

Medical Marijuana and Epilepsy

by: <https://www.leafscience.com>

Compounds in marijuana, such as CBD, may be helpful for treating epilepsy and other seizure disorders.

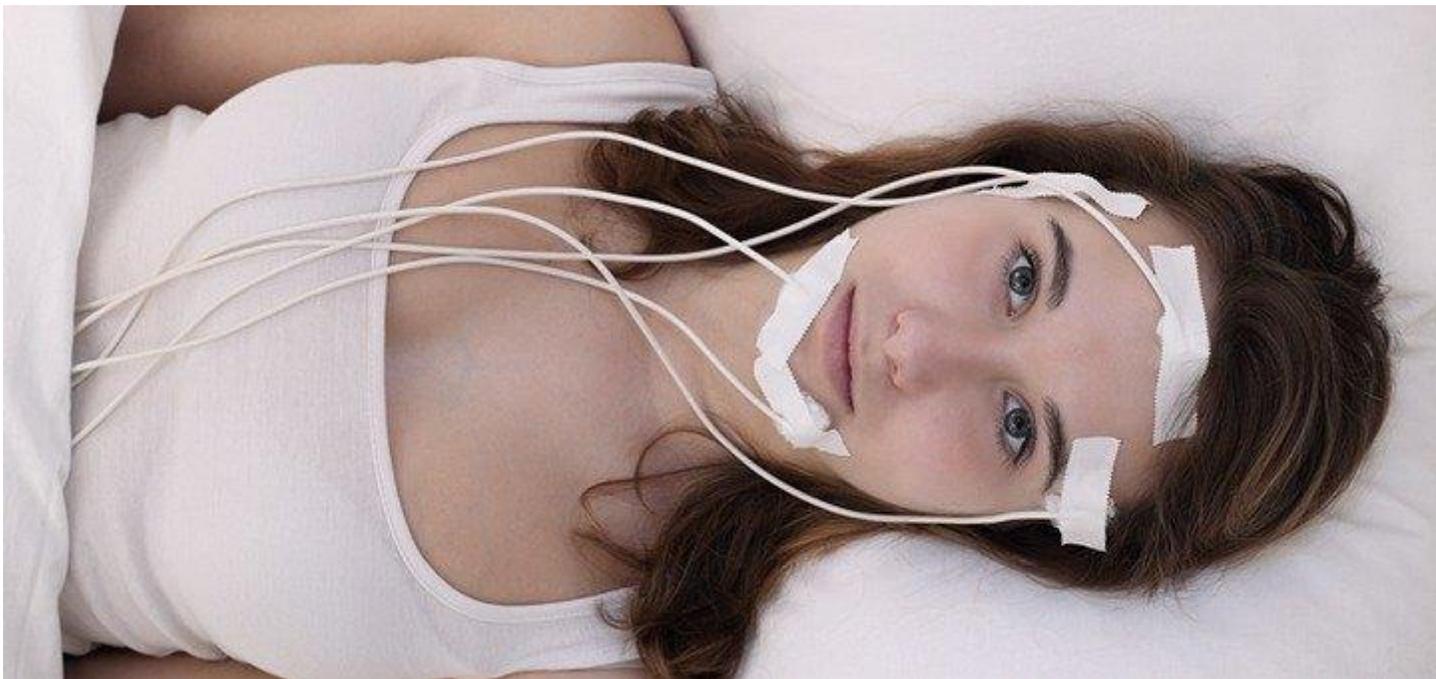
Marijuana can be used to treat a wide range of health issues. One of the most promising uses for marijuana is in the treatment of epilepsy, a brain disorder that causes seizures.

While more research is needed, current evidence supports the idea that marijuana could help treat epilepsy.

Marijuana's two main compounds — THC and CBD — seem to have different effects on epilepsy. Some experts recommend CBD-only products, while others advocate for products containing both THC and CBD.

Here, we discuss the benefits and drawbacks of using marijuana as a treatment for epilepsy.

What is Epilepsy?



(Photo: Shutterstock)

Epilepsy is a brain disorder characterized by unpredictable, recurring seizures.

The disorder can be caused by brain injury, brain tumors, stroke or infection, but in most cases the cause is unknown.

Epilepsy exists on a spectrum, meaning there is a wide range in the severity of seizures that can be experienced. In addition, there are many different types of seizures.

In some cases, epilepsy can be controlled by medication. Sometimes patients are treated completely and do not require further medication. However, many cases of epilepsy are resistant to treatment.

Over 65 million people are believed to have epilepsy worldwide, with the majority of cases seen in developing countries. Epilepsy will affect 1 in 26 people in the US over their lifetime.

Most new cases of epilepsy are diagnosed in young children or seniors, but the disorder can begin at any point across the lifespan.

Seizures in Epilepsy

Seizures are periods of uncontrolled electrical stimulation in the brain. During a seizure, groups of brain cells all fire at the same time for a short period of time.

Seizures can cause a range of debilitating symptoms, including:

- Loss of consciousness
- Auras
- Convulsions
- Spasms
- Loss of muscle activity

After a seizure, it is common that the individual will have no memory of the seizure or the moments beforehand. Sufferers can also be left confused or tired, have a headache, difficulty speaking, experience psychosis or may even continue on as if nothing happened at all.

People who have experienced two or more seizures of unknown origin are usually diagnosed with epilepsy.

Approved Treatments For Epilepsy

Anticonvulsant medication. These medications are a common treatment for epilepsy. Side effects can include dizziness, fatigue, nausea, tremor, rash and weight gain.

Serious side effects of antiepileptics have been reported to cause up to 40% of patients to discontinue treatment.

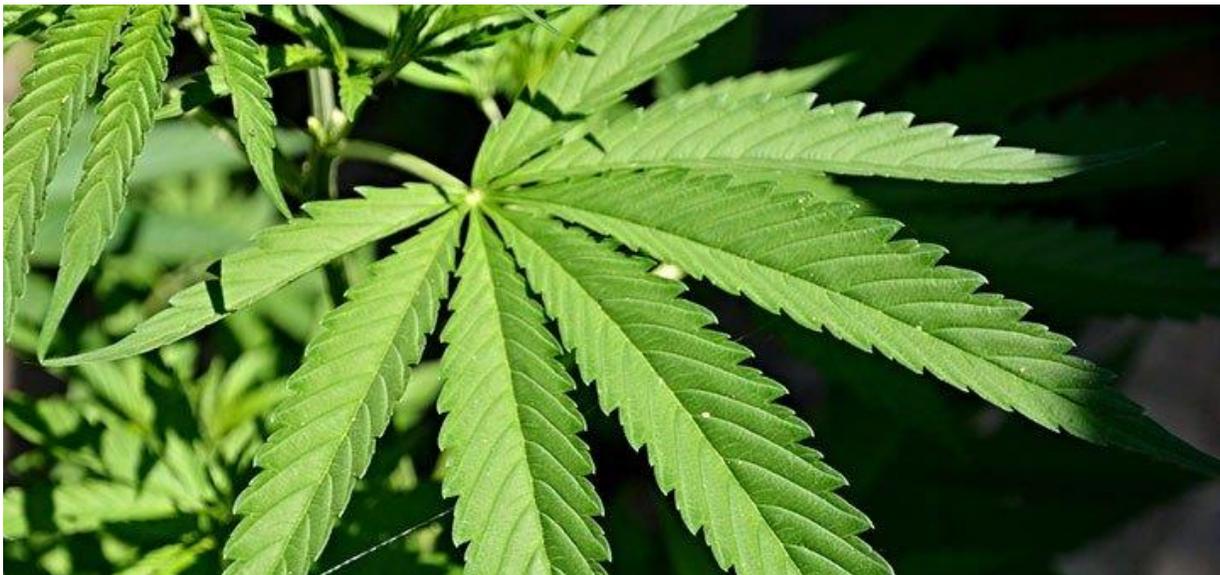
Ketogenic diet. There is some evidence that a high-fat, low-carb diet can help control epilepsy. It is especially helpful in children.

Brain surgery. When seizures start from the same brain area, patients will sometimes have the brain section removed. Side effects of the surgery can include memory problems, changes in behaviour and altered vision.

Brain stimulation. Applying electrical current to specific areas can be effective in long-term epilepsy treatment. Complications from stimulation include infection and worsening of seizures.

Each treatment option has specific benefits and risks. Unfortunately, around 30% of people with epilepsy are not able to control their seizures with approved treatments. This leaves many patients searching for better options.

History of Marijuana and Epilepsy



(Photo: Shutterstock)

Humans have used marijuana for its medicinal properties for thousands of years. There is documented use of medicinal cannabis in ancient China, India, and the Middle East. Medical use of marijuana was likely introduced to Western medicine by Dr. William O'Shaughnessy in the 1800s. The Irish physician documented some of its medicinal properties in an article published in 1843.

Fast-forward to 2011, when the Stanley brothers created a strain of marijuana with high CBD levels and little to no THC. The strain was unusual due to its inability to get users high.

But for a little girl named Charlotte Figi, the strain was a miracle. Figi suffered from a rare condition known as Dravet Syndrome, which caused upwards of 300 seizures a week.

When using this strain of marijuana, the frequency of Charlotte's seizures dropped dramatically. The number of seizures went from 300 to only 3 per week over 8 months of treatment.

The strain has been named Charlotte's Web in her honor. And it has since been used to treat many others suffering from treatment-resistant epilepsy.

Can Marijuana Help Treat Epilepsy?



(Photo: Shutterstock)

There is growing evidence that marijuana can effectively treat epilepsy. However, most of the evidence is either anecdotal or from animal studies.

Marijuana appears to have anticonvulsant effects, but scientists are still unsure how exactly marijuana works to reduce seizures.

Animal studies suggest that activating the CB1 receptor in the brain may be the key to marijuana's antiepileptic effects. But similar results have also been found from activating the CB2 receptor, as well.

Marijuana's ability to reduce seizures has been linked to a brain chemical called GABA. GABA decreases brain cell excitation, and many common seizure medications work by increasing GABA levels.

Few studies on marijuana and epilepsy have been conducted in humans, but there is some promising data from GW Pharmaceuticals. The company produces Epidiolex, a pure CBD extract that is currently undergoing clinical trials in a number of countries.

In the US, this product is being tested for treatment-resistant forms of epilepsy such as Dravet syndrome and Lennox-Gastaut syndrome.

Many scientists agree that marijuana likely has the ability to help treat epilepsy. But more research in humans is needed to draw a definitive conclusion.

CBD and Epilepsy



(Photo: Shutterstock)

The compound CBD appears to be a promising treatment for epilepsy. CBD is preferred over THC for epilepsy treatment because it is non-psychoactive.

Research suggests that CBD has anticonvulsant effects in animal models of epilepsy. While there has not been much research conducted in humans, early reports are promising.

GW Pharmaceuticals has been conducting clinical trials for their drug Epidiolex, a pharmaceutical-grade CBD oil.

Early results show that it can reduce seizures in treatment-resistant forms of epilepsy. CBD oil appears to be safe for children, but long-term effects on the developing brain have not yet been studied.

Like most medications, CBD treatment can have side effects. These include dry mouth, diarrhea, sleepiness and fatigue. CBD can also interfere with the processing of other medications in the liver.

CBD also has limitations, and is not a cure-all. It may need to be prescribed along with other epilepsy therapies for maximal effect.

Researchers certainly see promise for using CBD to treat epilepsy. But there is still no consensus on the long-term safety and efficacy of the drug. Scientists do not know how

CBD may affect brain development, or how it may impact the brain after extended periods of use.

Because marijuana is illegal in many regions, it is difficult to study CBD effectively. It also makes it difficult to implement regulations on production and distribution.



THC and Epilepsy

(Photo: Shutterstock)

THC has been largely excluded from epilepsy treatment due to its psychoactive effects. There are also reports that THC may actually increase seizure activity.

However, THC generally works as an anticonvulsant and may boost the effectiveness of other anti-seizure drugs. So, including some amount of THC may be important to achieving maximal seizure reduction.

One study found that patients showed a significant reduction in seizures using a 20:1 ratio of CBD to THC.

As a result, some people are advocating for laws that allow for medicinal use of both CBD and THC in the treatment of epilepsy.

Brian Wilson and Jason David are both parents of children with severe epilepsy. Based on their experiences, they believe that excluding THC from treatment may limit the potential benefits of cannabis. In a 2014 interview, Wilson stated:

“CBD is a very important part of the mix, but only part. We saw minor seizure control and developmental progress with CBD alone, but we didn’t see real seizure control until we added measurable levels of THC to the mix.”

David added: “Low THC/high CBD doesn’t work for everyone; just like pharmaceutical medications, it’s not one size fits all.”

Due to a lack of clinical trials, it remains unclear whether THC, CBD, or a combination of both is the best treatment for epilepsy.

Legal Status

The use of marijuana for epilepsy treatment is not universally legal, and conflicting state and federal laws can be confusing for suppliers, distributors, and patients.

In late 2016, the DEA published a [ruling](#) which classified all cannabis-based products (including CBD oils and extracts) as Schedule I drugs. Despite this, CBD products continue to be offered online and at some dispensaries because they are legal under certain state laws.

Some states have laws that allow the use of medical marijuana to treat epilepsy and other seizure disorders.

Other states that don’t have medical marijuana laws may have [CBD-specific laws](#) for epilepsy treatment, meaning patients can access CBD-only products to treat their epilepsy.

To add to the confusion, the US Controlled Substances Act has a loophole when it comes to CBD products. Under the act, all types of cannabis are considered to be Schedule I drugs, meaning hemp and marijuana are federally illegal.

But certain plant material, like seeds and stalks of hemp plants, can be imported and sold in the US. This means that CBD oil products derived from hemp stalks or seeds, rather than marijuana, are technically legal.

These confusing and frustrating laws have forced some patients and their families to relocate to different states so they can [access](#) cannabis-based medication.

Other countries, like [Canada](#), have legalized marijuana for medical use, including the treatment of epilepsy.

Summary

Epilepsy can severely affect a person's quality of life. Many existing treatments for epilepsy are insufficient or produce severe side effects. Marijuana appears to have potential as a safe and effective treatment for this debilitating disorder.

When it comes to marijuana-based treatments for epilepsy, CBD is preferred over THC due to its lack of psychoactive effects.

Scientists don't yet know exactly how marijuana works to reduce seizures, or if there are any long-term side effects of this treatment. More research is needed in order to understand and harness the medical potential of marijuana in the treatment of epilepsy.