Lacosamide (la-kose-a-mide)

**Therapeutic:** anticonvulsants

**Schedule V**

**Pregnancy Category C**

**Indications**
Adjunctive therapy of partial-onset seizures.

**Action**
Mechanism is not known, but may involve enhancement of slow inactivation of sodium channels with resultant membrane stabilization. **Therapeutic Effects:** Decreased incidence and severity of partial-onset seizures.

**Pharmacokinetics**

- **Absorption:** 100% absorbed following oral administration; IV administration results in complete bioavailability.
- **Distribution:** Unknown.
- **Protein Binding:** 15%.
- **Metabolism and Excretion:** Partially metabolized by the liver; 40% excreted in urine as unchanged drug, 30% as a metabolite.
- **Half-life:** 13 hr.

**TIME/ACTION PROFILE (blood levels)**

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<th>ROUTE</th>
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**Contraindications/Precautions**

- Contraindicated in: Hypersensitivity, Severe hepatic impairment.
- Lactation: Lactation.
- Use Cautiously in: CCr <30 mL/min (use lower daily dose); All patients (may risk of suicidal thoughts/behaviors); Hepatic or renal impairment and taking strong inhibitor of CYP3A4 or CYP2C9 (dose ↓ may be needed); Mild to moderate hepatic impairment (titrate dose carefully); Due to risk of arrhythmia, severe cardiac disease (use lower daily dose); Systemic lupus erythematosus; MI or HF; Severe hepatic impairment (dose ↓ may be needed); Severe hepatic impairment (dose ↓ may be needed).

**Adverse Reactions/Side Effects**

- **CNS:** SUICIDAL THOUGHTS, dizziness, headache, hallucinations, syncope, vertigo.
- **EENT:** Diplopia.
- **CV:** Atrial fibrillation/flutter, bradycardia, PR interval prolongation.
- **Derm:** Drug reaction with eosinophilia and systemic symptoms, Stevens-Johnson syndrome, toxic epidermal necrolysis.
- **GI:** Nausea, vomiting.
- **Hemat:** Agranulocytosis.
- **Neuro:** Ataxia.
- **Misc:** Physical dependence, psychological dependence, multiorgan hypersensitivity reactions (Drug Reaction with Eosinophilia and Systemic Symptoms—DRESS).

**Interactions**

**Drug-Drug:** Use cautiously with other drugs that affect cardiac conduction.

**Route/Dosage**

- **PO, IV (Adults):** 50 mg twice daily; may be ↑ weekly by 100 mg/day in two divided doses up to a maintenance dose of 200–400 mg/day given in two divided doses.
- **PO (Children 3–16 yr):** 1 mg/kg/day divided BID initially (maximum dose: 50 mg); may be ↑ weekly by 1 mg/kg/day up to a maintenance dose of 10 mg/kg/day (maximum dose: 400 mg/day).

**Hepatic/Renal Impairment**

- **PO, IV (Adults):** CCr <30 mL/min or mild to moderate hepatic impairment—daily dose should not exceed 300 mg.

**Nursing Implications**

**Assessment**

- Assess location, duration, and characteristics of seizure activity. Limitate seizure precautions.
- Monitor closely for notable changes in behavior that could indicate emergence of suicidal thoughts or behavior or depression.
- Assess ECG prior to therapy in patients with pre-existing cardiac disease.
- Assess patient for skin rash frequently during therapy. Discontinue at first sign of rash. May be life-threatening. Stevens-Johnson syndrome
may develop. Treat symptomatically; may recur once treatment is stopped.

- **Lab Test Considerations:** May cause q ALT, which may return to normal with- out treatment.
- **Monitor CBC and platelets periodically during therapy.

**Potential Nursing Diagnoses**

Risk for injury (Indications)

**Implementation**

- IV administration is indicated for short term replacement when PO administration is not feasible. When switching from PO to IV, initial total daily dose should be equivalent to total daily dose and frequency of PO therapy. If total IV period, may need to PO in equivalent daily dose and frequency of IV therapy.
- PO: May be administered with or without food.

**IV Administration**

- **Intermittent Infusion:** Diluent: May be administered undiluted or diluted with 0.9% NaCl, D5W, or LR.
  - Concentration: 10 mg/mL. Solution is clear and colorless; do not administer solutions that are discolored or contain a precipitate.
  - Solution is stable for 24 hr at room temperature. Discard unused portion. Note: Infuse over 30–60 min.

**Patient/Family Teaching**

- Instruct patient to take lacosamide around the clock, as directed. Medication should be gradually discontinued over at least 1 wk to prevent seizures. Advise pa- tient to notify health care professional if pregnancy is planned or suspected or if breast feeding. Encourage pregnant patients to enroll in the pregnancy registry by calling 1-888-537-7734.
- May cause dizziness, ataxia, and syncope. Caution patient to avoid driving or other activities requiring alertness until response to medication is known. Tell patient not to resume driving until physician gives clearance based on control of seizure disorder. If syncope occurs, advise patient to lay down with legs raised until recov- ered and notify health care professional.
- Inform patients and families of risk of suicidal thoughts and behavior and advise that behavioral changes, emergency or worsening signs and symptoms of depression, unusual changes in mood, or emergence of su- icidal thoughts, behavior, or thoughts of self-harm should be reported to health care professional immediately.
- Advise patient to notify health care professional if pregnancy is planned or suspected or if breast feeding. Encourage pregnant patients to enroll in the pregnancy registry by calling 1-888-537-7734.

**Evaluation/Desired Outcomes**

- Decreased seizure activity.

**Why was this drug prescribed for your patient?**

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