perampanel (per-am-pa-nel)

**Pharmacologic class:** Glutamate receptor antagonists

**Pregnancy Category:** C

### Drug Schedule

Drug schedule to be determined after DEA review.

### Indications

Adjunctive treatment (with other anti-epileptic drugs [AEDs]) of partial-onset seizures with or without secondarily generalized seizures in epileptic patients ≥12 yr.

### Action

Acts as a non-competitive α-amino-3–hydroxy-5–methyl-4–isoxazolepropionic acid (AMPA) antagonist on post-synaptic neuronal glutamate (excitatory) receptors.

### Therapeutic Effects:

Decreased incidence and severity of partial-onset seizures.

### Pharmacokinetics

**Absorption:** Rapidly and completely absorbed following oral administration.

**Distribution:** Unknown.

**Protein Binding:** 95–96%.

**Metabolism and Excretion:** Extensively metabolized by CYP3A4/5 enzyme systems; excreted in urine and feces primarily as metabolites.

**Half-life:** 105 hr.

### Route/Dosage

**PO (Adults and Children ≥12 yr):** 2 mg once daily at bedtime initially, may be increased by 2 mg weekly up to 4–12 mg daily; Concurrent enzyme-inducers—4 mg once daily at bedtime initially may be increased by 2 mg weekly up to 12 mg daily. Daily dose should not exceed 12 mg.

**PO (Geriatric Patients):** 2 mg once daily at bedtime initially, may be increased by 2 mg every 2 wk up to 12 mg daily; Concurrent enzyme-inducers—4 mg once daily at bedtime initially may be increased by 2 mg every 2 wk up to 12 mg daily. Daily dose should not exceed 12 mg.

### Hepatic Impairment

**PO (Adults and Children ≥12 yr):**

- **Mild hepatic impairment:** 2 mg once daily at bedtime initially, may be increased by 2 mg every 2 wk up to 12 mg daily; Concurrent enzyme-inducers—4 mg once daily at bedtime initially may be increased by 2 mg every 2 wk up to 12 mg daily. Daily dose should not exceed 12 mg.

### Contraindications/Precautions

**Contraindicated in:** Strong P450 inducers (other than AEDs); Severe hepatic impairment.

**Use Cautiously in:**

- History of homicidal/suicidal ideation or other psychiatric/behavioral issues;
- Geri: Increased risk of adverse reactions, slower titration recommended;
- OB: Use in pregnancy only when potential benefits outweigh potential fetal risks; Lactation: Use cautiously; Pediatric use in children <12 yr has not been established.

### Adverse Reactions/Side Effects

**CNS:** Dizziness, drowsiness, headache, aggression, anger, fatigue, psychiatric/behavioral problems, hostility, irritability, suicidal ideation, vertigo. **Metab:** Weight gain. **Neuro:** Ataxia, balance disorder, gait disturbance. **Misc:** Falls.

**Interactions**

**Drug-Drug:** Doses ≥12 m g/day may affect effectiveness of hormonal contraceptives containing estrogen-containing estrogen-containing contraceptive systems; Concurrent enzyme-inducers—levels may be increased by CYP3A4/5 drug interactions; Careful monitoring is required especially during initiation and withdrawal. Dose adjustments may be required. **CNS depressants:** Other CNS depressants including alcohol, sedating antihistamines, barbiturates, antidepressants, opioids, and sedative/hypnotics.

**Drug-Natural Products:** St. John's wort; concurrent use should be avoided.

### Notes

Use Cautiously: in History of homicidal/suicidal ideation or other psychiatric/behavioral issues. Use in pregnancy only when potential benefits outweigh potential fetal risks. Lactation: Use cautiously. Pediatric use in children <12 yr has not been established.
NURSING IMPLICATIONS

Assessment

● Assess location, duration, and characteristics of seizure activity. Institute seizure precautions. Assess response to and continued need for perampanel periodically during therapy.

● Monitor closely for notable changes in behavior that could indicate the emergence or worsening of suicidal thoughts or behavior, new or worse aggressive behavior, or depression.

Potential Nursing Diagnoses

Risk for injury (Indications)

Implementation

● PO: Administration once daily at bedtime.

Patient/Family Teaching

● Instruct patient to take perampanel as directed. Missed doses should be omitted and dose resumed the following day. Notify health care professional if more than 1 day of dosing is missed. Medications should be gradually discontinued, do not stop abruptly, to prevent seizures.

● May cause dizziness, sleepiness, fatigue and gait disturbance, increasing risk of falls. Caution patient to avoid driving or other activities requiring alertness until response to medication is known.

● Inform patients and families of risk of suicidal thoughts and behavior (depressed mood, suicidal ideation, or behavior) and aggressive behavior (hostility, anger, anxiety, irritability, being suspicious or distrustful). Advise that these should be reported to health care professional immediately.

● Instruct patient to notify health care professional of all Rx or OTC medications, vitamins, or herbal products being taken and consult health care professional before taking any new medications, especially carbamazepine, phenytoin, oxcarbazepine, rifampin, and St. John's Wort. Advise patient to avoid taking other CNS depressants or alcohol.

● Perampanel decreases efficacy of levonorgestrel; advise patients to use a non-hormonal form of birth control during therapy. Advise female patients to notify health care professional if pregnancy is planned or suspected or if breast feeding. Encourage pregnant patients to enroll in the North American Antiepileptic Drug (NAAED) Pregnancy Registry by calling 1-888-233-2334; information is available at www.aedpregnancyregistry.org.

Evaluation/Desired Outcomes

● Decreased seizure activity.

Why was this drug prescribed for your patient?