

2007 KCQIC Guidelines for Asthma Long Term Use Medications for Youths > 12 years of age and Adults

Medication	Dosage	Adult Dose	Comments
Systemic corticosteroids			
Methylprednisolone (2-4mg)\$\$, (8-32 mg) \$\$\$ (Medrol, Medrol Dosepak)	2, 4, 8, 16, 32 mg tablets	<p style="text-align: center;">7.5 to 60 mg daily in a single dose in the a.m. or qod as need for control</p> <p style="text-align: center;">Short-course "burst" then taper as needed to control, 40-60mg per day as single or 2 divided does for 3 to 10 days</p>	<ul style="list-style-type: none"> • (Applies to all three corticosteroids) For long term treatment of severe persistent asthma, administer single dose in a.m. either daily or on alternative days (alternate-day therapy may produce less adrenal suppression. Short courses of “bursts” are effective for establishing control when initiating therapy or during a period of gradual deterioration.
Prednisolone (Tabs)\$, Liquid \$\$\$, Prelone	5 mg tablets, 5 mg/5cc, 15mg/5cc		
Oral disintegrating tabs \$\$\$ OraPred ODT,	10mg, 15mg, 30mg		
Prednisone \$	1, 2.5, 5, 10, 20, 50 mg tablets; 5mg/cc, 5mg/5cc		
Long-Acting Inhaled beta₂ agonist (LABA) (Should not be used for symptom relief or for exacerbations. Use with inhaled corticosteroids)			
Salmeterol ¹ (Serevent) \$\$\$\$	Dry Powder Inhaler (DPI) 50 mcg/blister	1 blister q 12 hours	<ul style="list-style-type: none"> • Decreased duration of protection against EIB may occur with regular uses • Each capsule is for single use only; additional doses should not be administered for at least 12 hrs. • Capsules should be used only with the Aerollzor inhaler and should not be taken orally
Formoterol (Foradil) \$\$\$\$	DPI 12 mcg/single-use capsule	1 capsule q 12 hours	
Combined Medication			
Fluticasone/Salmeterol (Advair) \$\$\$\$\$	DPI 100, 250, or 500 mcg/50mcg HFA 45, 115, or 230 mcg/21mcg	1 inhalation bid ; dose depends on severity of asthma 2 puffs BID	<ul style="list-style-type: none"> • 100/50 DPI or 45/21 HFA for patient not controlled on low to medium dose ICS • 250/50 or 115/21 HFA for patients not controlled on medium to high dose ICS • 80/4.5 for patients who have asthma not controlled on low to medium dose ICS • 160/4.5 for patients who have asthma not controlled on medium to high dose ICS
Budesonide/Formoterol (Symbicort) \$\$\$\$\$	HFA 80 or 160mcg/4.5mcg	2 inhalations bid; dose depends on severity of asthma	

Cromolyn and Nedocromil			
Cromolyn (Intal) \$\$\$\$	Metered Dose Inhaler (MDI) 0.8mg/ puff	2 puffs qid	<ul style="list-style-type: none"> • 4-6 week trial may be needed to determine maximum benefit • Dose by MDI may be inadequate to affect hyper-responsiveness • One dose before exercise or allergen exposure provides effective prophylaxis for EIB and SABA. • Once control is achieved the frequency of dosing by be reduced
Nedocromil ² (Tilade) \$\$\$	Nebulizer 20mg/ampule MDI 1.75 mg/puff	1 ampule qid 2 puff qid	
Leukotriene Modifiers			
Leukotriene Receptor Antagonists Montelukast (Singulair) \$\$\$\$	4 or 5 mg chewable tablets 10 mg tablet	10 mg qhs	<ul style="list-style-type: none"> • Montelukast exhibits a flat dose response curve. Doses >10 mg will not produce a greater response in adults • For Zafiriukast, administration with meals decreases bioavailability; take at least 1 hr before or 2 hr after meals • Monitor for signs and symptoms of hepatic dysfunction) • For Zileuton, monitor hepatic enzymes (ALT)
Zafirlukast (Accolate) \$\$\$	10 or 20 mg tablet	40 mg daily (20 mg tablet bid)	
5-Lipoxygenase Inhibitor Zileuton (Zyflo) \$\$\$\$\$ (Zyflo CR) \$\$\$\$\$	600 Mg tablet 600 mg	2400 mg daily (give tablets qid) 2400 mg daily (give 2 x 600mg bid)	
Methylxanthines <i>(Serum monitoring is important [serum concentration of 5-15 mcg/ml at steady state])</i>			
Theophylline ³ (Theo-Dur, Theo-24, Slo-phylline, Theolair, SloBid) \$\$	Liquids, sustained-release tablets, and capsules	Starting dose 10mg/kg/day up to 300mg maximum; usual maximum 800 mg/day	<ul style="list-style-type: none"> • Adjust dosage to achieve serum concentration of 5 – 15 mcg/ml at steady state (at least 48 hours on same dosage) • Due to wide interpatient variability in theophylline metabolic clearance, routine serum theophylline level monitoring in important.
Imunomodulators			
Omalizumab (Xolair) \$\$\$\$\$	Subcutaneous injection, 150 mg/1.2ml following Reconstitution with 1.4 ml sterile water for injection	150-375 mg SQ Q 2-4 weeks, depending on body weight and pretreatment serum IgE level	<ul style="list-style-type: none"> • Do not administer more than 150 mg per injection site • Monitor for anaphylaxis for 2 hours following at least the first 3 injections

Key: DPI, dry powder inhaler; EIB, exercised induced bronchospasm; HFA, hydrofluoroalkane; Ige, Immunoglobulin E; MDI, metered-dose inhaler; SABA, short acting beta₂ agonist . Brand name is provided in ().

Overall Key for cost of medication. < 20 = \$ 20 to 40 = \$\$ 40 to 75 = \$\$\$ 75 to 100 = \$\$\$\$ 100+ = \$\$\$\$\$

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>

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Estimated Comparative Daily Doses for Inhaled Corticosteroids

Drug	Low Daily Dose	Medium Daily Dose	High Daily Dose
Beclomethasone HFA (QVAR) 40 mcg/puff	80-240 mcg	>240-480 mcg	>480 mcg
	2 puffs to 6 puffs		
80 mcg/puff	1 puff to 3 puffs	3 puffs to 6 puffs	> 6 puffs
Budesonide DPI (Pulmocort) 90 mcg/inhalation	180-600 mcg	>600-1,200 mcg	>1,200mcg
	2 inhalations to 8 inhalations	8 inhalations to 30 inhalations	
	180 mcg/inhalation	3 inhalations to 7 inhalations	> 7 inhalations
200 mcg/inhalation		3 inhalations to 6 inhalations	> 6 inhalations
Flunisolide (Aerobid) 250 mcg/puff	500-1,000 mcg	> 1,000-2,000 mcg	>2,000 mcg
	2 puffs to 4 puffs	4 puffs to 8 puffs	> 8 puffs
Flunisolide HFA (Aerospan) 80 mcg/puff	320 mcg	> 320 mcg-640 mcg	>640 mcg
	4 puffs	4 puffs to 8 puffs	> 8 puffs
Fluticasone HFA/MDI: (Flovent) 44 mcg/puff	88-264 mcg	>264-440 mcg	>440 mcg
	2 puffs to 6 puffs	6 puffs to 10 puffs	
	110 mcg/puff	to 2 puffs	>4 puffs
220 mcg/puff		2 puffs	>2 puffs
Fluticasone DPI (Flovent Diskus, Rotadisk) 50 mcg/ inhalation	100-300 mcg	300-500 mcg	>500 mcg
	2 inhalations to 6 inhalations	6 inhalations to 10 inhalations	
	100 mcg/inhalation	to 3 inhalations	3 inhalations to 5 inhalations
250 mcg/inhalation		to 2 inhalations	>2 inhalations
Mometasone DPI (Asmanex) 200 mcg/inhalation	200 mcg	400mcg	>400mcg
		2 inhalations	>2 inhalations
Triamcinolone acetonide (Azmacort) 75 mcg/puff	300-700 mcg/puff	>750-1,500 mcg/puff	>1,500 mcg/puff
	4 puffs to 10 puffs	10 puffs to 20 puffs	> 20 puffs

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