



FIGURE 13. STEPWISE APPROACH FOR MANAGING ASTHMA LONG TERM IN CHILDREN, 0-4 YEARS OF AGE AND 5-11 YEARS OF AGE

Step up if needed (first check inhaler technique, adherence, environmental control, and comorbid conditions)
 Assess control
 Step down if possible (and asthma is well controlled at least 3 months)

	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Notes
Preferred	Intermittent Asthma SABA PRN	Consult with asthma specialist if step 3 care or higher is required. Consider consultation at step 2. Low-dose ICS	Medium-dose ICS	Medium-dose ICS + LABA or Montelukast	High-dose ICS + LABA or Montelukast	High-dose ICS + LABA or Montelukast + Oral corticosteroids	<ul style="list-style-type: none"> The stepwise approach is meant to assist, not replace, the clinical decisionmaking required to meet individual patient needs. If an alternative treatment is used and response is inadequate, discontinue it and use the preferred treatment before stepping up. If clear benefit is not observed within 4–6 weeks, and patient's family's medication technique and adherence are satisfactory, consider adjusting therapy or an alternative diagnosis. Studies on children 0–4 years of age are limited. Step 2 preferred therapy is based on Evidence A. All other recommendations are based on expert opinion and extrapolation from studies in older children. Clinicians who administer immunotherapy should be prepared and equipped to identify and treat anaphylaxis that may occur.
Alternative		Cromolyn or Montelukast					
Quick-Relief Medication		Each Step: Patient Education and Environmental Control <ul style="list-style-type: none"> SABA as needed for symptoms. Intensity of treatment depends on severity of symptoms. With viral respiratory symptoms: SABA q 4–6 hours up to 24 hours (longer with physician consult). Consider short course of oral systemic corticosteroids if exacerbation is severe or patient has history of previous severe exacerbations. Caution: Frequent use of SABA may indicate the need to step up treatment. See text for recommendations on initiating daily long-term-control therapy.					
Preferred	Intermittent Asthma SABA PRN	Consult with asthma specialist if step 4 care or higher is required. Consider consultation at step 3. Low-dose ICS	Low-dose ICS + LABA, LTRA, or Theophylline	Medium-dose ICS + LABA	High-dose ICS + LABA	High-dose ICS + LABA + Oral corticosteroids	<ul style="list-style-type: none"> The stepwise approach is meant to assist, not replace, the clinical decisionmaking required to meet individual patient needs. If alternative treatment is used and response is inadequate, discontinue it and use the preferred treatment before stepping up. Theophylline is a less desirable alternative due to the need to monitor serum concentration levels. Step 1 and step 2 medications are based on Evidence A. Step 3 ICS and ICS plus adjunctive therapy are based on Evidence B for efficacy of each treatment and extrapolation from comparator trials in older children and adults—comparator trials are not available for this age group; steps 4–6 are based on expert opinion and extrapolation from studies in older children and adults. Immunotherapy for steps 2–4 is based on Evidence B for house-dust mites, animal danders, and pollens; evidence is weak or lacking for molds and cockroaches. Evidence is strongest for immunotherapy with single allergens. The role of allergy in asthma is greater in children than in adults. Clinicians who administer immunotherapy should be prepared and equipped to identify and treat anaphylaxis that may occur.
Alternative		Cromolyn, LTRA, Nedocromil, or Theophylline	OR Medium-dose ICS + LTRA, or Theophylline	Medium-dose ICS + LABA	High-dose ICS + LABA + Theophylline	High-dose ICS + LABA + Oral corticosteroids	
Quick-Relief Medication		Each Step: Patient Education, Environmental Control, and Management of Comorbidities <p>Steps 2–4: Consider subcutaneous allergen immunotherapy for patients who have persistent, allergic asthma.</p> <ul style="list-style-type: none"> SABA as needed for symptoms. Intensity of treatment depends on severity of symptoms: up to 3 treatments at 20-minute intervals as needed. Short course of oral systemic corticosteroids may be needed. Caution: Increasing use of SABA or use >2 days a week for symptom relief (not prevention of EIB) generally indicates inadequate control and the need to step up treatment.					

Reference: US Department of Health and Human Services; National Institutes of Health; National Heart, Lung, and Blood Institute; NAEPP Expert Panel Report 3: Guidelines for the Diagnosis and Management of Asthma, Summary Report 2007, P. 42