

Classification

Sympathomimetic, B₂ Receptor Agonist, Bronchodilator

LA County Prehospital Indications

Cardiac Dysrhythmia: suspected hyperkalemia causing bradycardia

Respiratory Distress: bronchospasm caused by acute asthma, bronchitis, bronchiolitis, COPD, drug overdose, near drowning, pulmonary edema, and/or toxic gas inhalation

Pulmonary Edema/CHF: persistent wheezing despite CPAP

Traumatic Injury: suspected hyperkalemia in the setting of crush injury or potential for development of crush syndrome (administer prior to release of crushed tissue)

Other Common Indications (Not authorized for EMS administration in LA County)

None

Adult Dose

Cardiac Dysrhythmia/Crush – Evidence of or suspected hyperkalemia

5mg (6mL) via neb, repeat continuously until hospital arrival

Crush – at risk for Crush Syndrome

5 minutes prior to extrication: **5mg (6mL) via mask nebulization** x2 for a total dose of 10mg

Respiratory Distress, Pulmonary Edema/CHF with wheezing, Allergic Reaction with wheezing, Inhalation Injury with wheezing

5mg (6mL) via neb or 4 puffs via Metered-Dose Inhaler (MDI)

May repeat x2 prn for wheezing

Pediatric Dose

Crush – Evidence of or suspected hyperkalemia

5mg (6mL) via neb, repeat continuously until hospital arrival

Crush – at risk for Crush Syndrome

5 minutes prior to extrication: **5mg (6mL) via neb**, repeat immediately x1

Respiratory Distress, Allergic Reaction with wheezing, Inhalation Injury with wheezing

< 4 years of age **2.5mg (3mL) via neb or 2 puffs via MDI**

≥ 4 years of age **5mg (6mL) via neb or 4 puffs via MDI**

Repeat x2 prn, maximum 3 total doses prior to Base contact

Mechanism of Action

Selective beta-2 adrenergic agonist that causes relaxation of smooth muscles in the bronchial tree, decreasing airway resistance, facilitating mucous drainage and increasing vital capacity

Shifts potassium intracellular. Has mild beta-1 activity with mild effect on heart rate.

Pharmacokinetics

Onset 5-15 min inhaled, Duration 3-6 hours for bronchial smooth muscle relaxation, Duration 3-4 hours for hyperkalemia shifting potassium intracellular

Contraindications

Do not use for patients with a known hypersensitivity/allergy to the drug

Interactions

Administer with extreme caution to patients being treated with MAO inhibitors or tricyclic antidepressants
Beta blocking agents and Albuterol may each inhibit the effects of the other, monitor closely

Adverse Effects

Anxiety/Tremors

Hypertension

Hypokalemia

Palpitations/Tachycardia

Prehospital Considerations

- Young children 2-6 years old may be more prone to adverse effects
- Don't assume patients have administered their own drug properly. Do not include home doses of albuterol in your total drug administration consideration.
- Administration via MDI with spacer is typically required for this route to be effective in novice users.
- MDIs are single use and should be left with the hospital staff upon handoff of the patient.