

STEPWISE APPROACH FOR MANAGING ASTHMA LONG TERM

The stepwise approach tailors the selection of medication to the level of asthma severity (see page 5) or asthma control (see page 6). The stepwise approach is meant to help, not replace, the clinical decisionmaking needed to meet individual patient needs.

**ASSESS
CONTROL:**

STEP UP IF NEEDED (first, check medication adherence, inhaler technique, environmental control, and comorbidities)

STEP DOWN IF POSSIBLE (and asthma is well controlled for at least 3 months)

	STEP 1	STEP 2	STEP 3	STEP 4	STEP 5	STEP 6
At each step: Patient education, environmental control, and management of comorbidities						
0-4 years of age		Intermittent Asthma	Persistent Asthma: Daily Medication Consult with asthma specialist if step 3 care or higher is required. Consider consultation at step 2.			
	Preferred Treatment [†]	SABA* as needed	low-dose ICS*	medium-dose ICS*	medium-dose ICS* + either LABA* or montelukast	high-dose ICS* + either LABA* or montelukast + oral corticosteroids
	Alternative Treatment ^{†,‡}		cromolyn or montelukast			
	Quick-Relief Medication	If clear benefit is not observed in 4-6 weeks, and medication technique and adherence are satisfactory, consider adjusting therapy or alternate diagnoses. ▪ SABA* as needed for symptoms; intensity of treatment depends on severity of symptoms. ▪ With viral respiratory symptoms: SABA every 4-6 hours up to 24 hours (longer with physician consult). Consider short course of oral systemic corticosteroids if asthma exacerbation is severe or patient has history of severe exacerbations. ▪ Caution: Frequent use of SABA may indicate the need to step up treatment.				
5-11 years of age		Intermittent Asthma	Persistent Asthma: Daily Medication Consult with asthma specialist if step 4 care or higher is required. Consider consultation at step 3.			
	Preferred Treatment [†]	SABA* as needed	low-dose ICS*	low-dose ICS* + either LABA*, LTRA*, or theophylline ^(b)	medium-dose ICS* + LABA*	high-dose ICS* + LABA* + oral corticosteroids
	Alternative Treatment ^{†,‡}		cromolyn, LTRA*, or theophylline [§]	OR medium-dose ICS	medium-dose ICS* + either LTRA* or theophylline [§]	high-dose ICS* + either LTRA* or theophylline [§] + oral corticosteroids
	Quick-Relief Medication	Consider subcutaneous allergen immunotherapy for patients who have persistent, allergic asthma.** ▪ SABA* as needed for symptoms. The intensity of treatment depends on severity of symptoms: up to 3 treatments every 20 minutes as needed. Short course of oral systemic corticosteroids may be needed. ▪ Caution: Increasing use of SABA or use >2 days/week for symptom relief (not to prevent EIB*) generally indicates inadequate control and the need to step up treatment.				
≥12 years of age		Intermittent Asthma	Persistent Asthma: Daily Medication Consult with asthma specialist if step 4 care or higher is required. Consider consultation at step 3.			
	Preferred Treatment [†]	SABA* as needed	low-dose ICS*	low-dose ICS* + LABA* OR medium-dose ICS*	medium-dose ICS* + LABA*	high-dose ICS* + LABA* + oral corticosteroid ^{§§}
	Alternative Treatment ^{†,‡}		cromolyn, LTRA*, or theophylline [§]	low-dose ICS* + either LTRA*, theophylline [§] , or zileuton ^{††}	medium-dose ICS* + either LTRA*, theophylline [§] , or zileuton ^{††}	AND consider omalizumab for patients who have allergies ^{††} AND consider omalizumab for patients who have allergies ^{††}
	Quick-Relief Medication	Consider subcutaneous allergen immunotherapy for patients who have persistent, allergic asthma.** ▪ SABA* as needed for symptoms. The intensity of treatment depends on severity of symptoms: up to 3 treatments every 20 minutes as needed. Short course of oral systemic corticosteroids may be needed. ▪ Caution: Use of SABA >2 days/week for symptom relief (not to prevent EIB*) generally indicates inadequate control and the need to step up treatment.				

* **Abbreviations:** EIB, exercise-induced bronchospasm; ICS, inhaled corticosteroid; LABA, inhaled long-acting beta₂-agonist; LTRA, leukotriene receptor antagonist; SABA, inhaled short-acting beta₂-agonist.

† Treatment options are listed in alphabetical order, if more than one.

‡ If alternative treatment is used and response is inadequate, discontinue and use preferred treatment before stepping up.

§ Theophylline is a less desirable alternative because of the need to monitor serum concentration levels.

** Based on evidence for dust mites, animal dander, and pollen; 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 or omalizumab should be prepared to treat anaphylaxis that may occur.

‡‡ Zileuton is less desirable because of limited studies as adjunctive therapy and the need to monitor liver function.

§§ Before oral corticosteroids are introduced, a trial of high-dose ICS + LABA + either LTRA, theophylline, or zileuton, may be considered, although this approach has not been studied in clinical trials.