

## albuterol (salbutamol)

Proventil, Ventolin

## albuterol sulfate (salbutamol sulfate)

AccuNeb, Airet, Asmol<sup>★</sup>, Gen-Salbutamol<sup>★</sup>, Novo-Salmol<sup>★</sup>, Proventil HFA, Proventil Repetabs, Ventodisk, Ventolin HFA, Volmax

**Pharmacologic class:** Sympathomimetic (beta<sub>2</sub>-adrenergic agonist)

**Therapeutic class:** Bronchodilator, antiasthmatic

**Pregnancy risk category C**

### Action

Relaxes smooth muscles by stimulating beta<sub>2</sub>-receptors, causing bronchodilation and vasodilation

### Availability

*Oral solution:* 2 mg/5 ml

*Syrup:* 2 mg/5 ml

*Tablets:* 2 mg, 4 mg

*Tablets (extended-release):* 4 mg, 8 mg

### Indications and dosages

➤ To prevent and relieve bronchospasm in patients with reversible obstructive airway disease

**Adults and children ages 12 and older:**

*Tablets*—2 to 4 mg P.O. three or four times daily, not to exceed 32 mg daily.

*Extended-release tablets*—4 to 8 mg P.O. q 12 hours, not to exceed 32 mg daily in divided doses. *Syrup*—2 to 4 mg (1 to 2 tsp or 5 to 10 ml) three or four times daily, not to exceed 8 mg q.i.d.

**Children ages 6 to 12:** *Tablets*—2 mg P.O. three or four times daily; maximum daily dosage is 24 mg, given in divided doses. *Extended-release tablets*—4 mg q 12 hours; maximum daily dosage is 24 mg/kg given in divid-

ed doses. *Syrup*—2 mg (1 tsp or 5 ml) three or four times daily, not to exceed 24 mg.

**Children ages 2 to 6:** *Syrup*—Initially, 0.1 mg/kg P.O. t.i.d., not to exceed 2 mg (1 tsp) t.i.d. Maximum dosage is 4 mg (2 tsp) t.i.d.

### Dosage adjustment

- Sensitivity to beta-adrenergic stimulants
- Elderly patients

### Off-label uses

- Chronic obstructive pulmonary disease
- Hyperkalemia with renal failure
- Preterm labor management

### Contraindications

- Hypersensitivity to drug

### Administration

- Give extended-release tablets whole; don't crush or mix with food.

Route	Onset	Peak	Duration
P.O.	15-30 min	2-3 hr	6-12 hr
P.O. (extended)	30 min	2-3 hr	12 hr

### Adverse reactions

**CNS:** dizziness, excitement, headache, hyperactivity, insomnia

**CV:** hypertension, palpitations, tachycardia, chest pain

**EENT:** conjunctivitis, dry and irritated throat, pharyngitis, tooth discoloration

**GI:** nausea, vomiting, anorexia, heartburn, GI distress, dry mouth

**Metabolic:** hypokalemia

**Musculoskeletal:** muscle cramps

**Respiratory:** cough, dyspnea, wheezing, **paradoxical bronchospasm**

**Skin:** pallor, urticaria, rash, angioedema, flushing, sweating

**Other:** increased appetite, **hypersensitivity reaction**

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## Interactions

**Drug-drug.** *Beta blockers:* inhibited albuterol action, possibly causing severe bronchospasm in asthmatic patients

*Digoxin:* decreased digoxin level

*Monoamine oxidase inhibitors:* increased cardiovascular adverse effects

*Oxytoxics:* severe hypotension

*Potassium-wasting diuretics:* electrocardiogram changes, hypokalemia

*Theophylline:* increased risk of theophylline toxicity

**Drug-food.** *Caffeine-containing foods and beverages (such as coffee, green or black tea, chocolate):* increased stimulant effect

**Drug-herb.** *Cola nut, ephedra, guarana, yerba maté:* increased stimulant effect

- Advise patient to establish effective bedtime routine and to take drug well before bedtime to minimize insomnia.

## Precautions

Use cautiously in:

- cardiac disease, hypertension, diabetes mellitus, glaucoma, seizure disorder, hyperthyroidism, exercised-induced bronchospasm, prostatic hypertrophy
- elderly patients
- pregnant or breastfeeding patients
- children.

## Patient monitoring

- 🚨 Stay alert for hypersensitivity reactions and paradoxical bronchospasm; stop drug immediately if these occur.
- Monitor serum electrolyte levels.

## Patient teaching

- 🚨 Teach patient signs and symptoms of hypersensitivity reaction and paradoxical bronchospasm; tell him to stop taking drug immediately and contact prescriber if these occur.
- Tell patient to swallow extended-release tablets whole and not to mix them with food.
- Instruct patient to avoid driving and other hazardous activities until he knows how drug affects concentration and alertness.