

## PROPRANOLOL

**Class:** Antianginal Agent; Antiarrhythmic Agent, Class II; Beta-Blocker, Nonselective

**Indications:** Management of hypertension; angina pectoris; pheochromocytoma; essential tremor; supraventricular arrhythmias (such as atrial fibrillation and flutter, AV nodal re-entrant tachycardias), ventricular tachycardias (catecholamine-induced arrhythmias, digoxin toxicity); prevention of myocardial infarction; migraine headache prophylaxis; symptomatic treatment of hypertrophic subaortic stenosis (hypertrophic obstructive cardiomyopathy)

**Unlabeled :** Tremor due to Parkinson's disease; aggressive behavior (not recommended for dementia-associated aggression), anxiety, schizophrenia; antipsychotic-induced akathisia; primary and secondary prophylaxis of variceal hemorrhage; acute panic; thyrotoxicosis; tetralogy of Fallot (TOF) hypercyanotic spells

**Available dosage form in the hospital:** 10MG TAB, 40MG TAB, 1MG/ML AMP, 5MG INJ

**Dosage:**

**-Akathisia (unlabeled use):** Oral: 30-120 mg/day in 2-3 divided doses

**-Essential tremor:** Oral: 40 mg twice daily initially; maintenance doses: Usually 120-320 mg/day

**-Hypertension: Initial:**

Oral: 40 mg twice daily; increase dosage every 3-7 days; usual dose: 120-240 mg divided in 2-3 doses/day; maximum daily dose: 640 mg. *usual dosage range* (JNC 7): 40-160 mg/day in 2 divided doses.

-Extended release formulations: Initial: 80 mg once daily; usual maintenance: 120-160 mg once daily; maximum daily dose: 640 mg.

**-Extended release formulations:**

-Inderal® LA: Initial: 80 mg once daily; usual maintenance: 120-160 mg once daily; maximum daily dose: 640 mg; usual dosage range (JNC 7): 60-180 mg/day once daily

**-Hypertrophic subaortic stenosis:** Oral: 20-40 mg 3-4 times/day  
Inderal® LA: 80-160 mg once daily

**-Migraine headache prophylaxis:** Oral: Initial: 80 mg/day divided every 6-8 hours; increase by 20-40 mg/dose every 3-4 weeks to a maximum of 160-240 mg/day given in divided doses every 6-8 hours; if satisfactory response not achieved within 6 weeks of starting therapy, drug should be withdrawn gradually over several weeks

**-Pheochromocytoma:** Oral: 30-60 mg/day in divided doses

**-Post-MI mortality reduction:** Oral: 180-240 mg/day in 3-4 divided doses

**-Stable angina:** Oral: 80-320 mg/day in doses divided 2-4 times/day  
Inderal® LA: Initial: 80 mg once daily; maximum dose: 320 mg once daily

**-Tachyarrhythmias:**

-Oral: 10-30 mg/dose every 6-8 hours

-I.V.: 1-3 mg/dose slow IVP; repeat every 2-5 minutes up to a total of 5 mg; titrate initial dose to desired response

**Note:** Once response achieved or maximum dose administered, additional doses should not be given for at least 4 hours.

**-Thyroid storm (unlabeled use):**

-Oral: 60-80 mg every 4 hours; may consider the use of an intravenous shorter-acting beta-blocker .

-I.V.: 0.5-1 mg administered over 10 minutes every 3 hours .

**-Thyrotoxicosis (unlabeled use):** Oral: 10-40 mg/dose every 6-8 hours; may also consider administering extended or sustained release formulations (Bahn, 2011)

**-Variceal hemorrhage prophylaxis (unlabeled use) Oral:**

-Primary prophylaxis: Initial: 20 mg twice daily; adjust to maximal tolerated dose. **Note:** Risk factors for hemorrhage include Child-Pugh class B/C or variceal red wale markings on endoscopy.

-Secondary prophylaxis: Initial: 20 mg twice daily; adjust to maximal tolerated dose

**Renal Impairment:**

Not dialyzable (0% to 5%); supplemental dose is not necessary.

Peritoneal dialysis effects: Supplemental dose is not necessary.

**Hepatic Impairment :**

Marked slowing of heart rate may occur in chronic liver disease with conventional doses; low initial dose and regular heart rate monitoring.

**Common side effect:** Cardiovascular: Angina, arterial insufficiency, AV conduction disturbance increased, bradycardia, cardiogenic shock, CHF, hypotension, impaired myocardial contractility, mesenteric arterial thrombosis (rare), Raynaud's syndrome, syncope . Central nervous system: Amnesia, catatonia, cognitive dysfunction, confusion, depression, dizziness, emotional lability, fatigue, hallucinations, hypersomnolence, insomnia, lethargy, lightheadedness, psychosis, vertigo, vivid dreams. Dermatologic: Alopecia, contact dermatitis, cutaneous ulcers, eczematous eruptions, erythema multiforme, exfoliative dermatitis, hyperkeratosis, nail changes, oculomucocutaneous reactions, pruritus, psoriasiform eruptions, rash, Stevens-Johnson syndrome, toxic epidermal necrolysis, ulcers, ulcerative lichenoid, urticaria

Endocrine & metabolic: Hyper-/hypoglycemia, hyperkalemia, hyperlipidemia

Gastrointestinal: Anorexia, cramping, constipation, diarrhea, ischemic colitis, nausea, stomach discomfort, vomiting

**Pregnancy Risk Factor:** C