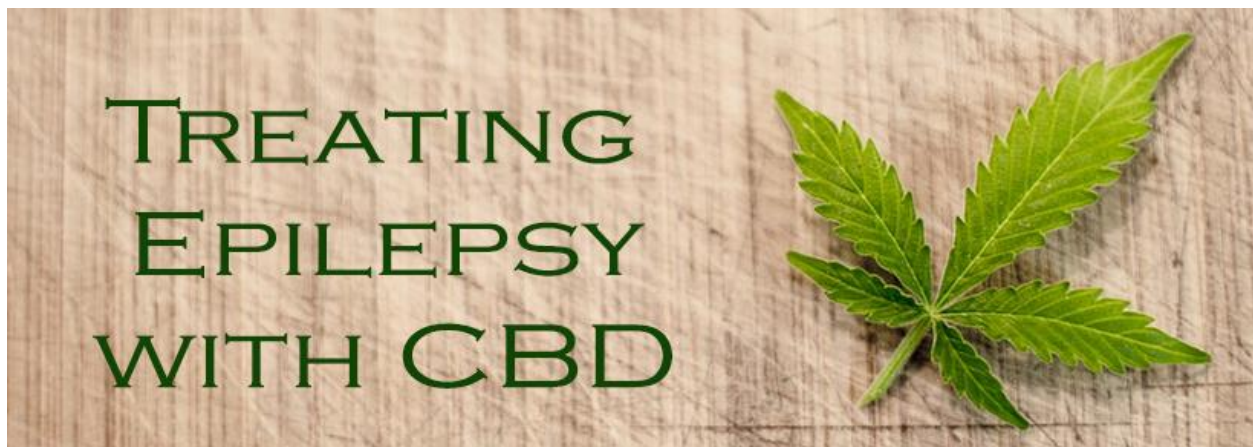
Though psychoactive THC is known for its sleep inducing ability, CBD is known for countering the effects of THC, and instead providing a more alert state of mind. You may think that this would be ineffective in treating insomnia – but a study [published in March 2013](#) by the Department of Neuroscience and Behavior of the Ribeirao Preto Medical School, University of Sao Paulo, Sao Paulo, Brazil says otherwise.

The study was conducted on male Wistar rats who were randomly distributed into four groups that received injections of CBD in either 2.5mg, 10mg, or 40mg, with one being a control group. Sleep recordings were made during the light and dark periods for four days and found that the groups treated with 10 and 40mg of CBD increased the total percentage of time asleep.

This suggests that CBD could possibly help increase the total amount of time that you sleep at once – helping insomniacs get a full night's rest without the use of chemical sleep aids. It is also possible that the increased alertness during the day will help you to feel tired at night, therefore reducing the chance that you will have significant trouble falling asleep on-time at night.

# PHYSICAL CONDITIONS

While the most common uses for CBD are pain management and the treatment of mental health conditions, they are by far not the only medical conditions that can benefit from cannabinoid therapy. There are several other conditions that may potentially benefit from cannabidiol – but we’re going to look at three physical ailments that studies have found CBD to be useful in treating – epilepsy, Chron’s disease, and Alzheimer’s disease.



Unlike other conditions in this eBook, the studies into the use of CBD for epilepsy are extensive. Throughout this book we have made mention to the fact that the United States Food and Drug Administration has recently ([June 2018](#)) approved Epidiolex, a cannabidiol based medication manufactured by British GW Pharmaceuticals – making it the first cannabis derived medicine to be approved by the government agency.

So, while the rest of these studies are small-scale with positive findings, at least for two forms of intractable epilepsy (Dravet Syndrome and Lennox-Gastaut Syndrome) long-term clinical trials have found that CBD is successful where pharmaceuticals have failed.

As long ago as [December 2016](#), Epidiolex was able to reduce seizures on an average of 39 percent among a total of 120 children – with at least three of the patients becoming seizure free for the first time since being diagnosed.

While Epidiolex will soon be available to patients throughout the United States through a doctor’s prescription like any other medication, those who want to medicate with CBD for other conditions will not have this option just yet. However, the most impressive thing here is that CBD has been proven beyond a doubt to be beneficial to patients with epilepsy.

# TREATING CROHN'S DISEASE WITH CBD



Earlier when we discussed a study on endocannabinoid deficiency one of the conditions it suggested may be caused by such a deficiency was irritable bowel syndrome – and Crohn's Disease is a specific type of IBS where the underlying cause is found to be one of several possible factors including immune system problems, genetics and other environmental factors.

About 1.6 million Americans have inflammatory bowel disease – including roughly 780,000 people who specifically suffer from Crohn's disease. Researchers estimate that there are 6 to 15 cases of Crohn's disease diagnosed per 100,000 people each year. Though it may not sound it, these conditions are often debilitating for the patient and very few treatments are available aside from eliminating disagreeable foods from your diet.

However, a study [published in May 2013](#) and conducted by researchers from the Department of Physiology and Pharmacology Vittorio Erspamer, the Faculty of Pharmacy and Medicine at Sapienza University of Rome, Italy found that CBD might be a potential candidate for new treatment for IBD and related disorders, including Crohn's disease.

Another reason that patients find relief from the symptoms of Crohn's disease with the addition of CBD could simply be due to the cannabinoids anti-inflammatory properties, as CBD has been found to reduce GI inflammation, which is a common cause of pain for Crohn's patients. CBD has also been found to suppress muscle contractions, another cause of discomfort for those with IBS.

## TREATING ALZHEIMER'S DISEASE WITH CBD



One of the hardest things to accept in life is the changes we experience as we get older – and it is not only scary for the person experiencing these changes, but for the family watching them go through it as well. We've already touched on one of these conditions in this book – osteoarthritis – but this one is a little more concerning to our aging community – Alzheimer's disease.

This condition is jokingly called "Old Timer's Disease" because it mostly affects seniors and the main symptom is memory loss, leading to phrases like "having a senior moment." Sadly, as much as we try to make light of this condition, Alzheimer's affects one-in-ten people age 65 and older and an estimated 5.5 million people age 65 and older – as well as roughly 200,000 individuals under the age of 65 – suffer the effects of Alzheimer's disease. Many of these people will go on to have dementia before finally passing away.

While this condition may seem more like a mental health disorder when in fact it is a very physical condition that is degenerative and very progressive – and as far as we know, irreversible. However, some studies believe that CBD may have the [potential to slow the progression](#) of Alzheimer's disease, and possibly even be the first treatment with the potential to repair the damage that has already been done.

Since the endocannabinoid system plays a role in memory, it should not come as a shock that CBD may be able to play a part in the treatment and even the prevention of Alzheimer's disease. A Ohio State University professor and an expert on brain inflammation and Alzheimer's says that their survey's have found that individuals who smoked marijuana in the 60s and 70s "hippie era" [are not getting Alzheimer's at the rate that was expected](#), based on previous retiring generations.

# HOW DO YOU USE CBD?

You probably know how most people expect marijuana works – generally, you smoke it – but when you're medicating smoking is not usually the favored option. If you're new to the world of medical cannabis, natural and herbal medicine then you may be wondering what the best method of medicating is – but really there is no one-size-fits-all answer to this question. There are several ways to consume CBD and all are beneficial, and really it comes down to a combination of your reason for medicating, and your personal preference.

Most often CBD is consumed in the form of an oil – either applied as a tincture, mixed into a glass of water or juice, or added to food. However, while this is the most common option, it is certainly not the only one. Edibles and soft gel capsules are usually the next favored alternative among patients medicating with CBD – it makes dosage simple and consistent down to a tee.



Topicals and vaping are the remaining two methods of medicating that are commonly used with CBD based products. Topicals are excellent for patients suffering from chronic pain as it provides localized relief that is relatively quick to set in after application of your CBD based balm, salve, lotion or cream.

Vaping is the closest many patients get to smoking – and often they turn to vaping because it is the method known to have the most immediate effect aside from topicals. Edibles can take anywhere from 30 minutes to an hour and a half to become effective and oils can take anywhere from a few minutes to an hour or more depending on the way they were used.



## WHY CHOOSE SUNMED?