METOPROLOL

Class: Beta-Blocker, Beta-1 Selective

Indications: Treatment of angina pectoris, hypertension, or hemodynamically-stable acute myocardial infarction

Extended release: Treatment of angina pectoris or hypertension; to reduce mortality/hospitalization in patients with heart failure (stable NYHA Class II or III) already receiving ACE inhibitors, diuretics, and/or digoxin

Unlabeled :Treatment of ventricular arrhythmias, atrial ectopy; migraine prophylaxis, essential tremor; prevention of reinfarction and sudden death after myocardial infarction; prevention and treatment of atrial fibrillation and atrial flutter; multifocal atrial tachycardia; symptomatic treatment of hypertrophic obstructive cardiomyopathy; management of thyrotoxicosis

Available dosage form in the hospital: 100MG MODIFIED RELEASE TAB, 100MG TAB, 200MG TAB, 5MG/5ML AMP

Dosage:

-**Angina:** Oral:

  -*Immediate release:* Initial: 50 mg twice daily; usual dosage range: 50-200 mg twice daily; maximum: 400 mg/day; increase dose at weekly intervals to desired effect

  -*Extended release:* Initial: 100 mg/day (maximum: 400 mg/day)

-**Atrial fibrillation/flutter (ventricular rate control), supraventricular tachycardia (SVT):** I.V.: 2.5-5 mg every 2-5 minutes (maximum total dose: 15 mg over a 10-15 minute period). **Note:** Initiate cautiously in patients with concomitant heart failure; avoid in patients with decompensated heart failure.

    -Maintenance: Oral (immediate release): 25-100 mg twice daily

-**Heart failure:** Oral: *Extended release:* Initial: 25 mg once daily (reduce to 12.5 mg once daily in NYHA class higher than class II); may double dosage every 2 weeks as tolerated (target dose: 200 mg/day)

-**Hypertension:** Oral:

  -*Immediate release:* Initial: 50 mg twice daily; effective dosage range: 100-450 mg/day in 2-3 divided doses; increase dose at weekly intervals to desired effect; maximum: 450 mg/day; usual dosage range: 50-100 mg/day

  -*Extended release:* Initial: 25-100 mg once daily; increase doses at weekly (or longer) intervals to desired effect; maximum: 400 mg/day; usual dosage Range: 50-100 mg/day

-**Hypertension/ventricular rate control:** I.V. (in patients having nonfunctioning GI tract): Initial: 1.25-5 mg every 6-12 hours; titrate initial dose to response. Initially, low doses may be appropriate to establish response; however, although not routine, up to 15 mg administered as frequently as every 3 hours has been employed in patients with refractory tachycardia.

-Myocardial infarction:

  - Acute: I.V.: 5 mg every 2 minutes for 3 doses in early treatment of myocardial infarction; thereafter, give 50 mg orally every 6 hours beginning 15 minutes after last I.V. dose and continue for 48 hours; then administer a maintenance dose of 100 mg twice daily. **Note:** Do not initiate this regimen in those with signs of heart failure, a low output state, increased risk of cardiogenic shock, or other contraindications (eg, second- or third-degree heart block). If initial I.V. dosing is not tolerated, may give 25-50 mg orally (depending on degree of intolerance) every 6 hours beginning 15 minutes after the last I.V. dose or as soon as clinical condition permits.

  -Secondary prevention: Oral: Immediate release: 25-100 mg twice daily; optimize dose based on heart rate and blood pressure; continue indefinitely.

-Thyrotoxicosis: Oral: Immediate release: 25-50 mg every 6 hours; may also consider administering extended release formulation.

  Note: Switching dosage forms:

  -When switching from immediate release metoprolol to extended release, the same total daily dose of metoprolol should be used.

  -When switching between oral and intravenous dosage forms, equivalent beta-blocking effect is achieved when doses in a 2.5:1 (Oral:I.V.) ratio is used. For example, if the patient is receiving an oral dose of 25 mg twice daily (50 mg/day), this would translate to 5 mg I.V. every 6 hours; consider reducing initial I.V. dose to evaluate patient response.

  Geriatric:

  Refer to adult dosing. In the management of hypertension, consider lower initial doses and titrate to response (Aronow, 2011).

  Renal Impairment:

  No dosage adjustment necessary.

  Hepatic Impairment:

  No dosage adjustment provided in manufacturer's labeling. However, reduced dose may be necessary due to extensive hepatic metabolism.

Common side effect: Cardiovascular: Hypotension, bradycardia ,first-degree heart block. Central nervous system: Dizziness , fatigue , depression , confusion.

Dermatology: Pruritus , rash ,photosensitivity, psoriasis exacerbated

Endocrine & metabolic: Libido decreased, Peyronie's disease

Gastrointestinal:Diarrhea . Hematologic: Claudication

Pregnancy Risk Factor: C