

**Metoprolol may be used only when diltiazem is unavailable.** (EMSOPs must notify the State EMS Medical Director of diltiazem shortages).

**a) Class**

Beta blocker

**b) Actions**

- (1) Blocks beta-1 receptors in the heart
- (2) Decreases ventricular rate and contractility

**c) Indications**

Symptomatic atrial fibrillation and atrial flutter with a ventricular rate greater than or equal to 130 bpm

**d) Contraindications**

- (1) Hypotension: SBP less than 100 mmHg
- (2) Heart rate: less than 130 bpm
- (3) Wheezing, bronchospasm, asthma/COPD exacerbation
- (4) Second or third degree heart block
- (5) Hypersensitivity to the drug
- (6) Patients less than 18 years of age

**e) Precautions**

- (1) Use caution in patients with renal failure



- (2) In patients with stated history of CHF or decreased ejection fraction (EF less than 30%), hypotension may occur rapidly following administration. Be prepared with IV fluid bolus (250 ml).

**f) Adverse effects**

- (1) Bradycardia
- (2) Nausea or Vomiting
- (3) Hypotension

**g) Significant interactions**

Congestive heart failure may result if used along with calcium channel blockers

**h) Dosage**

- (1) Adult
  - (a) 5 mg IV given over 1-2 minutes. May repeat dose once in 5 minutes if heart rate remains greater than 130 bpm and no contraindications are present.
  - (b) For patients with borderline blood pressure (SBP 100-120) or CHF, administer metoprolol slowly in 2.5 mg IV/IO increments, not to exceed 10 mg IV/IO (maximum).

(2) Pediatric – contraindicated for patients less than 18 years of age unless approved by consultation with a Pediatric Base Station.

**i) Overdose or Toxicity**

Typically presents with severe hypotension and symptomatic bradycardia

**j) Treatment of Overdose or Other Adverse Reactions**

(1) Give general supportive measures, monitor vitals, administer oxygen

(2) Hypotension:

(a) If lungs are clear, administer *Lactated Ringer's* 20 mL/kg IV/IO; titrate to a systolic blood pressure of 100 mmHg

(b) If rales are present, administer fluid bolus, maximum of 250 mL of *Lactated Ringer's*. Titrate to a systolic blood pressure of 100 mmHg.

(c) Treat with *glucagon* per beta *Overdose/Poisoning-Adult*