ATROPINE SULFATE

EMSAC AUGUST 2026

ACTION: Anticholinergic ~~(Vagolytic)~~

- Blocks acetylcholine receptors resulting in reduction of parasympathathetic tone and increasing heart rate ~~conduction through the~~ (SA and AV node)
- ~~Increases sinus node automaticity and AV conduction when suppressed by abnormal parasympathetic or vagal discharges~~
- Blocks acetylcholine at muscarinic receptors, also responsible for reducing secretions, and relieving bronchospasm. ~~Antagonizes action of organophosphate agents~~

INDICATIONS

- Symptomatic bradycardia
- Organophosphate or carbamate insecticide or nerve agent exposure (in addition see **PRALIDOXIME (2-PAM Chloride))**

CONTRAINDICATIONS.

- Known allergy to atropine
- Bradycardia secondary to hypothermia (rewarm first)
- Heart transplant patients (atropine is ineffective; denervated heart does not respond)

PRECAUTIONS

- ~~Atrial fibrillation or atrial flutter~~
- ~~Type II 2nd degree AV block or 3rd degree AV block with wide QRS complexes~~
- Glaucoma

POTENTIAL SIDE EFFECTS

- Tachycardia
- Dilated pupils
- Dry mouth/decreased salivation
- ~~Increased Heart Rate causing~~ ~~• Doses lower than 0.5mg can produce slowing of the heart~~

~~• Post-atropine tachycardias can precipitate V-FIB or V-TACH~~
~~• Can worsen patient's ischemia or extend the size of infarc~~

ADULT DOSE/ROUTE

→ **Symptomatic Bradycardia**: 1mg IVP or IO. May repeat every 5 min up to 3 mg if no resolution of bradycardia.

→ **Organophosphate Poisoning/Nerve agent Exposure**: 2 – 5mg IVP or IO. May repeat in 5 minutes until symptoms improve (i.e. bronchorrhea resolves). No maximum dose.

PEDIATRIC DOSE/ROUTE (≤ 14 years of age, ≤ 40kg, whichever comes first)

→**Symptomatic Bradycardia:** 0.02 mg/kg IVP or IO (min dose 0.1mg, max single dose 0.5mg) May repeat once

ATROPINE SULFATE

EMSAC AUGUST 2026

➔**Organophosphate Poisoning**: 0.02 mg/kg IVP or IO (min dose 0.1mg, no max dose). May repeat every 5 minutes until symptoms improve (i.e. bronchorrhea resolves).

NOTES:

- ~~External~~Transcutaneous pacing is the treatment of choice for symptomatic bradycardia, if there is suspected myocardial ischemia, or 2nd or 3rd degree AV blocks are present.
- Bradycardia in pediatric patients may be caused by hypoxia