

# Prostigmine (Neostigmine)

## Effects

### Anticholinesterase drug

- Reduces breakdown of Acetylcholine in the neuromuscular junction by inhibiting acetylcholinesterase
- Reversibly binds to and inactivates acetylcholinesterase
- Has less effect on the eye, heart and brain than physostigmine but has more effect on GI tract and bladder
- [Acetylcholine Effects](#)

## Dosing

### To diagnose Myasthenia Gravis

- 1mg for 70kg Adult (or 0.02 mg/kg) IM, Give with 0.4 mg Atropine IM

### To treat Myasthenia Gravis

- Start with 15 mg PO Q8h, Max 375 mg/day
- 15 mg PO = 0.5 mg SC/IM/IV

## Renal dosing

- Creatinine Clearance 10-50 decrease dose by 50%
- Creatinine Clearance <10 decrease dose by 75%

## Excretion

- Urine (50% unchanged)
- Recommended Creatinine level at baseline

## Side Effects

### Common Reactions

- hypersalivation

- fasciculation
- abdominal bloating/cramps
- loose stools/diarrhea
- flatulence
- dyspepsia
- headache
- dizziness
- diaphoresis
- lacrimation increase
- rhinorrhea
- pulmonary secretions increase
- dyspnea
- nausea/vomiting
- urinary frequency/urgency
- muscle weakness/cramps
- miosis
- visual changes
- rash
- drowsiness

## Serious Reactions

- Cholinergic crisis:
  - overstimulation at the neuromuscular junction leading to
    - flaccid paralysis
    - respiratory failure
    - increased sweating
    - salivation
    - bronchial secretions
    - mitosis
  - treated with Atropine
- bradycardia
- AV block
- arrhythmias
- hypotension
- severe syncope
- cardiac arrest
- bronchospasm
- respiratory depression
- respiratory arrest
- respiratory paralysis
- paralysis
- anaphylaxis
- hypersensitivity reaction
- seizures

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Last update: **2015/11/09 21:53**

