

# Atropine

## Classification

Anticholinergic

Antimuscarinic

## Indications

- ACP: Restoration of heart rate in bradycardia
- ACP: Sinus bradycardia (rate < 50/minute) with hemodynamic compromise
- ACP: Bradycardia secondary to atrioventricular nodal blocks
- ACP: Treatment of organophosphate poisoning
- ACP: Control of secretions in palliative care (requires additional endorsement)

## Contraindications

- Hypersensitive to atropine or other anticholinergics
- Tachycardia
- Narrow-angle glaucoma
- Thyrotoxicosis
- Prostatic hypertrophy
- Myasthenia gravis

## Adult dosages

Atropine must be given in the correct dose, and must be given quickly: underdosing, or slow administration, may cause paradoxical slowing of the heart rate.

- ACP: Bradycardia
  - 0.6 mg IV push to maximum dose of 0.04 mg/kg (~3 mg in most patients)
- ACP: Organophosphate toxicity
  - Mandatory: Contact ClinCall to discuss treatment plan
  - 1-2 mg IM/IV, repeated every 5-60 minutes until symptoms resolve
- ACP: Secretion control in palliative care
  - 0.6 mg IM

## Pediatric Considerations And Dosing

Atropine must be given in the correct dose, and must be given quickly: underdosing, or slow administration, may cause paradoxical slowing of the heart rate.

[Follow weight-based dosing.](#)

- ACP: Bradycardia
  - 0.02 mg/kg IV push. Minimum dose is 0.1 mg. Maximum dose of 0.04 mg/kg.
- ACP: Organophosphate toxicity
  - Mandatory: Contact ClinCall to discuss treatment plan.
  - 0.02-0.05 mg IV every 10-20 minutes until atropine effects are seen

## Mechanism Of Action

Atropine competitively antagonizes acetylcholine at muscarinic receptors, producing parasympatholytic and vagolytic effects.

## Pharmacokinetics

Following intravenous administration:

- Onset: 2-4 minutes
- Peak: 2-4 minutes
- Half-life: 13-40 hours
- Duration: 4-6 hours

## Adverse Effects

Common adverse effects include tachycardia, dry mouth, headaches, blurred vision, and dysphagia.

## Overdose

Signs and symptoms of overdose are similar to adverse effects.

## Warning And Precautions

Atropine produces pupillary dilation. Assessment of pupils may be unreliable.

