amitriptyline (a-mee-trip-ty-lyne)

- **Drug Class**: Antidepressant
- **Pharmacologic Class**: Tricyclic antidepressants

### Indications
- **Unlabeled Use**: Anxiety, insomnia, treatment-resistant depression, diabetic pain syndromes (i.e., fibromyalgia, neuropathic pain/chronic pain, backache, low back pain).
- **Action**: Promotes the effect of serotonin in the CNS. Has significant anti-cholinergic properties.

### Pharmacokinetics
- **Absorption**: Well absorbed from the GI tract.
- **Distribution**: Widely distributed.
- **Metabolism and Excretion**: Extensively metabolized by the liver. Some metabolites have pharmacologic activity. Undergoes enterohepatic recirculation and secretion into biliary tract. Probably reenters the plasma and enters breast milk.
- **Half-Life**: 55–100 hr

### Contraindications
- Any condition that may increase the risk of anticholinergic effects.
- History of suicide attempts or ideation.

### Adverse Reactions/Side Effects
- **Central Nervous System**: Drowsiness, dizziness, sedation, confusion, impaired thinking.
- **Cardiovascular**: Orthostatic hypotension, confusion, constriction, palpitations.
- **Gastrointestinal**: Dry mouth, constipation, nausea, vomiting.
- **Skin**: Rash, photosensitivity.
- **Endocrine**: Gynecomastia, impotence.
- **Laboratory Findings**: Increased prolactin levels.

### Interactions
- **Drug-Drug**: Concurrent use with MAO inhibitors may enhance or potentiate the effect of amitriptyline. Concomitant use with monoamine oxidase (MAO) inhibitors (avoid concurrent use—discontinue 2–3 wk before starting amitriptyline). Concurrent use with tricyclic antidepressants may result in hypertensive crisis and should be avoided. Concurrent use with levodopa may result in hypotensive crisis and should be avoided.
- **Drug-Natural Products**: St. John's wort may enhance the effect of amitriptyline by inducing drug metabolism. Concurrent use with kava-kava, valerian, chamomile, and hops may cause sedation. Concurrent use with ginseng and scopolia may cause toxicity.

### Pregnancy Category C
- Patients with pre-existing cardiovascular disease, prostate hyperplasia, risk of suicide, or history of drug or alcohol abuse should be monitored closely.

### Dosage and Administration
- **Initial Dose**: 10–25 mg bedtime.
- **Maintenance Dose**: 25–75 mg bedtime.
- **Adjustments**: Individualize dosage based on response and adverse effects.

### Monitoring Parameters
- **Assessment**: Monitor for adverse effects, including symptoms of anticholinergic toxicity and cardiovascular reactions.
- **Laboratory Monitoring**: Monitor liver function tests, prolactin levels, and blood pressure.

### Precautions
- Use cautiously in: Recent MI, or heart failure.

### Nursing Implications
- **Teaching Points**: Inform patients about the potential for sedation, anticholinergic effects, and cardiovascular reactions.
- **Medication Alerts**: Discontinue if signs of anticholinergic toxicity or cardiovascular reactions occur.

### Drug Interactions
- **Drug-Drug**: Concurrent use with monoamine oxidase (MAO) inhibitors (avoid concurrent use—discontinue 2–3 wk before starting amitriptyline). Concurrent use with levodopa may result in hypertensive crisis and should be avoided. Concurrent use with tricyclic antidepressants may result in hypertensive crisis and should be avoided.
- **Drug-Natural Products**: St. John's wort may enhance the effect of amitriptyline by inducing drug metabolism. Concurrent use with kava-kava, valerian, chamomile, and hops may cause sedation. Concurrent use with ginseng and scopolia may cause toxicity.

### Discontinued
- **Drug-Drug Interactions**: Avoid concurrent use of monoamine oxidase (MAO) inhibitors with amitriptyline. Concurrent use with levodopa may result in hypertensive crisis and should be avoided.
- **Drug-Natural Products**: Discontinue if signs of anticholinergic toxicity or cardiovascular reactions occur.

### LABORATORY FINDINGS
- **Increased**: Prolactin levels.
- **Decreased**: Blood glucose, gynecomastia.

### PRECAUTIONS
- Use cautiously in: Recent MI, or heart failure.

### NURSING IMPLICATIONS
- **Teaching Points**: Inform patients about the potential for sedation, anticholinergic effects, and cardiovascular reactions.
- **Medication Alerts**: Discontinue if signs of anticholinergic toxicity or cardiovascular reactions occur.

### DRUG INTERACTIONS
- **Drug-Drug**: Concurrent use with monoamine oxidase (MAO) inhibitors (avoid concurrent use—discontinue 2–3 wk before starting amitriptyline). Concurrent use with levodopa may result in hypertensive crisis and should be avoided. Concurrent use with tricyclic antidepressants may result in hypertensive crisis and should be avoided.
- **Drug-Natural Products**: St. John's wort may enhance the effect of amitriptyline by inducing drug metabolism. Concurrent use with kava-kava, valerian, chamomile, and hops may cause sedation. Concurrent use with ginseng and scopolia may cause toxicity.

### DISCONTINUED
- **Drug-Drug Interactions**: Avoid concurrent use of monoamine oxidase (MAO) inhibitors with amitriptyline. Concurrent use with levodopa may result in hypertensive crisis and should be avoided.
- **Drug-Natural Products**: Discontinue if signs of anticholinergic toxicity or cardiovascular reactions occur.
Route/Dosage

PO (Adults): 75 mg/day in divided doses, may be up to 150 mg/day or 50–100 mg at bedtime, may be 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 be up to 25–50 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 and 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). Geriatric patients started on amitriptyline may be at an increased risk for falls, start with low dose and monitor closely. Assess for anticholinergic effects (urinary retention, constipation and dry mouth).

● Lab Test Considerations: Assess red blood cell and differential blood counts, liver function, and serum glucose before and periodically during therapy. May cause an increase in serum lipids and alkaline phosphatase. May cause bone marrow depression. Serum glucose may be 7 or 8.

Potential Nursing Diagnoses

Indications

Ineffective coping

Chronic pain

Side Effects

Risk for injury

Implementation

● Dose increases should be made at bedtime because of sedation. Dose titration is a slow process; may take weeks to months. MAP precautions should be taken before antidepressant effect is noticed. 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 regiment 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, Shakiness, hallucinations, nightmares, and irritability.

● May cause dizziness and blurred vision. Caution patient to avoid driving and other activities requiring alertness until response to drug is known.

● Orthostatic hypotension, miosis, and confusion are common during early therapy, especially in geriatric patients. Perform patient falls and advise patient to make position changes slowly. Institute fall precautions. 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 of any new or unusual symptoms, dry mouth, or constipation persists. Sugarless candy or gum may diminish dry mouth, and an
amitriptyline

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

Caution patients to use sunscreen and protective clothing to prevent phototoxicity reactions. Notify patient that medication may turn urine blue green in color.

Inform patient of need to monitor dietary intake. Increased appetite may lead to unintended 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 of pregnancy or planned or suspected or breastfeeding.

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.
- Decreased 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?

- Generic Implication
- Therapeutic
- Discontinued