

Bronchodilators	<b>Epinephrine 1:1,000</b> Cardiac stimulator/Vasoconstrictor Sympathetic nervous system	<b>Atrovent</b> Ipratropium	<b>Albuterol</b> Proventil / Ventolin	<b>Combi-vent</b> Ipratropium bromide 18 mcg Albuterol 103 mcg/actuation
<b>Type of Drug</b>	- Bronchodilator - Non-specific adrenergic agonist - Vasopressor	- Parasympatholytic (like Atropine) - Bronchodilator	- Adrenergic $\beta_2$ agonist (it causes bronchodilation, like Epi) - Sympathomimetic (Like Atropine) - Bronchodilator	Bronchodilator
<b>MOA</b>	- Alpha & Beta agonist adrenergic receptors: - Alpha 1: peripheral vasoconstriction - Beta 1: increases inotropic, chronotropic & dromotropic - Beta 2: bronchodilation - Inhibits mast cell degranulation	Inhibits interaction of acetylcholine at receptor sites on the bronchial smooth muscle resulting in decreased cGMP and bronchodilation	- Bronchodilation - CNS - Cardiac stimulation - Increased diuresis and gastric acid secretion	See <b>albuterol</b> and <b>atrovent</b> profiles
<b>Onset Duration</b>	< 1 min / unknown	<b>30-60 minutes</b> / 4-6 hours	Rapid / 2-6 hours	See <b>albuterol</b> and <b>atrovent</b> profiles
<b>Indications</b>	<b>1:1,000</b> - Acute asthma attack - Bronchospasm - Anaphylaxis - Allergic reaction	<b>COPD</b>	- Exercise-induced asthma - Acute bronchospasm - Bronchitis - Emphysema - Bronchiectasis - other reversible airway obstruction - May be used for symptomatic hyperkalemia	See <b>albuterol</b> and <b>atrovent</b> profiles
<b>Contra-indications</b>	<b>None</b> in Emergency setting	- Hypersensitivity to his drug, and Atropine - Allergy to soya lecithin (soy beans)	- Tachydysrhythmias (bcos it makes the heart to work faster => $\uparrow$ HR) - Severe cardiac disease - Heart block	See <b>albuterol</b> and <b>atrovent</b> profiles
<b>Precautions</b>	<b>With a pulse:</b> - Cardiovascular disease - Hypertension Tachydysrhythmias - Hyperthyroidism - Diabetes - <b>Pregnancy</b>	<b>Delayed onset of action</b> , not used as sole bronchodilator in emergency setting (in the field you mix it with Albuterol => Combi-vent)	- Cardiac disorders - Diabetes mellitus - Hypertension - Seizures	<b>None</b> in emergency setting
<b>Route/Dosage</b>	<b>SQ / IM</b> 0.1-0.5 mg q 10-15 min, <b>max 1 mg</b>	<b>Nebulized</b> 0.5 mg in 2.5 mL saline	<b>Nebulized</b> inhaler (with 6 L of Oxygen) 2.5 mg; may repeat q 15-20 minutes (there is NO max dose)	<b>Nebulized</b> Ipratropium 18 mcg Albuterol 103 mcg in 3 mL saline
<b>Adverse Reactions and Side effects</b>	- Cerebral hemorrhage - Tremors - Anxiety - Dizziness - Palpitations, tachycardia - Nausea and vomiting - Dyspnea	- Bronchospasm - Dizziness - Headache - Nausea - Vomiting - Cramps	- Bronchospasm - Tremors - Anxiety - Palpitations - Tachycardia - <b>HYPERTENSION</b>	See <b>albuterol</b> and <b>atrovent</b> profiles
<b>How supplied</b>	1:1,000 1 mg/ml tubex	'fish' 0.5 mg in 2.5 mL saline	vials, 'fish' 2.5 mg in 3 mL normal saline	Vial, 'fish'