

2007 KCQIC Guidelines for Quick Relief Medications for Asthma in 0-4 and 5-11 year olds

Medication	Dose Form	0-4 Years	5-11 Years	Comments
Inhaled Short-Acting Beta₂ Agonist	MDI			
<ul style="list-style-type: none"> • Albuterol CFC • Albuterol HFA • Levalbuterol HFA (Xopenex[®]) • Pirbuterol CFC (Maxair[®]) 	<p>90 mcg/puff 200puffs/canister</p> <p>90 mcg/puff 200puffs/canister</p> <p>45 mcg/puff 200 puff/canister</p> <p>200 mcg/puff 400 puffs/c</p>	<p>1-2 puffs 5 ,omits before exercise</p> <p>2 puffs every 4-6 hours as needed</p> <p>Safety and efficacy not established in children <4 years</p> <p>Safety and efficacy not established</p>	<p>2 puffs 5 minutes before exercise</p> <p>2 puffs every 4-6 hours as needed</p> <p>2 puffs every 4-6 hours as needed</p> <p>Safety and efficacy not established</p>	<ul style="list-style-type: none"> • Differences in potencies exist, but all products are essentially comparable on a per puff basis. • An increasing use or lack of expected effect indicates diminished control of asthma. • Not recommended for long-term daily treatment. Regular use exceeding 2 days/week for symptoms control (not prevention of EIB) indicates the need for additional long-term control therapy. • May double usual dose for mild exacerbations. • Should prime the inhaler by releasing 4 actuations prior to use. • Periodically clean HFA activator, as drug may block/plug opening. • Children <4 years may not generate sufficient inspiratory flow to activate an auto-inhaler. • Nonselective agents (i.e., epinephrine, isoproterenol, metaproterenol) are not recommended due to their potential for excessive cardiac stimulation, especially in high doses.
Inhaled Short-Acting Beta₂ Agonist	Nebulizer Solution			
<ul style="list-style-type: none"> • Albuterol (generic, Proventil[®], Ventolin[®]) • Levalbuterol (R-albuterol) (Xopenex[®]) 	<p>0.63 mg/3mL. 1.25 mg/3mL 2.3 mg/3mL 5 mg/mL (0.5%)</p> <p>0.31 mg/3mL 0.63 mg/3mL 1.25 mg/0.5mL 1.25 mg/3mL</p>	<p>0.63 – 2.5 mg in 3cc of saline q 4-6 hours, as needed</p> <p>0.31 – 1.25 mg in 3 cc q 4-6 hours, as needed</p>	<p>1.25 – 5 mg in 3cc of saline q 4-8 hours, as needed</p> <p>0.31-0.63 mg q 8 hours, as needed</p>	<ul style="list-style-type: none"> • May mix with budesonide inhalant suspension, cromolyn or ipratropium nebulizer solutions. May double dose for severe exacerbations. • Does not have FDA-approved labeling for children <6 years of age • The product is a sterile-filled preservative-free unite dose vial. • Compatible with budesonide inhalant suspension.

Reference: Expert Panel Report 3 (EPR 3): Guidelines for the Diagnosis and Management of Asthma (2007) National Heart Lung and Blood Institute at <http://www.nhlbi.nih.gov/guidelines/asthma/index.htm>

This guideline represents steps to be taken for the usual patient with persistent asthma. Individual patient considerations and advances in medical science may supersede or modify these recommendations. Revised and approved 12/2007

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Medication	Dose Form	0-4 Years	5-11 Years	Comments
Anticholinergics				
<ul style="list-style-type: none"> Ipratropium HFA Atrovent[®] 	MDI	Safety and efficacy and efficacy not established	Safety and efficacy and efficacy not established	<ul style="list-style-type: none"> Evidence is lacking for anticholinergics producing added benefit to beta₂ agonist in long-term control asthma therapy.
	17 mcg/puff 200puffs/canister			
	Nebulizer solution			
	0.25 mg/ml (0.025%) 200puffs/canister			
Systemic Corticosteroids				
Oral				
Applies to the first three corticosteroids				
<ul style="list-style-type: none"> Methylprednisolone (Medrol[®]) Prednisolone (tabs, liquid (Prelone)) Oral disintegrating tablets, (OraPred ODT) Prednisone 	2, 4, 8, 16, 32 mg tablets	Short course "burst": 1-2 mg/kg/day, maximum 60 mg/day for 3-10 days	Short course "burst" 40-60 mg/day as single or 2 divided doses for 3-10 days	<ul style="list-style-type: none"> Short courses or "bursts" are effective for establishing control when initiating therapy or during a period of gradual deterioration. The burst should be continued until symptoms resolve and the PEF is at least 80 percent of person best. This usually requires 3-10 days but may require longer. There is no evidence that tapering the dose following improvement prevents relapse.
	5 mg tablets, 5 mg/5cc 15mg/5cc 10mg, 15mg, 30mg			
	1, 2.5, 5, 10, 20, 50 mg tablets; 5mg/cc, 5mg/5cc			
<ul style="list-style-type: none"> (Methylprednisolone acetate) 	Repository Injection	7.5 mg/kg IM once	240 mg IM once	<ul style="list-style-type: none"> May be used in place of short burst of oral steroids in patients who are vomiting or if adherence is a problem.
	40 mg/mL 80 mg/mL			

Key: CFC, chlorofluorocarbon; EIB, exercise-induced bronchospasm; HFA, hydrofluoroalkane; IM, intramuscular; MDI, metered-dose inhaler; PEF, peak expiratory flow.

Dosages are provided for those products that have been approved by the US Food and Drug Administration or have sufficient clinical trial safety and efficacy data in the appropriate age ranges to support their use.

Reference: Expert Panel Report 3 (EPR 3): Guidelines for the Diagnosis and Management of Asthma (2007) National Heart Lung and Blood Institute at <http://www.nhlbi.nih.gov/guidelines/asthma/index.htm>