

## ESTIMATED COMPARATIVE DAILY DOSAGES: INHALED CORTICOSTEROIDS FOR LONG-TERM ASTHMA CONTROL

	0–4 years of age			5–11 years of age			≥12 years of age		
Daily Dose	Low	Medium*	High*	Low	Medium*	High*	Low	Medium*	High*
<b>MEDICATION</b>									
<b>Beclomethasone MDI†</b>	N/A	N/A	N/A	80–160 mcg	>160–320 mcg	>320 mcg	80–240 mcg	>240–480 mcg	>480 mcg
40 mcg/puff				1–2 puffs 2x/day	3–4 puffs 2x/day		1–3 puffs 2x/day	4–6 puffs 2x/day	
80 mcg/puff				1 puff 2x/day	2 puffs 2x/day	≥3 puffs 2x/day	1 puff am, 2 puffs pm	2–3 puffs 2x/day	≥4 puffs 2x/day
<b>Budesonide DPI†</b>	N/A	N/A	N/A	180–360 mcg	>360–720 mcg	>720 mcg	180–540 mcg	>540–1,080 mcg	>1,080 mcg
90 mcg/inhalation				1–2 inhs† 2x/day	3–4 inhs† 2x/day		1–3 inhs† 2x/day		
180 mcg/ inhalation					2 inhs† 2x/day	≥3 inhs† 2x/day	1 inh† am, 2 inhs† pm	2–3 inhs† 2x/day	≥4 inhs† 2x/day
<b>Budesonide Nebules</b>	0.25–0.5 mg	>0.5–1.0 mg	>1.0 mg	0.5 mg	1.0 mg	2.0 mg	N/A	N/A	N/A
0.25 mg	1–2 nebs†/day			1 neb† 2x/day					
0.5 mg	1 neb†/day	2 nebs†/day	3 nebs†/day	1 neb†/day	1 neb† 2x/day				
1.0 mg		1 neb†/day	2 nebs†/day		1 neb†/day	1 neb† 2x/day			
<b>Ciclesonide MDI†</b>	N/A	N/A	N/A	80–160 mcg	>160–320 mcg	>320 mcg	160–320 mcg	>320–640 mcg	>640 mcg
80 mcg/puff				1–2 puffs/day	1 puff am, 2 puffs pm– 2 puffs 2x/day	≥3 puffs 2x/day	1–2 puffs 2x/day	3–4 puffs 2x/day	
160 mcg/puff				1 puff/day	1 puff 2x/day	≥2 puffs 2x/day		2 puffs 2x/day	≥3 puffs 2x/day
<b>Flunisolide MDI†</b>	N/A	N/A	N/A	160 mcg	320–480 mcg	≥480 mcg	320 mcg	>320–640 mcg	>640 mcg
80 mcg/puff				1 puff 2x/day	2–3 puffs 2x/day	≥4 puffs 2x/day	2 puffs 2x/day	3–4 puffs 2x/day	≥5 puffs 2x/day

\* It is preferable to use a higher mcg/puff or mcg/inhalation formulation to achieve as low a number of puffs or inhalations as possible.

† **Abbreviations:** DPI, dry powder inhaler (requires deep, fast inhalation); inh, inhalation; MDI, metered dose inhaler (releases a puff of medication); neb, nebule.

ESTIMATED COMPARATIVE DAILY DOSAGES:  
INHALED CORTICOSTEROIDS FOR LONG-TERM ASTHMA CONTROL *(continued)*

Daily Dose	0–4 years of age			5–11 years of age			≥12 years of age		
	Low	Medium*	High*	Low	Medium*	High*	Low	Medium*	High*
MEDICATION									
<b>Fluticasone MDI<sup>†</sup></b>	176 mcg	>176–352 mcg	>352 mcg	88–176 mcg	>176–352 mcg	>352 mcg	88–264 mcg	>264–440 mcg	>440 mcg
44 mcg/puff	2 puffs 2x/day	3–4 puffs 2x/day		1–2 puffs 2x/day	3–4 puffs 2x/day		1–3 puffs 2x/day		
110 mcg/puff		1 puff 2x/day	≥2 puffs 2x/day		1 puff 2x/day	≥2 puffs 2x/day		2 puffs 2x/day	3 puffs 2x/day
220 mcg/puff								1 puffs 2x/day	≥2 puffs 2x/day
<b>Fluticasone DPI<sup>†</sup></b>	N/A	N/A	N/A	100–200 mcg	>200–400 mcg	>400 mcg	100–300 mcg	>300–500 mcg	>500 mcg
50 mcg/inhalation				1–2 inhs <sup>†</sup> 2x/day	3–4 inhs <sup>†</sup> 2x/day		1–3 inhs <sup>†</sup> 2x/day		
100 mcg/inhalation				1 inh <sup>†</sup> 2x/day	2 inhs <sup>†</sup> 2x/day	>2 inhs <sup>†</sup> 2x/day		2 inhs <sup>†</sup> 2x/day	≥3 inhs <sup>†</sup> 2x/day
250 mcg/inhalation						1 inh <sup>†</sup> 2x/day		1 inh <sup>†</sup> 2x/day	≥2 inhs <sup>†</sup> 2x/day
<b>Mometasone DPI<sup>†</sup></b>	N/A	N/A	N/A	110 mcg	220–440 mcg	>440 mcg	110–220 mcg	>220–440 mcg	>440 mcg
110 mcg/inhalation				1 inh <sup>†</sup> /day	1–2 inhs <sup>†</sup> 2x/day	≥3 inhs <sup>†</sup> 2x/day	1–2 inhs <sup>†</sup> pm	3–4 inhs <sup>†</sup> pm or 2 inhs <sup>†</sup> 2x/day	≥3 inhs <sup>†</sup> 2x/day
220 mcg/inhalation					1–2 inhs <sup>†</sup> /day	≥3 inhs <sup>†</sup> divided in 2 doses	1 inh <sup>†</sup> pm	1 inh <sup>†</sup> 2x/day or 2 inhs <sup>†</sup> pm	≥3 inhs <sup>†</sup> divided in 2 doses

\* It is preferable to use a higher mcg/puff or mcg/inhalation formulation to achieve as low a number of puffs or inhalations as possible.  
<sup>†</sup> **Abbreviations:** DPI, dry powder inhaler (requires deep, fast inhalation); inh, inhalation; MDI, metered dose inhaler (releases a puff of medication); neb, nebulizer.



## USUAL DOSAGES FOR OTHER LONG-TERM CONTROL MEDICATIONS\*

Medication	0–4 years of age	5–11 years of age	≥12 years of age
<b>Combined Medication (inhaled corticosteroid + long-acting beta<sub>2</sub>-agonist)</b>			
<b>Fluticasone/Salmeterol</b> — DPI† 100 mcg/50 mcg, 250 mcg/50 mcg, or 500 mcg/50 mcg  MDI† 45 mcg/21 mcg, 115 mcg/21 mcg, or 230 mcg/21 mcg	N/A†	1 inhalation 2x/day; dose depends on level of severity or control	1 inhalation 2x/day; dose depends on level of severity or control
<b>Budesonide/Formoterol</b> — MDI† 80 mcg/4.5 mcg or 160 mcg/4.5 mcg	N/A†	2 puffs 2x/day; dose depends on level of severity or control	2 puffs 2x/day; dose depends on level of severity or control
<b>Mometasone/Formoterol</b> — MDI† 100 mcg/5 mcg	N/A†	N/A†	2 inhalations 2x/day; dose depends on severity of asthma
<b>Leukotriene Modifiers</b>			
<b>Leukotriene Receptor Antagonists (LTRAs)</b> Montelukast — 4 mg or 5 mg chewable tablet, 4 mg granule packets, 10 mg tablet	4 mg every night at bedtime (1–5 years of age)	5 mg every night at bedtime (6–14 years of age)	10 mg every night at bedtime
Zafirlukast — 10 mg or 20 mg tablet <i>Take at least 1 hour before or 2 hours after a meal. Monitor liver function.</i>	N/A†	10 mg 2x/day (7–11 years of age)	40 mg daily (20 mg tablet 2x/day)
<b>5-Lipoxygenase Inhibitor</b> Zileuton — 600 mg tablet <i>Monitor liver function.</i>	N/A†	N/A†	2,400 mg daily (give 1 tablet 4x/day)
<b>Immunomodulators</b>			
<b>Omalizumab (Anti IgE†)</b> — Subcutaneous injection, 150 mg/1.2 mL following reconstitution with 1.4 mL sterile water for injection <i>Monitor patients after injections; be prepared to treat anaphylaxis that may occur.</i>	N/A†	N/A†	150–375 mg subcutaneous every 2–4 weeks, depending on body weight and pretreatment serum IgE level
<b>Cromolyn</b>			
<b>Cromolyn</b> — Nebulizer: 20 mg/ampule	1 ampule 4x/day, N/A† <2 years of age	1 ampule 4x/day	1 ampule 4x/day
<b>Methylxanthines</b>			
<b>Theophylline</b> — Liquids, sustained-release tablets, and capsules <i>Monitor serum concentration levels.</i>	Starting dose 10 mg/kg/day; usual maximum: ▪ <1 year of age: 0.2 (age in weeks) + 5 = mg/kg/day ▪ ≥1 year of age: 16 mg/kg/day	Starting dose 10 mg/kg/day; usual maximum: 16 mg/kg/day	Starting dose 10 mg/kg/day up to 300 mg maximum; usual maximum: 800 mg/day
<b>Inhaled Long-Acting Beta<sub>2</sub>-Agonists (LABAs)</b> – used in conjunction with ICS† for long-term control; LABA is NOT to be used as monotherapy			
<b>Salmeterol</b> — DPI† 50 mcg/blister	N/A†	1 blister every 12 hours	1 blister every 12 hours
<b>Formoterol</b> — DPI† 12 mcg/single-use capsule	N/A†	1 capsule every 12 hours	1 capsule every 12 hours
<b>Oral Systemic Corticosteroids</b>			
<b>Methylprednisolone</b> — 2, 4, 8, 16, 32 mg tablets	▪ 0.25–2 mg/kg daily in single dose in a.m. or every other day as needed for control ▪ Short course “burst”: 1–2 mg/kg/day, max 60 mg/d for 3–10 days	▪ 0.25–2 mg/kg daily in single dose in a.m. or every other day as needed for control ▪ Short course “burst”: 1–2 mg/kg/day, max 60 mg/d for 3–10 days	▪ 7.5–60 mg daily in single dose in a.m. or every other day as needed for control ▪ Short course “burst”: to achieve control, 40–60 mg/day as single or 2 divided doses for 3–10 days
<b>Prednisolone</b> — 5 mg tablets; 5 mg/5 cc, 15 mg/5 cc			
<b>Prednisone</b> — 1, 2.5, 5, 10, 20, 50 mg tablets; 5 mg/cc, 5 mg/5 cc			

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

† **Abbreviations:** DPI, dry powder inhaler; IgE, immunoglobulin E; MDI, metered-dose inhaler; N/A, not available (not approved, no data available, or safety and efficacy not established for this age group).