

EPILEPSY AND DRUG INTERACTIONS

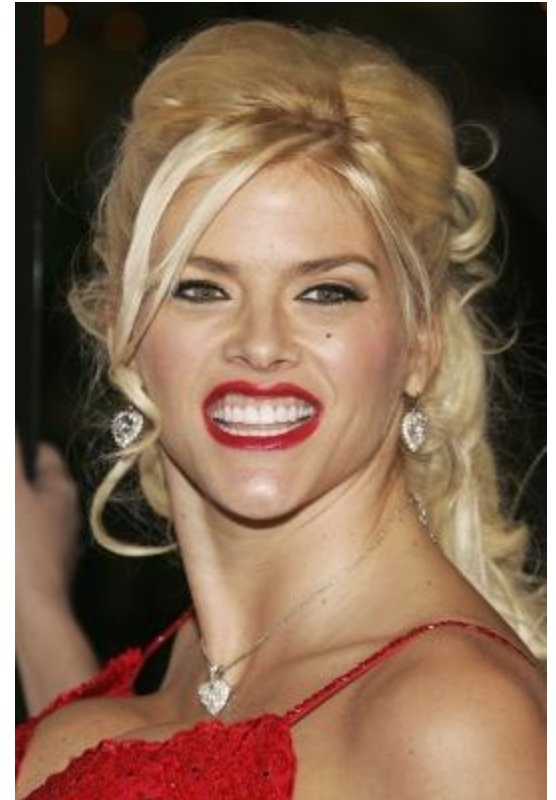
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Objectives

- Discuss drug interactions and how they may impact antiepileptic medications.
- Explain the effect that antiepileptic medications may have on birth control.
- Describe the potential impact of the following substances on seizure frequency:
 - Alcohol
 - Stimulants
 - Opioids and depressants
 - Marijuana





What is a Medication Interaction?

- A change in the action of one drug by another substance (medication, herbal product, dietary supplement, etc)
- Wide spectrum of medication interactions
 - Minor, temporary symptoms
 - Serious, life threatening reactions
- May occur when starting or stopping a medication

Types of Drug Interactions

- Drug-drug: Valproic acid and lamotrigine
- Drug-food: Carbamazepine and grapefruit juice
- Drug-dietary supplement: Calcium and phenytoin
- Drug-herbal: Carbamazepine and St. John's Wort
- Drug-disease: medications that lower the seizure threshold and epilepsy

How do drug interactions work?

- What the body does to the drug:
 - ▣ Absorption (intestines if given orally)
 - ▣ Distribution (into blood, fat, brain, etc)
 - ▣ Metabolism (liver)
 - ▣ Excretion (kidneys)
- What the drug does to the body:
 - ▣ Increase drug action
 - ▣ Additive side effects
 - ▣ Reduction of side effects

Birth Control

- Some seizure medications may cause birth control not to work reliably
 - Phenytoin, phenobarbital, carbamazepine, oxcarbazepine, topiramate (at higher than 200 mg/day)
- Oral contraceptives increase the metabolism of lamotrigine
 - During placebo week some people may notice more side effects

Alcohol

- What have you been told?

Alcohol

- General advice for people with epilepsy: do not consume alcohol
- Reality: moderate alcohol consumption does not increase seizure activity

Alcohol – what you need to know

- Seizure activity increased by binge drinking and alcohol withdrawal
 - Generally 6-72 hours after consumption has stopped
 - Much greater risk after 3 or more drinks
- Drug interaction?
 - Seizure medications may decrease alcohol tolerance
 - Some overlap in side effects from alcohol and seizure medications → alcohol may worsen side effects
- Do not stop taking your seizure medications if you are going to have alcohol

Stimulants

- Adderall ® (dextroamphetamine) , Ritalin ®(methylphenidate)
- Safe when used under a health provider's supervision
- Abuse → sleep deprivation, confusion, psychiatric disorders → increase risk of seizure

http://www.epilepsy.com/epilepsy/provoke_drugs

Opioids and depressants

- Oxycodone, lorazepam, Xanax ®, Ativan ®, Valium ®
- May be associated with withdrawal seizures

Marijuana

- Antiseizure and seizure-provoking effects
- Recommend against use
- Drug interaction: phenobarbital
 - Increase sedative effects
 - May result in higher levels of drug in the body → increase side effects

Prevention

- Tell your physician and pharmacist about all
 - ▣ Medications: prescription and over the counter
 - ▣ Supplements
 - ▣ Herbal supplements
 - ▣ Substance use
- Ask questions before you begin any new product
- Most drug interactions can either be prevented or managed

Tips

- Use the same pharmacy
- Get to know the staff
- Pharmacists are available when other healthcare providers are not (evenings, weekends)
- Don't take any unknown pills
 - Only take medications prescribed to you