



EPILEPSY- AN OVERVIEW

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The background is a solid teal color with a subtle gradient. In the corners, there are decorative white line-art elements resembling circuit traces or a network diagram, with small circles at the end of the lines.

DISCLOSURES

- I have no financial disclosures

WHAT IS A SEIZURE

- Big burst of electrical activity
 - All the lights are on but nothing meaningful is happening
- A seizure by itself is not dangerous to the brain
 - Injury occurs from prolonged seizures
 - Metabolic consequences of having seizure
 - Repetitive seizures
 - Injuries from seizures

SEIZURE BASICS

- 1 in 100 people will have a seizure during their lifetime
- Most seizures are unprovoked and do not need treatment
- Cause of seizures
 - Medication (bupropion)
 - Illness (sepsis, organ failure)
 - Alcohol withdrawal
 - Drugs (cocaine)

WHAT IS EPILEPSY

- Tendency to have unprovoked seizures
- >40 different epilepsy syndromes
- Grouped by seizure onset
 - Generalized- starts all over EEG all at once
 - Partial- starts in one place and spreads

SEIZURES VS EPILEPSY

- Provoked seizures do not increase the risk of epilepsy
- Provoked seizures do not need to be treated with seizure medication

EVALUATION

- All people with a seizure need an EEG and imaging
 - Preferably MRI with and without contrast
 - Sleep deprived 40 minute EEG
- For a single unprovoked seizure
 - If EEG and MRI are normal no treatment
 - Risk of second seizure is around 40% in next 2 years
- For multiple unprovoked seizures
 - After 2 seizures the risk of 3rd seizure is ~70% over next 2 years
 - After 3 seizures the risk of 4th seizure is ~80% over next 2 years

FEBRILE SEIZURES

- Seizure in the setting of fever
 - Related to how fast the fever rises
- Seizures only occur with fevers
- Affect children 6 months to 6 years
 - 3-7% of children will have a febrile seizure
- Most will not go on to have epilepsy
 - 2.4% will develop epilepsy
- No treatment is necessary
 - A rescue plan should be in place for seizures lasting longer than 5 minutes

MEDICATIONS FOR EPILEPSY

- Picking the right medication is hard
- 65% of patients will be seizure free with first medication tried
 - Pick based on patient characteristics
- 75% will be seizure free on second med tried
- 85% will be seizure free on combinations of 2 or more drugs
- 10-15% of patient will never be seizure free

KEY MEDICATION INTERACTIONS

- All drugs have drug interactions
- Coumadin (blood thinner)
 - Most medications interact with this drug
 - Trileptal and Keppra are good options if you take this medication
- Birth Control Pills
 - Tegretol, Dilantin, Depakote, and Topamax can reduce effectiveness of birth control
 - Lamictal levels are lower on birth control pills
- Cholesterol Medications (Statins)
 - Tegretol causes the body to break down these drugs quickly (Zocor, Crestor, Lipitor, and other medications in this class)
 - If taking Tegretol you will need higher doses to get your cholesterol to desirable levels

SPECIFIC MEDICATION CONCERNS

- Dilantin and Osteoporosis
 - Dilantin is known to cause osteoporosis with long term use
 - Monitoring bone density is important
 - Take extra calcium and vitamin D
- Depakote and Birth Defects
 - Causes spina bifida and other neural tube defects
 - Increase risk of autism and learning disorders in babies exposed in utero to the drug.
- Keppra and Behavioral problems
 - Some patients have behavioral problems due to Keppra
 - Only treatment is to stop Keppra
- Zonegran/Topiramate and Kidney stones
 - Increase risk of recurrent kidney stones in patients with a history of kidney stones

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