**Pharmacologic properties:**

Ipratropium bromide is an anticholinergic bronchodilator classified as a quaternary ammonium compound. Anticholinergics prevent the binding of acetylcholine with muscarinic receptors on bronchial smooth muscle, inhibiting bronchoconstriction. The bronchodilating effect of ipratropium is primarily local and site specific. Since it is not well absorbed systemically, there is low potential for toxicity.

**Indications:**

- Acute bronchospasm (wheezing) associated with asthma or COPD in adult and pediatric patients

**Contraindications:**

- Hypersensitivity to ipratropium, atropine or its derivatives, soy, or peanuts

**Precautions:**

- Use with caution in patients with narrow angle glaucoma, prostatic hypertrophy, or bladder-neck obstruction
- Contact with eyes can cause irritation and precipitation of narrow angle glaucoma

**Adverse Reactions:**

- Palpitations
- Nervousness
- Dizziness
- Headache
- Nausea
- GI distress
- Dry mouth
- Cough

**Dosage and administration:**

**Adult**

- 0.5 mg/2.5 ml
- Combined with Albuterol

**Pediatric**

If no improvement after first administering Albuterol only:

- <10 kg, administer 0.25 mg Atrovent via a nebulizer combined with 1.25 mg Albuterol.
- >10 kg, administer 0.5 mg Atrovent via a nebulizer combined with 2.5 mg Albuterol.