

Everything you need to know about CBD oil

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People take or apply cannabidiol to treat a variety of symptoms, but its use is controversial. There is some confusion about what it is and the effects it has on the human body.

Cannabidiol (CBD) may have some health benefits, and it may also pose risks. Products containing the compound are now legal in many American states where marijuana is not.

This article will explain what CBD is, its purported health benefits, how to use it, potential risks, and issues surrounding its legality in the United States.

In June 2018, the country's Food and Drug Administration (FDA) approved the prescription use of Epidiolex, a purified form of CBD oil, for treating two types of epilepsy.

What is CBD oil?

CBD is one of many compounds, known as cannabinoids, in the cannabis plant. Researchers have been looking at the potential therapeutic uses of CBD.

Oils that contain concentrations of CBD are known as CBD oils. The concentrations and the uses of these oils vary.



Is CBD marijuana?

CBD oil is a cannabinoid derived from the cannabis plant.

Until recently, the best-known compound in cannabis was delta-9 tetrahydrocannabinol (THC). This is the most active ingredient in marijuana. Marijuana contains both THC and CBD, and these compounds have different effects.

THC creates a mind-altering "high" when it is broken down by heat and introduced into the body. This results from smoking marijuana or using it in cooking, for example. Unlike THC, CBD is not psychoactive. This means that it does not change the state of mind of the person who uses it. However, CBD does appear to produce significant changes in the body, and some research suggests that it has medical benefits.

The least processed form of the cannabis plant, known as hemp, contains most of the CBD used medicinally. Though hemp and marijuana come from the same plant, *Cannabis sativa*, the two are very different.

Over the years, marijuana farmers have selectively bred their plants to contain high levels of THC and other compounds that interested them, often because the compounds produced a smell or had another effect on the plant's flowers. However, hemp farmers have rarely modified the plant. These hemp plants are used to create CBD oil.

How CBD works

All cannabinoids, including CBD, produce effects in the body by attaching to certain receptors. The human body produces certain cannabinoids on its own. It also has two receptors for cannabinoids, called the CB1 receptors and CB2 receptors. CB1 receptors are located throughout the body, but many are in the brain.

The CB1 receptors in the brain deal with coordination and movement, pain, emotions, and mood, thinking, appetite, and memories, among other factors. THC attaches to these receptors.

CB2 receptors are more common in the immune system. They affect inflammation and pain.

Researchers once believed that CBD attached to these CB2 receptors, but it now appears that CBD does not attach directly to either receptor. Instead, it seems to direct the body to use more of its own cannabinoids.

BENEFITS

Because of the way that CBD acts in the body, it has many potential benefits.

Natural pain relief and anti-inflammatory properties

People tend to use prescription or over-the-counter drugs to relieve stiffness and pain, including chronic pain. Some people believe that CBD offers a more natural alternative.

Authors of a study published in the *Journal of Experimental Medicine* found that CBD significantly reduced chronic inflammation and pain in some mice and rats.

The researchers suggested that the non-psychoactive compounds in marijuana, such as CBD, could constitute a new treatment for chronic pain.

Quitting smoking and drug withdrawals

Some promising evidence suggests that CBD use may help people to quit smoking. A pilot study published in *Addictive Behaviors* found that smokers who used inhalers containing CBD smoked fewer cigarettes than usual and had no further cravings for nicotine. A similar review, published in *Neurotherapeutics*, found that CBD may be a promising treatment for people with opioid addiction disorders.

The researchers noted that CBD reduced some symptoms associated with substance use disorders. These included anxiety, mood-related symptoms, pain, and insomnia. More research is necessary, but these findings suggest that CBD may help to prevent or reduce withdrawal symptoms.

Epilepsy

After researching the safety and effectiveness of CBD oil for treating epilepsy, the FDA approved the use of CBD (Epidiolex) as a therapy for two rare conditions characterized by of epileptic seizures. In the U.S., a doctor can prescribe Epidiolex to treat:

- Lennox-Gastaut syndrome (LGS), a condition that appears between the ages of 3 and 5 years and involves different kinds of seizures
- Dravet syndrome (DS), a rare genetic condition that appears in the first year of life and involves frequent, fever-related seizures

The types of seizures that characterize LGS or DS are difficult to control with other types of medication.

The FDA specified that doctors could not prescribe Epidiolex for children younger than 2 years. A physician or pharmacist will determine the right dosage based on body weight.

Other neurological symptoms and disorders

Researchers are studying the effects of CBD on various neuropsychiatric disorders.

Authors of a 2014 review noted that CBD has anti-seizure properties and a low risk of side effects for people with epilepsy. Studies suggest that CBD may also treat many complications linked to epilepsy, such as neurodegeneration, neuronal injury, and psychiatric diseases.

Another study, published in *Current Pharmaceutical Design* found that CBD may produce effects similar to those of certain antipsychotic drugs, and that the compound may provide a safe and effective treatment for people with schizophrenia.

Fighting cancer

Some researchers have found that CBD may prove to combat cancer.

Authors of a review published in the *British Journal of Clinical Pharmacology* found evidence that CBD significantly helped to prevent the spread of cancer.

In addition, the researchers noted that the compound tends to suppress the growth of cancer cells and promote their destruction. The authors pointed out that CBD has low levels of toxicity and called for further research into its potential as an accompaniment to standard cancer treatments.

Anxiety disorders

Doctors often advise people with chronic anxiety to avoid cannabis, as THC can trigger or amplify feelings of anxiousness and paranoia. However, authors of

review from *Neurotherapeutics* found that CBD may help to reduce anxiety in people with certain related disorders.

According to the review, CBD may reduce anxiety-related behaviors in people with conditions such as:

- post-traumatic stress disorder
- general anxiety disorder
- panic disorder
- social anxiety disorder
- obsessive-compulsive disorder

The authors noted that current treatments for these disorders can lead to additional symptoms and side effects, which can cause some people to stop taking them.

No further definitive evidence currently links CBD to adverse effects, and the authors called for further studies of the compound as a treatment for anxiety.

Type 1 diabetes

Type 1 diabetes results from inflammation that occurs when the immune system attacks cells in the pancreas.

Research published in 2016 by *Clinical Hemorheology and Microcirculation* found that CBD may ease this inflammation in the pancreas. This may be the first step in finding a CBD-based treatment for type 1 diabetes.

A paper presented in the same year in Lisbon, Portugal, suggested that CBD may reduce inflammation and protect against or delay the development of type 1 diabetes.

Acne

Acne treatment is another promising use for CBD. The condition is caused, in part, by inflammation and overworked sebaceous glands in the body.

A 2014 study published by the *Journal of Clinical Investigation* found that CBD helps to lower the production of sebum that leads to acne, partly because of its anti-inflammatory effect on the body. Sebum is an oily substance, and overproduction can cause acne.

CBD could become a future treatment for acne vulgaris, the most common form of acne.

Alzheimer's disease

Initial research published in the *Journal of Alzheimer's Disease* found that CBD was able to prevent the development of social recognition deficit in participants.

This means that CBD could help people in the early stages of Alzheimer's to keep the ability to recognize the faces of people that they know. This is the first evidence that CBD may slow the progression of Alzheimer's disease.

Legality

Cannabis is legal for either medicinal or recreational use in some American states. Other states have approved the use of CBD oil as a hemp product but not the general use of medical marijuana.

Some state and federal laws differ, and current marijuana and CBD legislation in the U.S. can be confusing, even in states where marijuana is legal.

There is an ever-changing number of states that do not necessarily consider marijuana to be legal but have laws directly related to CBD oil. The following information is accurate as of May 8, 2018, but the laws change frequently.

However, state legislators generally approve the use of CBD oil at various concentrations to treat a range of epileptic conditions. Different states also require different levels of prescription to possess and use CBD oil. In Missouri, for example, a person can use CBD of a particular composition if they can show that three other treatment options have failed to treat their epilepsy.

Anyone considering CBD oil should speak with a local healthcare provider. They can provide information about safe CBD sources and local laws surrounding usage. Also, research local state laws. Most states require a prescription.

CBD oil for epilepsy

In June 2018, the FDA approved the use of CBD to treat two types of epilepsy.

Dr. Scott Gottlieb, writing for the FDA on 25 June, stated:

"Today, the FDA approved a purified form of the drug cannabidiol (CBD). This is one of more than 80 active chemicals in marijuana. The new product was approved to treat seizures associated with two rare, severe forms of epilepsy in patients two years of age and older." Dr. Scott Gottlieb

Dr. Gottlieb is careful to point out that:

- The FDA have not approved the use of marijuana or all of its components.
- The association has only approved a purified version of one CBD medication, for a precise therapeutic purpose.
- The decision to approve the product was based on the results of sound clinical trials.
- Patients will receive the medication in a reliable dosage.

Side effects

Many small-scale studies have looked in to the safety of CBD in adults. They concluded that adults tend to tolerate a wide range of doses well.

Researchers have found no significant side effects on the central nervous system, the vital signs, or mood, even among people who used high dosages. The most common side effect was tiredness. Also, some people reported diarrhea and changes in appetite or weight.

Risks

There is still a lack of available long-term safety data. Also, to date, researchers have not performed studies involving children.

Side effects of Epidiolex

Concerning the product that the FDA approved to treat two types of epilepsy, researchers noticed following adverse effects in clinical trials:

- liver problems
- symptoms related to the central nervous system, such as irritability and lethargy
- reduced appetite
- gastrointestinal problems
- infections
- rashes and other sensitivity reactions
- reduced urination
- breathing problems

The patient information leaflet notes that there is a risk of worsening depression or suicidal thoughts. It is important to monitor anyone who is using this drug for signs of mood change.

Research suggests that a person taking the product is unlikely to form a dependency.

Side effects of other uses of CBD

There is often a lack of evidence regarding the safety of new or alternative treatment options. Usually, researchers have not performed the full array of tests.

Anyone who is considering using CBD should talk to a qualified healthcare practitioner beforehand. The FDA have only approved CBD for the treatment of two rare and severe forms of epilepsy.

When drugs do not have FDA approval, it can be difficult to know whether a product contains a safe or effective level of CBD. Unapproved products may not have the properties or contents stated on the packaging.

It is important to note that researchers have linked marijuana use during pregnancy to impairments in the fetal development of neurons. Regular use among teens is associated with issues concerning memory, behavior, and intelligence.

How to use

A person can use CBD oil in different ways to relieve various symptoms. If a doctor prescribes it to treat LGS or DS, it is important to follow their instructions.

CBD-based products come in many forms. Some can be mixed into different foods or drinks or taken from a pipette or dropper. Others are available in capsules or as a thick paste to be massaged into the skin. Some products are available as sprays to be administered under the tongue.

Recommended dosages vary between individuals, and depend on factors such as body weight, the concentration of the product, and the health issue.

Some people consider taking CBD oil to help treat:

- chronic pain
- epilepsy
- Parkinson's disease
- Huntington's disease
- sleep disorders
- glaucoma

Due to the lack of FDA regulation for most CBD products, seek advice from a medical professional before determining the best dosage.

As regulation in the U.S. increases, more specific dosages and prescriptions will start to emerge.

After discussing dosages and risks with a doctor, and researching regional local laws, it is important to compare different brands of CBD oil.

Several CBD oils with different applications are available to purchase online.

Q: CBD has been tested and approved for one specific use. Does this mean it is safe and will soon have approval for other uses?

A: The research is emerging to support the use of CBD for numerous conditions, as well as looking closely at safety, side effects, and long-term effects.

There are some valid concerns about long-term use that must be tested before CBD can be recommended for other diseases. As one approach to pain management, it is seen as an alternative option to the addicting narcotics.

The use of CBD oil might complement a medical approach to treating physical and mental diseases. It is worth discussing with your doctor.

Debra Rose Wilson, PhD, MSN, RN, IBCLC, AHN-BC, CHT. Answers represent the opinions of our medical experts. All content is strictly informational and should not be considered medical advice.