

Epilepsy is a disease of the brain characterised by the tendency to have spontaneous, recurrent seizures. A seizure is a disruption of the normal electrical activity of the brain, and what the seizure looks like depends on where it starts and spreads in the brain.

There are many different types of epilepsies and people's experiences differ greatly. Some types of epilepsy are age-limited, and for others, epilepsy is a life-long condition.

There are many seizure types but for many, epilepsy extends beyond seizures and epilepsy can significantly affect many aspects of life from getting a job or education, transport and travel, and causing psychological and social problems.

Current Treatment

Medication is the first line of treatment for epilepsy. Approximately 2 in 3 people with epilepsy become seizure free with medication, meaning 1 in 3 continue to have seizures.

For people who do not gain seizure control despite trying different medications, there are other treatment options available such as epilepsy surgery, vagus nerve stimulation (VNS), ketogenic diet and lifestyle changes. However, many people are still do not achieve seizure freedom.

Medical Cannabis and Epilepsy

Cannabis-based therapies have been used to treat epilepsy for millennia, and recent trials have shown cannabidiol (CBD) is an effective treatment for people with Dravet Syndrome, Lennox-Gastaut syndrome (LGS) and Tuberous Sclerosis Complex (TSC) with 39-49% reduction in seizures.

Pure CBD (i.e. Epidiolex) and CBD-enriched cannabis oil extracts were found to be effective for epileptic seizure control in children and young adults, particularly in the specific epileptic syndromes, Dravet syndrome, LGS and TSC. Unwanted side effects are usually mild, and the discontinuation rate is low.

For other epilepsies, it is like trying a new medication – it may or may not work. Controlled, randomised trials have revealed that the actual reduction in seizure frequency in response to CBD is comparable to that achieved in response to other antiseizure medications.

Research into CBD to treat seizures is ongoing and the use of CBD for other types of epilepsy remains to be established.

Support Organisation

Epilepsy Action Australia <https://www.epilepsy.org.au/>

References

Ben-Zeev, B. (2020). Medical cannabis for intractable epilepsy in childhood: A review. *Rambam Maimonides medical journal*, 11(1). <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7000162/>

Elliott, Jesse, Deirdre DeJean, Tammy Clifford, Doug Coyle, Beth K Potter, Becky Skidmore, Christine Alexander, Alexander E. Repetski, Vijay Shukla, Bláthnaid McCoy, George A. Wells,. Cannabis-based products for pediatric epilepsy: An updated systematic review. *Seizure - European Journal of Epilepsy*, Volume 75, 18 – 22 [https://www.seizure-journal.com/article/S1059-1311\(19\)30733-2/fulltext#secsect0100](https://www.seizure-journal.com/article/S1059-1311(19)30733-2/fulltext#secsect0100)

Lawson, J., O'Brien, T., Graham, M., Renaud, E., Jones, D., Freeman, J., ... & Martin, J. H. (2022). Expert advice for prescribing cannabis medicines for patients with epilepsy—drawn from the Australian clinical experience. *British Journal of Clinical Pharmacology*. <https://bpspubs.onlinelibrary.wiley.com/doi/pdfdirect/10.1111/bcp.15262>

Perucca E. (2017). Cannabinoids in the Treatment of Epilepsy: Hard Evidence at Last?. *Journal of epilepsy research*, 7(2), 61–76. doi:10.14581/jer.17012 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5767492/>

Silva Guilherme Diogo, Del Guerra Felipe Borelli, de Oliveira Leles Maira, Pinto Lécio Figueira. (2020) Cannabidiol in the Treatment of Epilepsy: A Focused Review of Evidence and Gaps. *Frontiers in Neurology*. Vol 11 <https://www.frontiersin.org/article/10.3389/fneur.2020.531939> DOI 10.3389/fneur.2020.531939

Abstracts

Billakota, S., Devinsky, O., & Marsh, E. (2019). Cannabinoid therapy in epilepsy. *Current opinion in neurology*, 32(2), 220–226. <https://doi.org/10.1097/WCO.0000000000000660>

Gaston, T. E., & Szaflarski, J. P. (2018). Cannabis for the Treatment of Epilepsy: an Update. *Current neurology and neuroscience reports*, 18(11), 73. <https://doi.org/10.1007/s11910-018-0882-y>

O'Connell, B. K., Gloss, D., & Devinsky, O. (2017). Cannabinoids in treatment-resistant epilepsy: A review. *Epilepsy & behavior : E&B*, 70(Pt B), 341–348. <https://doi.org/10.1016/j.yebeh.2016.11.012>