

Epilepsy Treatments Go Beyond Medication

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+ Basic Epilepsy Statistics

- 1 in 10 people will have a seizure in their lifetime.
- 1 in 26 will develop epilepsy.
- Of the 2,900,000 people in the US with epilepsy, 460,000 are children.
- 65,000,000 people worldwide have epilepsy.
- Only 50% of people with epilepsy get full control of their seizures.
- Epilepsy is the 4th most common neurological disorder.
- Approximately 50,000 people pass away each year due to epilepsy-related causes.

<http://www.cdc.gov/epilepsy/basics/fast-facts.htm>; [http://iom.nationalacademies.org/Reports/2012/Epilepsy-Across-the-Spectrum.aspx?utm_source=feedburner&utm_medium=feed&utm_campaign=Feed%3A+IomTopicPublicHealth+\(IOM+Topic%3A+Public+Health\)](http://iom.nationalacademies.org/Reports/2012/Epilepsy-Across-the-Spectrum.aspx?utm_source=feedburner&utm_medium=feed&utm_campaign=Feed%3A+IomTopicPublicHealth+(IOM+Topic%3A+Public+Health)); <http://www.epilepsy.com/learn/epilepsy-statistics>



A History of Epilepsy Treatments

- 1857—1st Generation AEDs started with Bromides
- 1912—Phenobarbital—new AED available
- 1921—Studies published on the Ketogenic Diet from Dr. Wilder at the Mayo Clinic
- 1935—First live demo of EEG on a human
- 1937—Introduction of Phenytoin
- 1970s—Multiple brain scans developed
- 1989—2nd Generation AEDs started with Vigabatrin
- 1994—Charlie Foundation started resurgence for Ketogenic diet



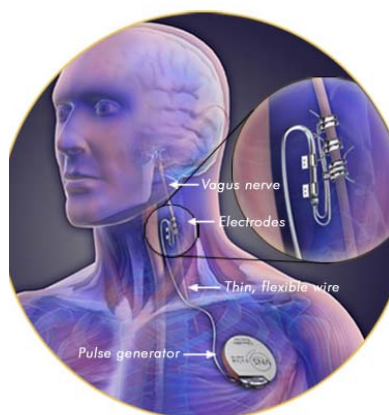
A History of Epilepsy Treatments (cont.)

- 1997—VNS approved by FDA
- 2000s—Apps such as Seizure Tracker and My Epilepsy Diary developed
- 2003—Emfit Monitor developed
- 2009—SmartMonitor developed
- 2010—3rd Generation AEDs started
- 2012—SAMi Monitor Developed
- 2013—RNS® approved by FDA
- 2015—Aspire approved by FDA
- 2016—Phase 3 trial for synthetic cannabidiol completed for Dravet Syndrome.
- 2016—Embrace Watch made available to public

+ Dietary Treatments

- Classic Ketogenic Diet
- Medium Chain Triglyceride Oil Diet (MCT)
- Low Glycemic Index Diet (LGI)
- Modified Atkins Diet (MAD)
- High fat, low carbohydrate diets
- Classic Ketogenic developed first and is most restrictive
- Had resurgence in the 1990s
- Need to be under care of a doctor and a nutritionist
- Like other meds, titrate on and off the diet (varies from 1:1 > 4:1 ratio)
- Not immune to side effects

+ Vagus Nerve Stimulator



- Approved by FDA in 1997
- Used in conjunction with other treatments for intractable epilepsy
- “Pacemaker for the Brain”
- Chest implant sends regular pulses to the Vagus Nerve to reduce seizures
- Individual/caretaker can use magnet to send an extra pulse to stop a seizure
- Initial surgery required as well as occasional surgery to replace battery

dynamic.cyberonics.com/depression/hcp/AboutVNSandTRD/intro_vnsththerapy.aspx

+ The RNS® System

- Approved by FDA in November, 2013
- First responsive adjunct therapy
- Implant in skull with a workable EEG
- Up to two leads placed based on seizure origination
- When EEG detects a seizure starting, a pulse is sent to stop it
- Initial surgery required as well as occasional surgery to replace battery



www.neuropace.com/physicians/overview.html



Cannabidiol/ Cannabis (cont.)

Pros

- Another option for people with intractable epilepsy
- Synthetic version in FDA trials
- Per Stanley Brothers, 85% of CBD users show reduction in seizures
- Per Dr. Bonni Goldstein, 75% of her patients on CBD under 25 show seizure reduction; 8% seizure-free

Cons

- Limited access in US
- Families uproot to get access for their child
- Cost! Not covered by insurance
- Limited current research as it is a Schedule 1 drug
- Not all marijuana plants are the same (+THC or +CBD)

For more information: www.youtube.com/watch?v=GNI14Y3sV1g&feature=youtu.be; "Weeds" documentary series; or theroc.us.

+ Epilepsy Safety Devices



SmartMonitor

www.smart-monitor.com



EMFIT

SENSING WHAT MATTERS
www.emfit.com/movement-monitor/

empatica

www.empatica.com



SAMI

samialert.com



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