

E. Atropine Sulfate

I. Classification

- Parasympathetic blocking agent
- Antidysrhythmic agent

II. Actions

- Inhibits parasympathetic stimulation by blocking acetylcholine receptors
- Decreases vagal tone resulting in increased heart rate and AV conduction
- Allows bronchial dilation and decreases respiratory tract secretions
- Decreases gastrointestinal secretions

III. Indications

- Symptomatic bradycardia
- Organophosphate (pesticide poisoning)
- Nerve agent poisoning (Sarin, Soman, Tabun, VX)

IV. Contraindications

- Neonates

V. Adverse Effects

A. Cardiovascular

- Tachycardia**
- Increased myocardial O₂ demand**

B. Neurological

- Seizures**
- Dizziness
- Confusion
- Dilated pupils
- Blurred vision

C. Respiratory

- Mucus plugs

D. Gastrointestinal

- Difficulty swallowing
- Dry mouth

E. General

- Hot, dry skin
- Worsens glaucoma
- Hyperthermia

VI. Administration

A. Adult

1. Bradycardia (with pulses)
 - 0.5 mg IV/IO. Maximum cumulative dosage is 3 mg IV/IO.
2. Organophosphate Poisoning
 - 2 mg IV/IO push. May repeat dose every 5 minutes until patient is asymptomatic.

B. Pediatric

1. Bradycardia
 - Minimum single dose 0.1 mg - maximum single dose 0.5 mg

- 0.02 mg/kg IV/IO (Maximum overall dose 0.04 mg/kg).
- 2. Organophosphate Poisoning
 - Minimum single dose 0.1 mg - maximum single dose 2 mg
 - 0.05 mg/kg IV/IO.

VII. Onset
•2-5 minutes

VIII. Duration
•20 minutes

IX. Precautions
The increased heart rate may increase myocardial oxygen demand and result in ischemia and dysrhythmias. Administer supplemental oxygen and monitor rhythm frequently.

X. Notes

- A. Atropine is not recommended in asymptomatic bradycardia. The increase in myocardial oxygen demand may cause or extend a myocardial infarction.
- B. May cause paradoxical slowing of heart rate if less than the therapeutic dose is given; 0.3 mg in adults and 0.1 mg in pediatric patients.
- C. Worsens glaucoma due to pupillary dilation.
- D. Pupil reaction may not be a reliable indicator for hypoxic brain damage after atropine administration.
- E. High doses of atropine may be required in organophosphate poisoning.