

DoD/VA Asthma Clinical Practice Guideline
PROVIDER REFERENCE CARD
Key Elements

Initial Diagnosis:

- ▶ Consider asthma in the differential diagnosis of any patient who presents with persistent respiratory problems
- ▶ Use spirometry to help make the diagnosis for children over 6 years-old
- ▶ Use trials of asthma medication to determine response to asthma therapy as an aid to diagnosis

Follow-up Visits/Long Term Asthma Management

- ▶ Classify asthma severity
 - Use NHLBI standards (mild intermittent: mild, moderate, and severe persistent)
 - Use objective measures of airways obstruction (peak flow, spirometry) to determine asthma severity
 - Use patient report of symptoms to help classify asthma severity
- ▶ Treat patient based on asthma severity classification
 - Provide/adjust quick reliever and long-term controller medications to attain optimal control of the patient's asthma
 - Long term controller medications are needed for mild persistent, moderate persistent and severe persistent asthma
- ▶ Educate patients concerning their asthma
 - Educate patients about the role of reliever and controller medications
 - Educate appropriate patients on how to self-monitor their asthma with a peak flow meter
 - Educate patients on signs/symptoms of worsening asthma
 - Educate patients on when and how to contact their primary care manager (PCM)
 - Provide a written action plan

- ▶ Preventive maintenance/trigger avoidance
 - Assess triggers and institute environmental controls when indicated
 - Vaccinate against influenza
 - Provide smoking cessation information when appropriate
- ▶ Provide follow-up on regular basis and ensure that the patient has a PCM

Emergency Management of Asthma Exacerbations:

- ▶ Use objective measures to assess airways obstruction/exacerbation severity
- ▶ Pulse oximetry
- ▶ Peak flow or FEV₁
- ▶ Treat promptly with corticosteroids and short acting, inhaled beta₂-agonists
- ▶ Assess response to therapy using objective measures as well as clinical exam
- ▶ Discharge patient with appropriate education, written instructions, and follow-up

Telephone Triage:

- ▶ Assess the severity of the asthma exacerbation
- ▶ Patients with severe exacerbations should NOT be managed at home
- ▶ Review the patient's action plan and set up appropriate follow-up



Table A. Step-Care Approach for Prescribing Asthma Medications Based on Severity–Pediatric

Severity Level	Signs/Symptoms	Nocturnal Symptoms	Drug Therapy
Mild Intermittent (493.00x1)*	<ul style="list-style-type: none"> • Symptoms ≤ 2 times/week • Exacerbations brief • Asymptomatic/normal PEF between exacerbations 	≤ 2 times/month	<p>Quick Relief</p> <ul style="list-style-type: none"> • Inhaled short-acting beta₂-agonist PRN <p>Long-Term Control</p> <ul style="list-style-type: none"> • Usually no daily medication needed
Mild Persistent (493.00x2)	<ul style="list-style-type: none"> • Symptoms > 2 times/week but < 1 time/day • Exacerbations can affect activity 	> 2 times/month	<p>Quick Relief</p> <ul style="list-style-type: none"> • Inhaled short-acting beta₂-agonist PRN <p>Long-Term Control</p> <ul style="list-style-type: none"> • Inhaled corticosteroid (LOW dose) • May also consider theophylline SR, leukotriene modifier, cromolyn, or nedocromil • For patients with ASA sensitive asthma, consider using leukotriene modifiers
Moderate Persistent (493.00x3)	<ul style="list-style-type: none"> • Symptoms daily • Exacerbations ≥ 2 times/week and affect activity • Daily use of quick relief medications 	> 1 time/week	<p>Quick Relief</p> <ul style="list-style-type: none"> • Inhaled short-acting beta₂-agonist PRN <p>Long-Term Control</p> <ul style="list-style-type: none"> • Inhaled corticosteroid (MEDIUM dose) <i>or</i> • Inhaled corticosteroid (LOW–MEDIUM dose) and inhaled long-acting beta₂-agonist <i>or</i> • Inhaled corticosteroid (LOW–MEDIUM dose) and leukotriene receptor antagonist <i>or</i> • Inhaled corticosteroid (LOW–MEDIUM dose) and theophylline • Consider referral
Severe Persistent (493.00x4)	<ul style="list-style-type: none"> • Symptoms continuous • Limited physical activity • Exacerbations frequent 	Frequent	<p>Quick Relief</p> <ul style="list-style-type: none"> • Inhaled short-acting beta₂-agonist PRN <p>Long-Term Control</p> <ul style="list-style-type: none"> • Inhaled corticosteroid (HIGH dose) and inhaled long-acting beta₂-agonist <i>or</i> • Inhaled corticosteroid (HIGH dose) and leukotriene receptor antagonist <i>or</i> • Inhaled corticosteroid (HIGH dose) and theophylline • Oral corticosteroids may be indicated • Consider referral
(493.11)	Asthma with status asthmaticus		

* ICD-9 Code/MEDCOM Asthma Extender Code

PROVIDER REFERENCE CARD
MEDICATION TABLE–PEDIATRIC (Children Under 6 Years Old Who Cannot Perform Spirometry)

Estimated Comparative Daily Dosages for Inhaled Corticosteroids

*DoDIVA Asthma Clinical Practice Guideline–
 Management of Asthma: Annotations (A1p) Page 10; Management of Asthma: Annotations (A2p) Page 14*

Drug	Low-Dose	Medium-Dose	High-Dose
Beclomethasone dipropionate 42 mcg/puff 84 mcg/puff	84 - 336 mcg 2 - 8 puffs 1 - 4 puffs	336 - 672 mcg 8 - 16 puffs 4 - 8 puffs	> 672 mcg > 16 puffs > 8 puffs
Budesonide Turbuhaler	100 - 200 mcg 1 inhalation	200 - 400 mcg 1 - 2 inhalations	> 400 mcg > 2 inhalations
Flunisolide 250 mcg/puff	500 - 750 mcg 2 - 3 puffs	750 - 1250 mcg 4 - 5 puffs	1250 mcg > 5 puffs
Fluticasone MDI: 44, 110, 220 mcg/puff DPI: (dried powder inhaler): 50, 100, 250 mcg/puff	88 - 176 mcg	176 - 440 mcg	> 440 mcg
Triamcinolone Acetonide 100 mcg/puff	400 - 800 mcg 4 - 8 puffs	800 - 1200 mcg 8 - 12 puffs	1200 mcg > 12 puffs

TABLE: Leukotriene Modifiers

*DoDIVA Asthma Clinical Practice Guideline–
 Management of Asthma: Annotations (A1a) Page 16*

Drug	Dosage Form	Dose	Age Approval Use
Montelukast	4 mg chewable tablet	Children (2 - 5 yrs) 4 mg qhs	≥ 2 yrs



MEDICATION TABLE–PEDIATRIC (Children Under 6 Years Old Who Cannot Perform Spirometry) cont.

Medications Doses (Adapted from the NAEPP EPR - 2 1997)

*DoDIVA Asthma Clinical Practice Guideline–
Management of Asthma: Annotations (A3p) Page 7*

Medications	Children's Dose	Comments
<i>Inhaled short-acting beta₂-agonists</i>		
Albuterol: MDI (90 mcg/puff) with spacer/holding chamber	4 to 8 puffs every 20 minutes x 3 doses then 1 - 4 hours as necessary	As effective as nebulized therapy if patient is able to coordinate inhalation maneuver
Nebulizer solution: (5 mg/ml)	0.15 mg/kg (minimum dose 2.5 -5.0 mg) every 20 minutes for 3 doses, then 0.15 - 0.3 mg/kg up to 10 mg every 1 - 4 hours when necessary or up to 0.5 mg/kg/hr continuously by nebulizer	Only selective beta ₂ -agonists are recommended. For optimal delivery, dilute aerosols to minimum of 4 ml at gas flow of 6 to 8 L/minute
<i>Systemic (subcutaneous) beta-agonists</i>		
Epinephrine: 1:1000 (1 mg/ml)	0.01 mg/kg up to 0.3 - 0.5 mg every 30 minutes x 3 doses subcutaneously	No proven advantage of systemic therapy over aerosol. May be hazardous in patients with coronary artery disease.
Terbutaline (1mg/ml)	0.01 mg/kg SQ every 20 minutes x 3 doses, q 2-6 hr prn	
<i>Anticholinergics</i>		
Ipratropium bromide: MDI (18 mcg/puff)	4 - 8 puffs as necessary	Dose delivered from MDI is low and has not been studied in asthma exacerbations.
Nebulizer solution: (0.25 mg/ml; 0.5 mg/vial)	0.25 - 0.5 mg every 20 minutes x 3 doses then every 2 to 6 hours	May mix in same nebulizer with albuterol. Should not be used as first line therapy; may be added to beta ₂ -agonist therapy.
<i>Corticosteroids</i>		
Prednisone Methylprednisolone Prednisolone	1 mg/kg every 6 hours x 48 hours, then 1 - 2 mg/kg/day with maximum of 60 mg/day For outpatient "burst": 2 mg/kg/day Maximum 60 mg/day x 3 - 10 days	For outpatient "burst," use 20 - 60 mg/day (approximately 2 mg/kg/day) in single or two divided doses for 3 - 10 days (See Discussion)

Proposed Asthma Metrics

Percentage of asthma visits with documented asthma severity level.

Percentage of patients with persistent asthma who are prescribed long-term controllers.

Percentage of patients with persistent asthma with written action plan documented in the past 12 months.