Gabapentin (ga-ba-pen-tin)
Gralise, Horizant, Neurontin

Classification
Therapeutic: analgesic adjuncts, therapeutic, anticonvulsant, mood stabilizers
Pregnancy Category C

Indications
Partial seizures (adjunct treatment) (immediate-release only). Post-herpetic neuralgia. Restless legs syndrome (Horizant only).

Action

Pharmacokinetics
Absorption: Well absorbed after oral administration by active transport. At larger doses, transport becomes saturated and absorption p(bioavailability ranges from 60% for a 300-mg dose to 35% for a 1600-mg dose).
Distribution: Crosses blood-brain barrier; enters breast milk.
Metabolism and Excretion: Eliminated mostly by renal excretion of unchanged drug.
Half-life: Adults—5–7 hr (normal renal function); up to 132 hr in anuria; Children—4.7 hr.

TIME/ACTION PROFILE (blood levels)
ROUTE ONSET PEAK DURATION
PO-IR rapid 2–4 hr 8 hr
PO-SR unknown 5–8 hr 24 hr

Contraindications/Precautions
Contraindicated in: Hypersensitivity. Use Cautiously in: All patients (may risk of suicidal thoughts/behaviors). Renal insufficiency (dose and/or use); Dose of insulin or IG (if >400 mL/min); OB: Pregnancy.

Adverse Reactions/Side Effects
CNS: suicidal thoughts, depression, dizziness, disorientation, anxiety, concentration difficulties, mood swings, suicidality, hostility, hypomania (children), agitation, vomiting, suicidal ideation, EKG abnormality, restlessness, enuresis, gait impairment, weight gain, paraesthesia, fatigue, gait disturbance. MS: weakness, tetany, paresthesia, tremors. Neuromuscular: anorexia, altered reflexes, hypotension, paresis, tremor, paresthesia. Other: multisystemic/immunologic reactions, facial edema.

Interactions
Drug-Drug: Antacids may absorb gabapentin. Risk of CNS depression with other CNS depressants, including alcohol, antihistamines, opioids, and sedative/hypnotics. Morphine levels and may risk of toxicity; dosage adjustments may be required.
Drug-Natural Products: Kava-kava, valerian, or chamomile can cause CNS depression.

Route/Dosage
The sustained/extended-release formulations should not be interchanged with the immediate-release products.

Epilepsy
PO (Adults and Children ≥12 yr): 300 mg 3 times daily initially. Titration may be continued until desired (range is 900–1800 mg/day in 3 divided doses; doses should not be more than 12 hr apart). Doses up to 2400–3600 mg/day have been well tolerated.
PO (Children 5–12 yr): 10–15 mg/kg/day in 3 divided doses initially stratified upward over 5 days to 25–35 mg/kg/day in 3 divided doses; dosage interval should not exceed 12 hr (doses up to 50 mg/kg/day have been used).
PO (Children 1–4 yr): 10–15 mg/kg/day in 3 divided doses initially stratified upward over 5 days to 40 mg/kg/day in 3 divided doses; dosage interval should not exceed 12 hr (doses up to 60 mg/kg/day have been used).

Renal Impairment
PO (Adults and Children ≥12 yr): Cr ≥90 mL/min—200–700 mg twice daily; Cr 60–89 mL/min—200–500 mg once daily; Cr 30–59 mL/min—100–300 mg once daily; Cr <30 mL/min—Reduce dose in proportion to Cr.

Pregnancy:
◆ = General Consideration
H = Cautions
O = Obstetrics
PT = Pediatric
◆ = Discontinued
Post-Herpetic Neuralgia

PO (Adults): Immediate-release—300 mg once daily on first day, then 300 mg 2 times daily on second day, then 300 mg 3 times daily on day 3, may then be titrated upward as needed to 800 mg 3 times/day. Sustained-release (Gralise)—300 mg once daily on first day, then 600 mg once daily on second day, then 900 mg once daily on days 3–5, then 1200 mg once daily on days 6–10, then 1500 mg once daily on days 11–14, then 1800 mg once daily thereafter. Extended-release (Horizant)—600 mg once daily in the morning on days 1–2, then 600 mg twice daily thereafter.

Renal Impairment

PO (Adults): CCr 30–59 mL/min—200–700 mg twice daily (immediate-release); 600–1800 mg once daily (sustained-release [Gralise]); 300 mg once daily in the morning on days 1–3, then 300 mg twice daily thereafter (as needed); extended-release (Horizant) 600–1200 mg once daily in the morning. CCr 15–29 mL/min—200–700 mg once daily at 5 pm; sustained-release [Gralise] not recommended; 300 mg every other day in the morning (may q2d to 300 mg once daily in the morning, as needed) extended-release (Horizant) 300 mg once daily extended-release [Horizant]. CCr <15 mL/min (on hemodialysis)—Not recommended.

Neuropathic Pain (unlabeled use)

PO (Adults): 100 mg 3 times daily initially. Titrate weekly by 300 mg/day up to 900–2400 mg/day (maximum: 3600 mg/day).

PO (Children): 5 mg/kg/day at bedtime initially then ↑ to 5–10 mg/kg BID on day 2 and 5 mg/kg BID on day 3. Titrate to effect to 0–15 mg/kg/day in 3 divided doses.

NURSING IMPLICATIONS

Assessment

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

● Post-hypertensive Neuralgia & Neuropathic Pain: Assess location, characteristics, and intensity of pain periodically during therapy.

● Migraine Prophylaxis: Monitor frequency and intensity of pain on pain scale.

● Restless Legs Syndrome: Assess frequency and intensity of restless legs syndrome prior to and periodically during therapy.

● Lab Test Considerations: May cause false-positive results when testing for urinary protein using Ames N-Multistix SG dipstick test; use sulfosalicylic acid precipitation procedure.

Potential Nursing Diagnoses

Risk for injury (Side Effects)

Nausea (Indications)

Ineffective coping (Indications)

Implementation

● Do not confuse Neurontin with Noroxin (norfloxacin).

● Doses of Gralise and Horizant are not interchangeable with other dose forms of gabapentin.

● PO: May be administered without regard to meals.

● 600 mg and 800 mg tablets are scored and can be broken to administer a half-tablet. If half-tablet is used, administer other half at the next dose. Discard half-tablets not used within several days.

● Administer Gralise with evening meal. Swallow tablet whole, do not crush, break, or chew.

● Administer Horizant for Restless Legs Syndrome with evening meal at 5 pm. Horizant for Post-hypertensive Neuralgia is administered twice daily. Swallow tablet whole. Do not crush, break, or chew.

● Gabapentin should be discontinued gradually over at least 1 wk. If dose is 600 mg/day, may discontinue without tapering. If >600 mg/day, titrate daily to 600 mg/day for 7 days, then discontinue at 100 mg/day for 7 days, tapering to 0 mg/day.

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Continued

gabapentin

1 week, then discontinue. If patient is taking 600 mg twice daily, taper to once
daily before discontinuing. Abrupt discontinuation may cause increase in seizure
frequency.

Patient/Family Teaching

- Advise patient to take medication exactly as directed. Patients on tid dosing
  should not exceed 12 hr between doses. Take missed doses as soon as possible; if
  less than 2 hr until next dose, take dose immediately and take next dose 1–2 hr
  later, then resume regular dosing schedule. Do not double dose. Do not discon-
tinue abruptly; may cause increase in frequency of seizures. Instruct patient to
read the Medication Guide before starting and with each Rx refill, changes may
occur.

- Advise patient not to take gabapentin within 2 hr of an antacid.

- Gabapentin may cause dizziness and drowsiness. Caution patient to avoid driving
  or activities requiring alertness until response to medication is known. Instruct pa-
tients not to resume driving until physician gives clearance based on control of
seizure disorder.

- Advise patient and family to notify health care professional if thoughts
  about suicide or dying, attempts to commit suicide; new or worse de-
pressivness or anxiety; feeling very slight; trouble sleeping; new or worse irritability; acting aggres-
sive; being angry or violent; acting on dangerous impulses; an extreme in-
crease in activity and talking, other unusual changes in behavior or
mood occur.

- Instruct patient to notify health care professional of medication regimen before
  treatment or surgery.

- Advise female patient to notify health care professional if pregnancy is planned or
  suspected or if breast feeding.

- Advise patient to carry identification describing disease process and medication
  regimen at all times.

Evaluation/Desired Outcomes

- Decreased frequency of or cessation of seizures.
- Decreased post-herpetic neuralgia pain.
- Decreased intensity of neuropathic pain.
- Decreased frequency of migraine headaches.
- Decreased mood instability.
- Decrease effects of restless leg syndrome.

Why was this drug prescribed for your patient?