

# PEDIATRIC DRUG RESISTANT EPILEPSY: CLINICAL TRIALS TODAY



## WHAT IS PEDIATRIC DRUG RESISTANT EPILEPSY (DRE)?

**Pediatric:** Children or youth 0-17 years old

**DRE:** Drug resistant epilepsy

**Pediatric + DRE** = Children with epilepsy who continue to have seizures even while on medication

Drug resistant epilepsy affects 30% of children diagnosed with epilepsy. Since it is so common, many different ways to treat it are continuously being developed.

## CLINICAL TRIALS & CHILDREN'S HEALTH

Clinical trials are an important part of ensuring the safety and effectiveness of newly emerging treatment options.

Children are still developing and may respond differently to some treatments than adults.

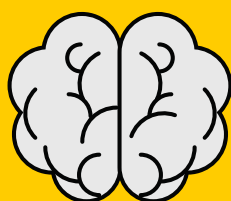


It is important to have trials that focus on seizure management in children.

## WHAT ARE SOME NEW TREATMENTS?



**New types of anti-seizure medications.**



**Neurotechnologies** that affect patterns of brain activity to reduce seizures.



**Diets** that change the body and brain chemistry.

## ONGOING CLINICAL TRIALS FOR PEDIATRIC DRE

In 2020, the 101 registered clinical trials primarily focused on reducing seizure activity

The main categories of treatment were:

**37%**  
ANTI-SEIZURE MEDICATIONS

**32%**  
NEUROTECHNOLOGIES, DEVICES, OR DIAGNOSTICS

**17%**  
DIETS

**15%**  
"OTHER"

Only 13% of current neurotechnology treatment trials focus on youth exclusively.

- **Ablative treatments** remove or restrict tissue. Examples are stereotactic radiosurgery (SRS) and MRI-guided laser interstitial thermal therapy (LITT).
- **Modulatory treatments** control brain activity. Examples are vagus nerve stimulation (VNS), transcranial direct current stimulation (tDCS), deep brain stimulation (DBS), and responsive neurostimulation (RNS).
- **New diagnostic methods** like robot-assisted stereo EEG (rSEEG).

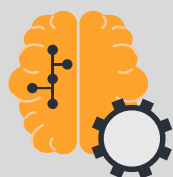
## TAKE-HOME MESSAGES



FEW TRIALS OF NEUROTECHNOLOGIES FOCUS ON CHILDREN EXCLUSIVELY



EFFECTIVENESS OF NEUROTECHNOLOGIES IS UNDER ACTIVE STUDY



SEIZURE CONTROL IS THE MAJOR FOCUS



A COMBINATION OF SEIZURE CONTROL AND OTHER LIFE FACTORS ARE IMPORTANT FOR OVERALL WELL-BEING

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