

## Pediatric Epilepsy And Conditions That Mimic Seizures

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## Disclosure

- I have no actual or potential conflict of interest in relation to this program/presentation.
- I have no relevant financial relationships with the manufacturers of any commercial products discussed in this CME activity.
- I will discuss some investigational device and off label medications in my presentation.

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## Outline

- Psychogenic nonepileptic seizures (PNES) and conversion disorders
- Pediatric epilepsy syndromes
- Conditions that mimic seizures

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## Psychogenic Nonepileptic Seizures

- Video 1
- Video 2

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## Psychogenic Nonepileptic Seizures

- Shivering, biting tip of tongue, hand drop test
- Head movement side-to-side, asynchronous mvt
- Sudden motionless unresponsiveness
- Different clinical features from one convulsion to the next(not stereotyped)
- Closed eyes with resistance to opening, ictal crying
- Longer than 3 minutes
- Pelvic thrusting, rolling side to side, wax and wane
- Vocalization , no incontinence, no tongue biting, may rapidly awaken and reorient.

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## Conversion Disorder

- Video 3
- Video 4

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## Hoover Test

- Contraction of synergistic Muscles.

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## Hoover Test

- Video 5

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## Other Tests

- Hand-drop (weakness , unconscious).
- Sternocleidomastoid test (bilaterally innervated).
- Midline splitting.
- Splitting of vibration
- Hearing loss
- Teddy bear sign
- PNES. Eyes closed during seizure, pelvic thrusting, head turning side to side, crying during the seizure, biting the tip of the tongue, long duration.
- Keep in mind that patient can have both functional and organic disorder.

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## Teddy Bear Sign

- Video 6
  
  
  
  
- Video 7

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## Approach To Conversion Disorder

- History and Physical exam.
- Interview the patient alone, educate about conversion disorder (**not faking, subconscious stress, not uncommon**), ask about stressors, physical and sexual abuse.
- Interview parents alone (inconsistency of physical exam discussed).
- Patient and parents together (Give patient way out).

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## Malingering vs Factitious vs Hypochondriasis

- **Malingering** (patient fakes sx for external incentives "secondary gain")
- **Factitious** (patient fakes sx for internal psychological benefit "primary gain") Munchausen syndrome.
- **Hypochondriasis** (belief of presence of serious disease, insidious onset, patient distressed with illness, rejects reassurance, seeks second opinions).

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## Case Presentation

- 11-month-old infant presented with recurrent episodes of head drop mainly after waking up from a nap occurring in clusters.

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## VIDEO 8

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## Diagnosis ?

- Benign infantile myoclonus
- Complex partial seizure
- Rolandic seizure
- Atonic seizure
- Infantile spasm

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## Infantile Spasm

- Incidence 25 in 100,000 live births.
- Flexor/extensor spasm, head drop
- R/O tuberous sclerosis
- Hypsarrhythmia
- ACTH, Steroids, Vigabatrin
- Bad prognosis (West syndrome, Lennox-Gastaut syndrome).

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## Neurocutaneous Syndromes



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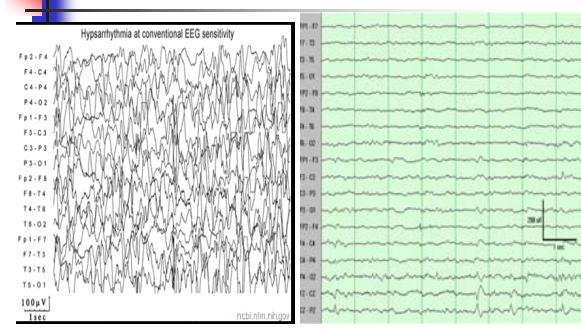
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# Hypsarrhythmia



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## Case Presentation

- 5-year-old child with nocturnal seizures described as numbness on one side of the mouth, followed by ipsilateral twitching of the face, mouth, arm and drooling lasting 1-2 minutes.

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## Video 09

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## Benign Rolandic Epilepsy

- Benign childhood epilepsy with centrotemporal spikes
- 3-13 years of age
- Seizures stop spontaneously by age 14.
- Ask parents whether the child's mouth was "twisted", gurgling sound.
- Does not require treatment

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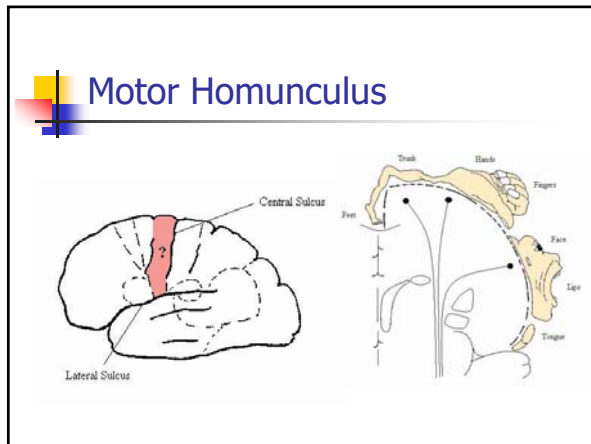
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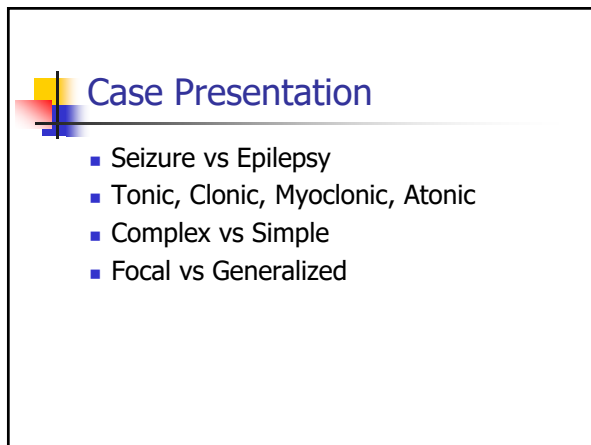
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## Case Presentation

- 9 yo female with episodes of staring in the classroom.
- Daydreaming, Absence epilepsy, Complex partial seizures.

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## Absence Epilepsy

- Video 11

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## Absence Epilepsy

- 5-8 years
- Last 5-10 seconds, 50x/day, no aura, no postictal state.
- Occasional abnormal eye movements, automatism, incontinence.
- Hyperventilation, 3 HZ
- Ethosuximide, Valproic Acid, Lamotrigine

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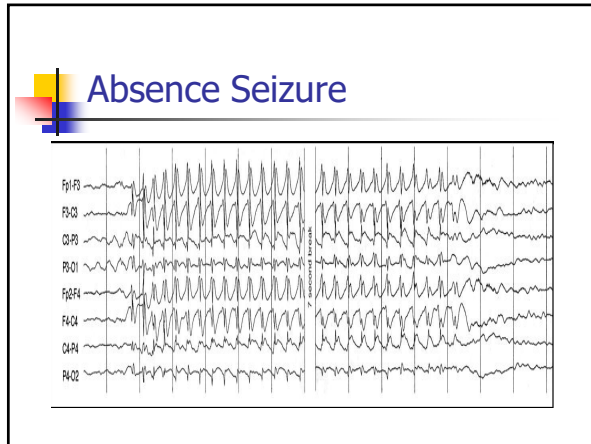
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- ### Case Presentation
- 16-year-old female presenting with new onset GTC seizure after spending the night clubbing.

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- ### Juvenile Myoclonic Epilepsy
- 10% of all cases of epilepsy
  - Myoclonic jerks in the morning
  - Precipitated by sleep deprivation and alcohol
  - Prognosis (Good and bad news)
  - Treatment (Keppra, Valproic acid).

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## Simple vs Complex Febrile Seizure

- Age=3 months to 6 years
- Duration (< 5min-10min-15min)
- Description (Generalized, focal/Todd's paralysis).
- Within 24-hour period (1, clusters of 2 or more).

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## Febrile Seizure

- Prevalence 2-4% (peak 18 months)
- Rectal temperature >38 C
- Risk factors for later epilepsy (Developmental delay, family history of non-febrile seizures, complex febrile seizure).

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## Febrile Seizure

- Long-lasting febrile convulsive seizures is a pediatric emergency.
- Provide family with rectal Diazepam
- Little evidence that antipyretics reduce risk of recurrent febrile seizures
- Little evidence for oral diazepam/Phenobarbital
- LP should be strongly considered in infants less than 12 months of age

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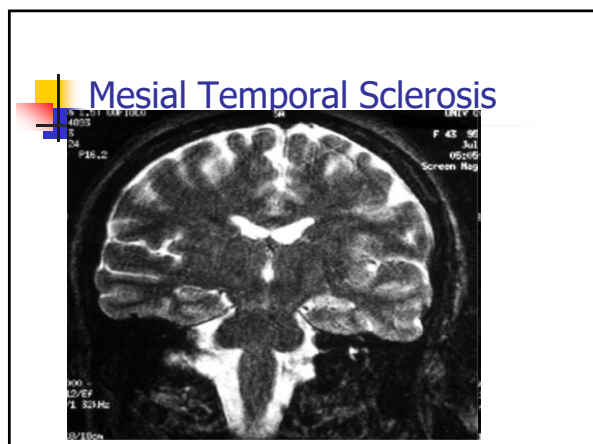
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### Management

- CBC, BMP
- CT brain
- MRI brain
- EEG
- LP <6M, >12M
- Admit to PICU
- Admit to hospital

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### Conditions That Mimic Seizures

- Breath holding spells
- Shuddering attacks
- Sandifer syndrome
- Self-stimulatory behavior
- PNES. Eyes closed during seizure, pelvic thrusting, head turning side to side, crying during the seizure, biting the tip of the tongue, long duration.
- Tics, stereotypies

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## Breath Holding Spells

- Any age until 8 years of age.
- Cyanotic vs Pallid breath holding.
- "Silent scream", tonic/clonic movements
- ALTE (Without provocation).
- EKG (R/O prolonged QT), CBC, Ferritin.
- Ferrous sulfate 5mg/kg/day , Piracetam, Levetiracetam.

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## Self-stimulatory behavior

- Infantile gratification phenomenon
- Posturing of lower extremities with pressure on pelvic area associated with grunting, diaphoresis, facial flushing, possible staring.
- Stop with distraction.

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## Reflex Epilepsy

- One-year-old male presenting with abnormal movements that occur when his mother taps on his head.
- Abnormal movements are myoclonic lasting few seconds only with no apparent change in level of consciousness .

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## Video

■ Video 18

■ Video 19

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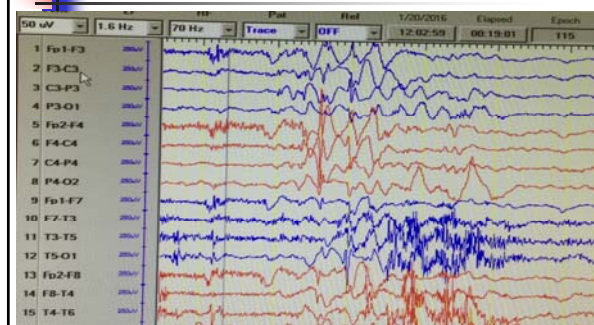
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## Reflex Epilepsy EEG




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## Reflex Epilepsy

- Reflex myoclonic epilepsy of infancy
- Hot water Epilepsy (Clobazam=ONFI)
- Diaper change seizure.
- Photosensitive epilepsy
- Calculus /Mah-Jong/Sudoku seizures.

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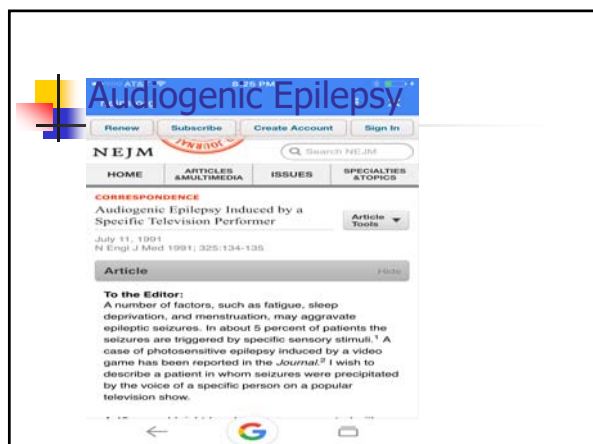
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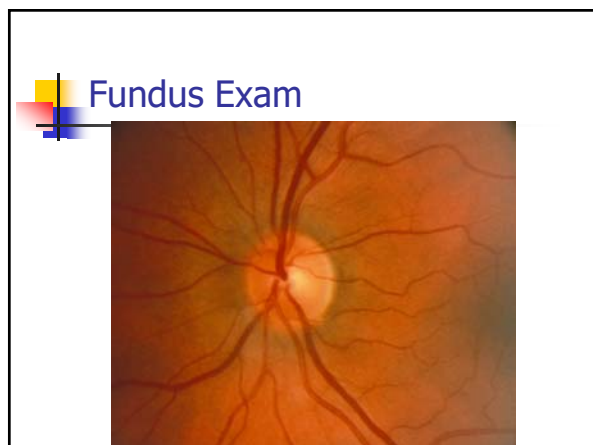
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