amitriptyline (a-mee-**trip**-ti-leen)

Elavil, Levate

Classification

Therapeutic: antidepressants
Pharmacologic: tricyclic antidepressants

Pregnancy Category C

Indications

Depression. **Unlabeled Use:** Anxiety, insomnia, treatment-resistant depression. Chronic pain syndromes (i.e., fibromyalgia, neuropathic pain/chronic pain, headache, low back pain).

Action

Potentiates the effect of serotonin and norepinephrine in the CNS. Has significant anticholinergic properties. **Therapeutic Effects:** Antidepressant action.

Pharmacokinetics

Absorption: Well absorbed from the GI tract.
Distribution: Widely distributed.
Protein Binding: 95% bound to plasma proteins.
Metabolism and Excretion: Extensively metabolized by the liver. Some metabolites have antidepressant activity. Undergoes enterohepatic recirculation and secretion into gastric juices. Probably crosses the placenta and enters breast milk.
Half-life: 10–50 hr.

TIME/ACTION PROFILE (antidepressant effect)

ROUTE	ONSET	PEAK	DURATION
PO	2–3 wk (up to 30 days)	2–6 wk	days–wk

Contraindications/Precautions

Contraindicated in: Angle-closure glaucoma; Known history of QTc interval prolongation, recent MI, or heart failure.

Use Cautiously in: May ↑ risk of suicide attempt/ideation especially during dose early treatment or dose adjustment; risk may be greater in children or adolescents; Patients with pre-existing cardiovascular disease; Prostatic hyperplasia (↑ risk of urinary retention); History of seizures (threshold may be ↓); ***OB:*** Use only if clearly needed and maternal benefits outweigh risk to fetus; ***Lactation:*** May cause sedation in infant; ***Pedi:*** Children <12 yr (safety not established); ***Geri:*** Appears on Beers list. ↑ risk of adverse reactions including falls secondary to sedative and anticholinergic effects.

Adverse Reactions/Side Effects

CNS: SUICIDAL THOUGHTS, lethargy, sedation. **EENT:** blurred vision, dry eyes, dry mouth. **CV:** ARRHYTHMIAS, TORSADE DE POINTES, hypotension, ECG changes, QT interval prolongation. **GI:** constipation, hepatitis, paralytic ileus, ↑ appetite, weight gain. **GU:** urinary retention, ↓ libido. **Derm:** photosensitivity. **Endo:** changes in blood glucose, gynecomastia. **Hemat:** blood dyscrasias.

Interactions

Drug-Drug: Amitriptyline is metabolized in the liver by the cytochrome P450 2D6 enzyme, and its action may be affected by drugs that compete for metabolism by this enzyme, including other **antidepressants**, **phenothiazines**, **carbamazepine**, **class 1C antiarrhythmics** including **propafenone**, and **flecainide**; when these drugs are used concurrently with amitriptyline, dosage ↓ of one or the other or both may be necessary. Concurrent use of other drugs that inhibit the activity of the enzyme, including **cimetidine**, **quinidine**, **amiodarone**, and **ritonavir**, may result in ↑ effects of amitriptyline. May cause hypotension, tachycardia, and potentially fatal reactions when used with **MAO inhibitors** (avoid concurrent use—discontinue 2 wk before starting amitriptyline). Concurrent use with **SSRI antidepressants** may result in ↑ toxicity and should be avoided (**fluoxetine** should be stopped 5 wk before starting amitriptyline). Concurrent use with **clonidine** may result in hypertensive crisis and should be avoided. Concurrent use with **levodopa** may result in delayed or ↓ absorption of levodopa or hypertension. Blood levels and effects may be ↓ by **rifampin**, **rifapentine**, and **rifabutin**. Concurrent use with **moxifloxacin** ↑ risk of adverse cardiovascular reactions. ↑ CNS depression with other **CNS depressants** including **alcohol**, **antihistamines**, **clonidine**, **opioids**, and **sedative/hypnotics**. **Barbiturates** may alter blood levels and effects. **Adrenergic** and **anticholinergic** side effects may be ↑ with other agents having **anticholinergic** properties. **Phenothiazines** or **oral contraceptives** ↑ levels and may cause toxicity. **Nicotine** may ↑ metabolism and alter effects.

Drug-Natural Products: St. John's wort may ↓ serum concentrations and efficacy. Concomitant use of **kava-kava**, **valerian**, or **chamomile** can ↑ CNS depression. ↑ anticholinergic effects with **jimson weed** and **scopolia**.

Route/Dosage

PO (Adults): 75 mg/day in divided doses; may be ↑ up to 150 mg/day *or* 50–100 mg at bedtime, may ↑ by 25–50 mg up to 150 mg (in hospitalized patients, may initiate with 100 mg/day, and ↑ total daily dose up to 300 mg).
PO (Geriatric Patients): 10–25 mg at bedtime; may ↑ by 10–25 mg weekly if tolerated (usual dose range = 25–150 mg/day).

NURSING IMPLICATIONS

Assessment

- Obtain weight and BMI initially and periodically during treatment.
- Assess fasting glucose and cholesterol levels in overweight/obese individuals.
- Monitor BP and pulse before and during initial therapy. Notify health care professional of decreases in BP (10–20 mm Hg) or sudden increase in pulse rate. **Patients taking high doses or with a history of cardiovascular disease should have ECG monitored before and periodically during therapy.**
- **Depression:** Monitor mental status (orientation, mood behavior) frequently. Assess for suicidal tendencies, especially during early therapy. Restrict amount of drug available to patient.
- **Assess for suicidal tendencies, especially during early therapy. Restrict amount of drug available to patient. Risk may be increased in children, adolescents, and adults ≤24 yrs. After starting therapy, children, adolescents, and young adults should be seen by health care professional at least weekly for 4 wk, every 3 wk for next 4 wk, and on advice of health care professional thereafter.**
- **Pain:** Assess intensity, quality, and location of pain periodically during therapy. May require several weeks for effects to be seen. Use pain scale to monitor effectiveness of medication. Assess for sexual dysfunction (decreased libido; erectile dysfunction). ***Geri:*** Geriatric patients started on amitriptyline may be at an increased risk for falls; start with low dose and monitor closely. Assess for anticholinergic effects (weakness and sedation).
- ***Lab Test Considerations:*** Assess leukocyte and differential blood counts, liver function, and serum glucose before and periodically during therapy. May cause an ↑ serum bilirubin and alkaline phosphatase. May cause bone marrow depression. Serum glucose may be ↑ or ↓.

Potential Nursing Diagnoses

Ineffective coping (Indications)
Chronic pain (Indications)
Risk for injury (Side Effects)

Implementation

- Dose increases should be made at bedtime because of sedation. Dose titration is a slow process; may take weeks to months. May give entire dose at bedtime. Sedative effect may be apparent before antidepressant effect is noted. May require tapering to avoid withdrawal effects.
- **PO:** Administer medication with or immediately after a meal to minimize gastric upset. Tablet may be crushed and given with food or fluids.

Patient/Family Teaching

- Instruct patient to take medication as directed. If a dose is missed, take as soon as possible unless almost time for next dose; if regimen is a single dose at bedtime, do not take in the morning because of side effects. Advise patient that drug effects may not be noticed for at least 2 wk. Abrupt discontinuation may cause nausea, vomiting, diarrhea, headache, trouble sleeping with vivid dreams, and irritability.
- May cause drowsiness and blurred vision. Caution patient to avoid driving and other activities requiring alertness until response to drug is known.
- Orthostatic hypotension, sedation, and confusion are common during early therapy, especially in geriatric patients. Protect patient from falls and advise patient to make position changes slowly. Institute fall precautions. Advise patient to make position changes slowly. Refer as appropriate for nutrition/weight management and medical management.
- Advise patient to avoid alcohol or other CNS depressant drugs during and for 3–7 days after therapy has been discontinued.
- **Advise patient, family and caregivers to look for suicidality, especially during early therapy or dose changes. Notify health care professional immediately if thoughts about suicide or dying, attempts to commit suicide, new or worse depression or anxiety, agitation or restlessness, panic attacks, insomnia, new or worse irritability, aggressiveness, acting on dangerous impulses, mania, or other changes in mood or behavior occur.**
- Instruct patient to notify health care professional if urinary retention, dry mouth, or constipation persists. Sugarless candy or gum may diminish dry mouth, and an

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increase in fluid intake or bulk may prevent constipation. If symptoms persist, dose reduction or discontinuation may be necessary. Consult health care professional if dry mouth persists for >2 wk.

- Caution patient to use sunscreen and protective clothing to prevent photosensitivity reactions. Alert patient that medication may turn urine blue-green in color.
- Inform patient of need to monitor dietary intake. Increase in appetite may lead to undesired weight gain.
- Advise patient to notify health care professional of medication regimen before treatment or surgery. Medication should be discontinued as long as possible before surgery.
- Advise patient to notify health care professional if pregnancy is planned or suspected or if breast feeding.
- Therapy for depression is usually prolonged and should be continued for at least 3 mo to prevent relapse. Emphasize the importance of follow-up exams to monitor effectiveness, side effects, and improved coping skills. Advise patient and family that treatment is not a cure and symptoms can recur after discontinuation of medication.

Evaluation/Desired Outcomes

- Increased sense of well-being.
- Renewed interest in surroundings.
- Increased appetite.
- Improved energy level.
- Improved sleep.
- Decrease in chronic pain symptoms.
- Full therapeutic effects may be seen 2–6 wk after initiating therapy.

Why was this drug prescribed for your patient?