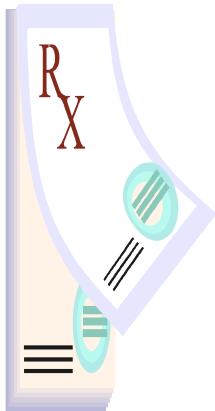




Clinical Pearls

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Seizure Medications...

Therapeutic Monitoring

Knowing which seizure medications (AEDs) require therapeutic lab monitoring and when to draw these labs is very important for safety and maximum drug effectiveness. Therapeutic drug monitoring for AEDs is commonly used to help guide and assist clinicians with optimal dosing in patients. Monitoring serum concentrations can allow clinicians to achieve seizure control while minimizing adverse effects.

When / how often to monitor serum levels?

Medication Levels	Onset / Change in dose	Routine frequency
Depakote/Depakene (VPA)	2 weeks	Q 6 months
Dilantin (Phenytoin)	1 week	Q 6 months
Mylosine (Primidone) w/Phenobarbital level	1 week	Q 6 months
Phenobarbital	1 week	Q 6 months
Tegretol (Carbamazepine)	1 week	Q 6 months

CMP and CBC recommended at baseline & q 6months also

NOTE: Seizure meds used for indications other than seizures (i.e. Mood disorders) do not need to have routine labs ordered unless concerned with toxicity. Also the following seizure meds do not require monitoring therapeutic levels for monitoring efficacy:

**Keppra (Levetiracetam)
Lamictal (Lamotrigine)
Tonamax (Toniramate)**

Administration Special Requirements/Instructions:

DO NOT CRUSH:

- Dilantin (Phenytoin)- *unless 50 mg chewable tablet*
- Depakote or Depakene (Valproic Acid)- *125 mg sprinkle capsule may be swallowed whole or opened and sprinkled on small amount (~1tsp) soft food*
- Tegretol (Carbamazepine) XR capsule & XR Tablet
- Trileptal (Oxcarbazepine) XR
- Neurontin (Gabapentin) XR
- Keppra (Levetiracetam)
- Lamictal (Lamotrigine) XR
- Topamax (Topiramate) tablets

GIVE WITH FOOD/MEALS:

- Tegretol (Carbamazepine) Suspension (do not administer with other liquid medication), XR tablet
- Neurontin (Gabapentin) XR tablet
- Mylosine (Primidone)

MAY BE GIVEN WITH OR WITHOUT MEALS:

- Depakote/Depakene
- Phenobarbital- tablets may be crushed and mixed with food/liquids; oral liquids may be mixed with water, milk, or fruit juice
- Trileptal (Oxcarbazepine) IR
- Zarontin (Ethosuximide)
- Lamictal (Lamotrigine)- chewable tabs may be dispersed in water, juice, or swallow whole

MUST BE GIVEN ON AN EMPTY STOMACH

- Trileptal (Oxcarbazepine) XR

G-TUBE ADMINISTRATION:

- Dilantin (Phenytoin)- Hold enteral feeds 1-2 hours before & after Phenytoin, may decrease absorption of phenytoin



Do you know your resident?

Recognize warning signs of possible seizures for the residents you care for with the condition! While a variety of behaviors may occur in different types of seizures, not all behavioral changes are seizures. Some symptoms may be due to other medical problems or events or possibly due to side effects of medicine. When sorting out symptoms, consider these four main characteristics of seizures; seizures are usually:

- Unpredictable --- when/where it may happen is unknown
- Episodic---can come and go
- Brief--- Usually last a few seconds to few minutes
- Stereotypic---Symptoms are similar whenever they do occur

Sometimes these symptoms may be considered a warning to a seizure or are part of the seizure itself. If any of these symptoms are present, keep track of what occurs and share it with the doctor. A resident can have all 3 stages of a seizure or parts of the three stages (beginning, middle and end).

Early seizure symptoms (warnings):

- Unusual smells/tastes/feelings
- **Unusual experiences---** 'out of body like' sensations, feeling detached; situations or people look unfamiliar or strange, racing thoughts
- **Feel spacey, fuzzy, confused, sudden weakness**
- **Nausea, Dizziness, lightheadedness, falls**
- Daydreaming episodes/gazes
- Tingling, numbness



STOP AND WATCH TOOL BAR (SBAR)

If you have identified an important change while caring for your resident today you can document on STOP & WATCH tool (SBAR) or other interact tool depending on level of nursing. Always communicate to respective charge nurse for changes in the resident's status/function!

NEW
APPROVALS

FYCOMPA (perampanel)

Recently FDA approved to treat partial onset seizures in patients ≥ 12 years of age. Adverse events include dizziness and sleepiness, and aggressiveness especially during early stages of treatment. Walking or balance problems may be observed and elderly patients may be more prone to falls. Anti-epileptics have been associated with an increased risk of suicidal ideation and patients should be monitored for thoughts, changes in behavior, and depression. Dose adjustments may be required in patients taking other seizure medications such as carbamazepine, oxcarbazepine, phenytoin, and felbamate. Patients on Fycompa should avoid alcohol use as it may contribute to decreased alertness and sleepiness and may worsen feelings of anger, sadness, or confusion. The medication does contain lactose and should be used with caution in lactose intolerant patients. Patients should be monitored for seizure frequency/duration, suicidality and weight changes. Fycompa should be given with a full glass of water and may be taken with or without food. Tablets should not be chewed, crushed or split (tablets are not scored and therefore cannot be split accurately), and should be swallowed whole and stored at room temperature.

Test your knowledge!

1. Which of the following medications do NOT require therapeutic levels to be checked? a) Dilantin b) Phenobarbital c) Keppra d) Carbamazepine
2. True/False Seizure meds used for mood disorders always require routine labs.
3. What are some seizure meds that are on the DO NOT CRUSH list?
4. Enteral feeds should be held for _____ hours before & after administration of Phenytoin via G-tube.

Answers: C, False, {Dilantin, Depakote, Keppra, Topamax, etc.}, 1-2 hours