

Childhood Epilepsy: Final Review

Definitions:

- *Seizure*: Disturbance in brain electrical activity.
- *Epilepsy*: ≥ 2 unprovoked seizures.
- *Status Epilepticus*: Continuous seizures ≥ 5 minutes, or sequential seizures without full recovery of consciousness in between.

1. Key Childhood Epilepsy Syndromes

Syndrome	Clinical Features	EEG Findings	Treatment & Prognosis
Childhood Absence	5-12 yrs. Brief staring spells. Many per day.	Generalized 3 Hz spike and wave.	Ethosuximide or Valproic acid. 70% remission.
West Syndrome (Infantile Spasms)	Peak 4-7 months. Triad of: Spasms (flexor/extensor), arrest of psychomotor development, specific EEG.	Hypsarrhythmia (chaotic, high voltage).	ACTH, Corticosteroids, or Vigabatrin (esp for Tuberous Sclerosis).
Juvenile Myoclonic Epilepsy (JME)	10-16 yrs. Early morning myoclonic jerks. Often triggered by sleep deprivation/alcohol.	4-6 Hz fast spike & wave. Photosensitivity.	Valproic acid. Remission is RARE (lifelong treatment needed).
Rolandic Epilepsy (BECTS)	Most common. 5-12 yrs. Partial motor seizures involving face/mouth during sleep transitions.	Centrotemporal (Rolandic) spikes.	None, or Carbamazepine. 95% remit (Excellent prognosis).

Mnemonic: West Syndrome Triad

S H A

- Spasms (Infantile)
- Hypsarrhythmia on EEG
- Arrest of psychomotor development

2. Physical Exam Clues (Neurocutaneous Syndromes)

Always look at the skin/eyes during a seizure workup!

- **Tuberous Sclerosis:** Ash leaf spots (hypopigmented), facial angiomas, retinal lisch nodules. High association with West Syndrome.
- **Neurofibromatosis:** Café au lait spots, Lisch nodules.
- **Metabolic disease:** Cherry red spot on macula, Retinitis pigmentosa.

3. Anti-Epileptic Drugs (AEDs) & Side Effects

Rule of thumb: Always aim for Monotherapy to avoid interactions and improve compliance. Only withdraw AEDs if seizure-free for 2-5 years and EEG is normal.

- **Phenobarbital:** Used for neonatal seizures/status. *SE: Hyperactivity & cognitive impairment in kids.*
- **Phenytoin (Dilantin):** Drug of choice in status epilepticus. Zero-order kinetics. *SE: Gum hypertrophy, hirsutism.*
- **Ethosuximide:** Absence only.
- **Carbamazepine (Tegretol):** Partial seizures. *SE: Rash, hyponatremia.*
- **Valproic Acid (Depakine):** Broad spectrum. *SE: Hepatotoxicity, weight gain, hair loss.* (Note: If given with Lamotrigine, lower Lamotrigine dose to 1/10th because Valproate massively increases its half-life).
- **Lamotrigine:** Broad spectrum. *SE: Stevens-Johnson Syndrome (SJS).*
- **Topiramate (Topamax):** *SE: Renal stones, decreased concentration.*
- **Vigabatrin:** Infantile spasms. *SE: Visual field defects.*

MCQ Pearl: Differential Diagnosis Look-Alikes

Breath Holding Spells (Cyanotic): 6 mo to 2 yrs. ALWAYS provoked by crying/anger → Apnea → Cyanosis → LOC. EEG is normal.

Prolonged QT Syndrome: Sudden LOC during exercise or extreme emotional stress. Can be fatal.