Epilepsy
For CHO/SN
Participants to read two case scenarios (Scenario 1 & Scenario 2) given in next two slides and answer the following questions -

• Probable diagnosis
• Clinical features
• Role of CHO

Time: 5 minutes for each case
A 72-year-old hypertensive man, was seen at 5:30 am in the morning by his wife, having abnormal posturing of all four limbs with head turning to the left and frothing from the mouth. The movements lasted for around 2 minutes following which the patient lost consciousness. There was no history similar episode in the past. On examination, patient was unconscious and non-responsive even 10 mins after the seizure stopped.

Questions

• Probable diagnosis?
• Clinical features for diagnosis?
• Role of CHO
A four-year-old child is brought by the parents with recurrent episodes for episodes of sudden onset blank staring that occur abruptly and lasts for 10-15 seconds and occurs 10-15 times a day since last 2-3 months. Patient is unresponsive and stops all activities during the episodes. Patient occasionally have rapid eye blinking during these episodes. He resumes the activity immediately after that and stays unaware of the episode. There are no convulsions. There is no similar history in family member.

Questions
• Probable diagnosis?
• Clinical features for diagnosis?
• Role of CHO?
So... what is epilepsy?

- Signal travels along axon to synaptic knob
- Neurotransmitter crosses synapse
- Receptor cells are activated
- Axon carries electrical signal
- Nerve cell sends electrical signal along axon
- Myelin sheath protects axon and facilitates conduction of electrical signal
FEW DEFINITIONS

• **Seizure**: A transient occurrence of signs and symptoms due to abnormal excessive or synchronous neuronal activity in the brain.

• **Unprovoked seizure**: Occurring in the absence of precipitating factors and may be caused by a static or progressive injury.

• **Acute symptomatic seizure**: Caused by acute illness (stroke, CNS infection, TBI); seizure within 7 days of an insult.

• **Remote symptomatic seizure**: Pre-existing brain injury; seizure greater than 7 days after insult

• **Provoked seizure**: Caused by transient reversible alterations without structural change (toxin, metabolic factors, medication); occurs at time of insult or within 7 days.
Epilepsy: Disorder of the brain characterized by an enduring predisposition to generate epileptic seizures.

- Has been defined as 2 or more unprovoked seizures occurring more than 24 hours apart

  **OR**

- 1 unprovoked seizure and a high risk (at least 60%) of recurrent unprovoked seizures over the next 10 years.
WHAT IS EPILEPSY?

**Epilepsy:** Repeated seizures

**Diagnosis:** Person must have at least 2 unprovoked seizures 24 hours apart

**Features:**

• Mostly starts before the age of 20.
• Anyone can get this condition.
• Affects both men and women.
• Around 1 out of 100-200 people will have epilepsy.
## CAUSES AND PRECIPITATING FACTORS

### Causes:
- Difficult birth
- Head injuries
- Brain tumors
- Brain infections
- Genetic conditions
- Stroke (most common cause in elderly)

### Precipitating factors:
- Missing medication dose
- Lack of sleep
- Fever
- Intake of other drugs
- Heavy alcohol intake
### CLINICAL FEATURES

#### Generalized seizures
- Occur without warning, associated with injuries
- Sudden onset jerking/shaking with stiffness/tightening of whole body
- Patient may or may not remember seizure afterward

#### Focal seizures
- Muscle twitching, or abnormal jerking of one limb
- Abnormal sensation/strange taste or smell

#### Other seizures
- Due to changes in body electrolytes
- Alcohol withdrawal
- Pseudoseizures
WHAT IS A SEIZURE?

• Loss of consciousness
• Involuntary shaking
• Sudden change in behaviour
• Bite tongue
• Pass urine
• Sleepy

![Signs and Symptoms of Epilepsy](image)
Not usually a medical emergency

Often seizures are self-limiting and stop within 1-2 min

In case seizures last for more than 5 minutes, it is an emergency – must be immediately referred

Rescue therapy - can be given at home to abort seizure

Give Midazolam nasal spray – 5 mg (1 spray) into one nostril.

An additional 5 mg (1 spray) into the opposite nostril may be administered after 5 minutes if the patient has not responded to the initial dose

Do not give the second dose if the patient has breathing trouble or excessive sedation occurs
IF A PERSON IS HAVING SEIZURE, TAKE FOLLOWING STEPS

• Most fits are self-limited and will stop after a few minutes.

• If person is unconscious, turn the person on his/her side.

• Ensure that the person does not hurt himself.

• Don’t hold or restrain the person, don’t put anything in the person’s mouth.

• If the fit is not over in 5 minutes call the ambulance, This is a medical emergency (“status epilepticus”)

• Comfort the person when he/she awakes.
IF A PERSON IS HAVING SEIZURE, TAKE FOLLOWING STEPS:

1. STAY with the person and start timing the seizure. Remain calm and check for medical ID.
2. Keep the person SAFE. Move or guide away from harmful objects.
3. Turn the person onto their SIDE if they are not awake and aware. Don’t block airway, put something small and soft under the head, loosen tight clothes around neck.
4. Do NOT put anything in their mouth. Don’t give water, pills or food until the person is awake.
5. Do NOT restrain.
6. STAY with them until they are awake and alert after the seizure. Most seizures end in a few minutes.
WHEN SHOULD A PERSON WITH SEIZURES BE TAKEN TO THE HOSPITAL

- First seizure
- Has been injured severely
- Trouble breathing after seizure
- Seizure immediately following another
- Seizure lasts more than 5 minutes
- Unconscious even after 20-30 minutes of seizure
- Seizures associated with weakness of limb, slurred speech that persists even after the seizure stops
- Patients > 65 years of age with new onset
- Seizures associated with altered sensorium, fever, intense headache, recurrent vomiting
PRECAUTIONS TO BE TAKEN IN EPILEPSY PATIENTS

General precautions
• Do not skip medication
• Adequate sleep
• Early treatment of fever

Precautions to prevent injuries
• Do not drive
• Avoid swimming or should be supervised
• Avoid going to height alone
• Use helmet in case of frequent fall attacks
Pharmacotherapy

• Medicines for treatment can only be prescribed by a MO
• You can dispense the medicines
• You should also be aware of common side-effects and identify them while following up.

Non-Pharmacological Intervention

• Diet therapy: Special high-fat, low-carbohydrate diet
• Alternative therapies: Yoga, exercise, music therapy
FOLLOW UP CARE, FREQUENCY AND ASSESSMENT

In well controlled epilepsy patients: 3-6 monthly
In others: more frequent follow-up

During each follow-up visit ask –

<table>
<thead>
<tr>
<th>For last seizure episode</th>
<th>For the compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>For sleep duration</td>
<td>For any reaction/ side-effect</td>
</tr>
<tr>
<td>For preferably maintaining the seizure diary</td>
<td>For any alternate medications</td>
</tr>
<tr>
<td>For seizure episodes from patients relative/witness</td>
<td>For proper counselling in case of females before conceiving</td>
</tr>
</tbody>
</table>
WHEN TO REFER

• Not controlled with medication within 2 years

• Unsuccessful management after two drugs

• Unacceptable immediate or long term side-effects

• Psychological and/or psychiatric co-morbidity

• Other associated symptoms like declining school performance, behavioural disturbances, difficulty in walking, frequent falls, visual disturbances

• Strong family history of seizures
 QUESTIONS

True or False:
1. Epileptic persons can drive vehicle under supervision - T/F
2. Seizures can occur due to changes in body electrolytes - T/F
3. Stroke is one of the most important causes of epilepsy in elderly - T/F

Fill in the blank:
1. To diagnose epilepsy the person must have at least ____ 24 hours apart.
2. Unconscious person with epilepsy attack may bite his _______ or involuntarily pass ________
3. If the seizures last for more than ____ min, it is an emergency called _______
True or False:
1. Epileptic persons can drive vehicles under supervision- T/F
2. Seizures can occur due to changes in body electrolytes- T/F
3. Stroke is one of the most important causes of epilepsy in the elderly- T/F

Fill in the blank:
1. To diagnose epilepsy the person must have at least 2 seizures 24 hours apart.
2. Unconscious person with epilepsy attack may bite his tongue or involuntarily pass urine/ stool
3. If the seizures last for more than 5 min, it is an emergency called status epilepticus
Thank You