SEIZURES & CANNABIS

If you are reading this page, more than likely you or someone you know is looking for a more effective and natural way to manage a seizure disorder. The medicinal use of cannabis for its anticonvulsant properties dates back to early civilizations including ancient China, India, Africa, Greece and Rome (Chaboya-Hembree, 2014). As early as 1100 AD, Arabic writer al-Mayusi documented the use of cannabis in controlling seizures (Lozano, 2001). In our current culture, there is a vast degree of disagreement about the use of cannabis for controlling seizures. Thus far in American society, political and economic interests have been the motive for controlling and suppressing research into the medicinal uses of the Cannabis plant. Searching for information regarding the safety and efficacy of the use of Cannabis in treating seizures is no small task. In our hyper-scientific culture, ancient wisdom and natural remedies are often lost in the mix or shuffled off to the side and disregarded. This is one remedy that needs more attention, as the use of cannabis by people who struggle with seizures can be life changing.

Overview Physiology of Seizures

Seizures are caused by over excited brain cells that fire abnormally. In roughly half the cases: the cause is unknown. There are two primary categories that seizures fall into: generalized and partial. Generalized seizures are produced by electrical impulses throughout the entire brain, which distorts consciousness: while partial seizures tend to be produced by a relatively small area of the brain (University of Maryland Medical Center, 2014). People with generalized seizures with no apparent cause are known to have primary generalized epilepsy. Seizures can also be secondary to a separate diagnosed condition. People with all forms of epilepsy have chronic and recurrent seizures.

Treatment Resistant Seizures

A significant number of people with epilepsy have what is known as treatment-resistant epilepsy. According to Whalley (2014), an estimated 30% of individuals with epilepsy do not find relief and control of seizures from existing pharmacological anti-convulsant drugs. Furthermore, as many as 50% of people with epilepsy will eventually develop seizures that are resistant to available pharmacological medications. Cannabis has been a successful treatment for a number people with of documented cases of chronic, recurrent seizures that do not respond to pharmaceutical drugs.

Growing Body of Evidence

Much of the information available regarding cannabis use and seizures is anecdotal. However, there is a growing body of information including individual case studies, surveys and small trials that provide a significant amount of information regarding the use of cannabis in seizures. Many agencies, organizations and doctors cite the lack of clinical trials as a reason to debunk the use of cannabis for epileptic patients. This

standpoint is becoming largely undereducated. According to Whalley (2014), "most of the available human evidence suggests that both a reduction in incidence and severity of seizures, as well as physical and behavioral improvements in children and adults treated with either cannabis or its 25 preparations (e.g. CBD solution), can be achieved."

Cannabinoids, Seizures and Research

The Cannabis plant offers a number of different cannabinoids, all of which have been found to have unique medicinal properties. The primary cannabinoid that gets the most attention is THC (Delta-9 Tetrahydrocannabinol). THC is the cannabinoid that is well known for being psychoactive. THC was also what lead scientists to discover the Endocannabinoid system in vertebrate animals, including humans (Steep Hill Laboratories, 2014). In one study from the 1940's five children with "severe anticonvulsant resistant grand mal epilepsy" were treated with THC and found that THC controlled two of these children's seizures. The other three children noted no change (Whalley, 2014). Additionally, there were several documented cases in a report by Lorenz (2004) in addition to the numerous preclinical studies conducted on animals. Many of the animal studies document successful control of seizures with THC.

Cannabidiol, otherwise known as CBD, is the only other cannabinoid that has been examined for anti-convulsant properties in humans. In 1978 two scientists conducted a randomized experiment on nine epileptic patients. Four of the patients were administered 200 mg of CBD daily. The remaining five patients were administered a placebo. Two of the four patients who received the 200 mg/daily dosage of CBD became seizure free (Whalley, 2014). There are further studies summarized in the paper by (Whalley) 2014, for a more in-depth examination of these studies follow this link: http://www.herbal-ahp.org/documents/press_releases/AHP%20Therapeutic%20Compendium-Cannabis%20Epilepsy%20and%20Seizures%20Scientific%20Review.pdf

A recent study of particular importance on CBD studies includes Porter and Jacobson (2013): they took a parent survey of cannabidiol enriched cannabis use in pediatric treatment-resistant epilepsy. The findings report: "The average number of antiepileptic drugs (AEDs) tried before using cannabidiol-enriched cannabis was 12. Sixteen (84%) of the 19 parents reported a reduction in their child's seizure frequency while taking cannabidiol-enriched cannabis. Of these, two (11%) reported complete seizure freedom, eight (42%) reported a greater than 80% reductions in seizure frequency, and six (32%) reported a 25-60% seizure reduction. Other beneficial effects included increased alertness, better mood, and improved sleep. Side effects included drowsiness and fatigue. Our survey shows that parents are using cannabidiol-enriched cannabis as a treatment for their children with treatment-resistant epilepsy." This study can be found at the following link: http://www.ncbi.nlm.nih.gov/pubmed/24237632 The overwhelming consensus of case studies, surveys and pre-clinical animal studies suggests CBD has a strong anticonvulsant effect; it has the potential to decrease or eliminate seizures, improve consciousness and spasticity.

How to Use Cannabis as Medicine Safely

The interaction between cannabinoids and each individual's' body is unique and complex. There is a wide variety in types of marijuana, each having its own unique cannabinoid and terpenoid make up. It is important to note that Cannabis has displayed both anti and pro convulsant properties. That said, in most human case studies cannabis tends to exert anticonvulsant properties. Due to the complex and varying interactions within each individual's' body, it is vital to track one's experiences, particularly when a patient is new to using this medicine. We at Urban Farmacy suggest that you keep a journal of your experiences. Specifically, when you first start using cannabis or if you change the type of medicine you are using. You will find that each method

of administering your medicine: sublingually, vaporizing, smoking or ingesting cannabinoids will elicit a different response in your mind and body. Furthermore, the strain of marijuana you choose and or the type of medicine you choose will also have variable effects on your condition and your body. When using cannabis as medicine we suggest that you continually educate yourself regarding cannabis strains, cannabinoids, terpenoids, and the endogenous cannabinoid system. The more knowledgeable you are, the wiser decisions you can make.

The next recommendation we have regarding using Cannabis as medicine is to start small and work up to a dosage that works best for your situation. Even in pharmacology, dosage varies by the person due to individual biochemistry. Since there are no established standards for dosing cannabis or cannabis extracts, you must carefully find what works for you. That said, there are case studies and anecdotal situations that can act as a guide as you navigate your way through experimenting with your dosages. Here is some key information when considering dosage for seizures:

1. "In the case of Charlotte Figi it was found that three to four milligrams of oil per pound of the girl's body weight stopped the seizures" (Young, 2013).

2. This is the Mayo Clinic's (2014) statement on dosage of CBD for seizures: "To treat epilepsy, 200-300 milligrams of CBD has been taken by mouth daily for up to 4.5 months."
The following link is a summary of varying different cannabis and cannabinoid dosage used in scientific studies:
http://www.mayoclinic.org/drugs-supplements/marijuana/dosing/hrb-20059701

3. Finally, we encourage you to come by the shop or schedule a consultation to discuss any questions you may have. We have experience helping people find the right medicine and dosage for their conditions. We specifically have experience working with people to control their seizure disorders.

Austin's Story
"Austin is 12 years old and has a rare and degenerative Mitochondrial Disease. Austin loves to tell jokes and make others laugh. He was having up to 200 seizures a month and slept the day away. His condition was deteriorating rapidly until we started working with Urban Farmacy. With the help of cannabis medicine Austin's seizures have improved dramatically along with his energy level, mood and appetite."
-Sandy Roberts
(Austin's Mother)

Resources on Seizures and Cannabis:

Bienenstock, David. (2014). "Desperately Seeking CBD." retrieved from:
http://www.vice.com/read/desperately-seeking-cbd

Chaboya-Hembree, Jan. (2014). "Epilepsy – Can Medical Marijuana Aid in Relieving Seizures." retrieved from:
http://medicalmarijuana.com/experts/expert/title.cfm?artID=75

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Mayo Clinic. (2014). Marijuana (Cannabis Sativa): Dosage. retrieved from: http://www.mayoclinic.org/drugs-supplements/marijuana/dosing/hrb-20059701

University of Maryland Medical Center. (2014). "Seizure Disorders." retrieved from: http://umm.edu/health/medical/altmed/condition/seizure-disorders

Schwartz, Carly. (2014). "Meet the Children Who Rely on Marijuana to Survive." retrieved from: http://www.huffingtonpost.com/2014/01/31/cannabis-for-children_n_4697135.html

Steep Hill Laboratories. (2014). Cannabinoid and Terpenoid Reference Guide. retrieved from: http://steephilllab.com/resources/cannabinoid-and-terpenoid-reference-guide/

Whalley, Benjamin J. (2014). "Cannabis In The Management And Treatment Of Seizures And Epilepsy: A Scientific Review." American Herbal Pharmacopoeia.
retrieved from: http://www.herbal-ahp.org/documents/press_releases/AHP%20Therapeutic%20Compendium-Cannabis%20Epilepsy%20and%20Seizures%20Scientific%20Review.pdf

Young, Saundra. (2014). "Marijuana Stops Child's Severe Seizures." CNN. retrieved from: http://www.cnn.com/2013/08/07/health/charlotte-child-medical-marijuana/

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