

# ASTHMA PATHWAY

## Expert Panel Review-4

### Stepwise Approach to Asthma by Age



#### Expert Panel Review-4: Stepwise Approach to Asthma by Age

- **Consider a referral or consult to Asthma Clinic:**
  - Diagnostic uncertainty
  - 3 ED visits/year for asthma exacerbation
  - Side effects of medications (weight gain, mood changes, poor growth)
  - Allergic component
  - On steps 3 of therapy or higher
- **Consider advanced asthma referral:** *Advanced Asthma Clinic serves children with difficult-to-treat and uncontrolled asthma when standard therapies have not helped. Specialists in this clinic include Pediatric Allergy & Immunology and Pulmonary Physicians, Behavioral Health Providers, Certified Asthma Educators, Asthma Nurse Case Managers, Clinical Social Workers, Dietitians, Respiratory Therapists, Registered Nurses, and Certified Medical Assistants. Appointments are 3-4 hours long on the third Thursday of each month.*
  - Frequent exacerbations
  - High-risk patient (compliance, social or economic concerns, barriers to access, poor perception of disease, etc.)
  - More than 1 hospitalizations or 1 ICU admission in the last year

#### AGES 0-4 YEARS: STEPWISE APPROACH FOR MANAGEMENT OF ASTHMA

Treatment	Intermittent Asthma	Management of Persistent Asthma in Individuals Ages 0-4 Years				
	STEP 1	STEP 2	STEP 3	STEP 4	STEP 5	STEP 6
Preferred	PRN SABA and At the start of RTI: Add short course daily ICS <sup>▲</sup>	Daily low-dose ICS and PRN SABA	Daily low-dose ICS-LABA and PRN SABA <sup>▲</sup> or Daily low-dose ICS + montelukast,* or daily medium-dose ICS, and PRN SABA	Daily medium-dose ICS-LABA and PRN SABA	Daily high-dose ICS-LABA and PRN SABA	Daily high-dose ICS-LABA + oral systemic corticosteroid and PRN SABA
Alternative		Daily montelukast* or Cromolyn,* and PRN SABA		Daily medium-dose ICS + montelukast* and PRN SABA	Daily high-dose ICS + montelukast* and PRN SABA	Daily high-dose ICS + montelukast* + oral systemic corticosteroid and PRN SABA
For children age 4 years only, see Step 3 and Step 4 on Management of Persistent Asthma in Individuals Ages 5-11 Years diagram.						
<b>Assess Control</b> <ul style="list-style-type: none"><li>• First check adherence, inhaler technique, environmental factors, <sup>▲</sup> and comorbid conditions.</li><li>• <b>Step up</b> if needed; reassess in 4-6 weeks</li><li>• <b>Step down</b> if possible (if asthma is well controlled for at least 3 consecutive months)</li></ul> Consult with asthma specialist if Step 3 or higher is required. Consider consultation at Step 2. Control assessment is a key element of asthma care. This involves both impairment and risk. Use of objective measures, self-reported control, and health care utilization are complementary and should be employed on an ongoing basis, depending on the individual's clinical situation.						

**Abbreviations:** ICS, inhaled corticosteroid; LABA, long-acting beta<sub>2</sub>-agonist; SABA, inhaled short-acting beta<sub>2</sub>-agonist; RTI, respiratory tract infection; PRN, as needed

<sup>▲</sup> Updated based on the 2020 guidelines.

\* Cromolyn and montelukast were not considered for this update and/or have limited availability for use in the United States. The FDA issued a Boxed Warning for montelukast in March 2020.

**Disclaimer:** Pathways are intended as a guide for practitioners and do not indicate an exclusive course of treatment nor serve as a standard of medical care. These pathways should be adapted by medical providers, when indicated, based on their professional judgement and taking into account individual patient and family circumstances.

[ChildrensNebraska.org/Pathways](https://ChildrensNebraska.org/Pathways)

Updated 11/2024

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### AGES 5-11 YEARS: STEPWISE APPROACH FOR MANAGEMENT OF ASTHMA

	Intermittent Asthma	Management of Persistent Asthma in Individuals Ages 5–11 Years				
Treatment	STEP 1	STEP 2	STEP 3	STEP 4	STEP 5	STEP 6
Preferred	PRN SABA	Daily low-dose ICS and PRN SABA	Daily and PRN combination low-dose ICS-formoterol▲	Daily and PRN combination medium-dose ICS-formoterol▲	Daily high-dose ICS-LABA and PRN SABA	Daily high-dose ICS-LABA + oral systemic corticosteroid and PRN SABA
Alternative		Daily LTRA,* or Cromolyn,* or Nedocromil,* or Theophylline,* and PRN SABA	Daily medium-dose ICS and PRN SABA or Daily low-dose ICS-LABA, or daily low-dose ICS + LTRA,* or daily low-dose ICS + Theophylline,* and PRN SABA	Daily medium-dose ICS-LABA and PRN SABA or Daily medium-dose ICS + LTRA* or daily medium-dose ICS + Theophylline,* and PRN SABA	Daily high-dose ICS + LTRA* or daily high-dose ICS + Theophylline,* and PRN SABA	Daily high-dose ICS + LTRA* + oral systemic corticosteroid or daily high-dose ICS + Theophylline* + oral systemic corticosteroid, and PRN SABA
		Steps 2–4: Conditionally recommend the use of subcutaneous immunotherapy as an adjunct treatment to standard pharmacotherapy in individuals ≥ 5 years of age whose asthma is controlled at the initiation, build up, and maintenance phases of immunotherapy▲			Consider Omalizumab**▲	

**Assess Control**

- First check adherence, Inhaler technique, environmental factors,▲ and comorbid conditions.
- **Step up** if needed; reassess in 2–6 weeks
- **Step down** if possible (If asthma is well controlled for at least 3 consecutive months)

Consult with asthma specialist if Step 4 or higher is required. Consider consultation at Step 3.

Control assessment is a key element of asthma care. This involves both impairment and risk. Use of objective measures, self-reported control, and health care utilization are complementary and should be employed on an ongoing basis, depending on the individual's clinical situation.

**Abbreviations:** ICS, inhaled corticosteroid; LABA, long-acting beta<sub>2</sub>-agonist; LTRA, leukotriene receptor antagonist; SABA, inhaled short-acting beta<sub>2</sub>-agonist

<sup>▲</sup> Updated based on the 2020 guidelines.

\* Cromolyn, Nedocromil, LTRAs including montelukast, and Theophylline were not considered in this update and/or have limited availability for use in the United States, and/or have an increased risk of adverse consequences and need for monitoring that make their use less desirable. The FDA issued a Boxed Warning for montelukast in March 2020.

\*\* Omalizumab is the only asthma biologic currently FDA-approved for this age range.

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# ASTHMA PATHWAY

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### Stepwise Approach to Asthma by Age

#### AGES 12+ YEARS: STEPWISE APPROACH FOR MANAGEMENT OF ASTHMA

Intermittent Asthma		Management of Persistent Asthma in Individuals Ages 12+ Years				
Treatment	STEP 1	STEP 2	STEP 3	STEP 4	STEP 5	STEP 6 <sup>■</sup>
Preferred	PRN SABA	Daily low-dose ICS and PRN SABA or PRN concomitant ICS and SABA▲	Daily and PRN combination low-dose ICS-formoterol▲	Daily and PRN combination medium-dose ICS-formoterol▲	Daily medium-high dose ICS-LABA + LAMA and PRN SABA▲	Daily high-dose ICS-LABA + oral systemic corticosteroids + PRN SABA
Alternative		Daily LTRA* and PRN SABA or Cromolyn,* or Nedocromil,* or Zileuton,* or Theophylline,* and PRN SABA	Daily medium-dose ICS and PRN SABA or Daily low-dose ICS-LABA, or daily low-dose ICS + LAMA,▲ or daily low-dose ICS + LTRA,* and PRN SABA or Daily low-dose ICS + Theophylline* or Zileuton,* and PRN SABA	Daily medium-dose ICS-LABA or daily medium-dose ICS + LAMA, and PRN SABA▲ or Daily medium-dose ICS + LTRA,* or daily medium-dose ICS + Theophylline,* or daily medium-dose ICS + Zileuton,* and PRN SABA	Daily medium-high dose ICS-LABA or daily high-dose ICS + LTRA,* and PRN SABA	
		Steps 2-4: Conditionally recommend the use of subcutaneous immunotherapy as an adjunct treatment to standard pharmacotherapy in individuals ≥ 5 years of age whose asthma is controlled at the initiation, build up, and maintenance phases of immunotherapy▲			Consider adding Asthma Biologics (e.g., anti-IgE, anti-IL5, anti-IL5R, anti-IL4/IL13)**	

**Assess Control**

- First check adherence, inhaler technique, environmental factors,▲ and comorbid conditions.
- **Step up** if needed; reassess in 2–6 weeks
- **Step down** if possible (If asthma is well controlled for at least 3 consecutive months)

Consult with asthma specialist if Step 4 or higher is required. Consider consultation at Step 3.

Control assessment is a key element of asthma care. This involves both impairment and risk. Use of objective measures, self-reported control, and health care utilization are complementary and should be employed on an ongoing basis, depending on the individual's clinical situation.

**Abbreviations:** ICS, inhaled corticosteroid; LABA, long-acting beta<sub>2</sub>-agonist; LAMA, long-acting muscarinic antagonist; LTRA, leukotriene receptor antagonist; SABA, inhaled short-acting beta<sub>2</sub>-agonist

<sup>▲</sup> Updated based on the 2020 guidelines.

\* Cromolyn, Nedocromil, LTRAs including Zileuton and montelukast, and Theophylline were not considered for this update, and/or have limited availability for use in the United States, and/or have an increased risk of adverse consequences and need for monitoring that make their use less desirable. The FDA issued a Boxed Warning for montelukast in March 2020.

\*\* The AHRQ systematic reviews that informed this report did not include studies that examined the role of asthma biologics (e.g., anti-IgE, anti-IL5, anti-IL5R, anti-IL4/IL13). Thus, this report does not contain specific recommendations for the use of biologics in asthma in Steps 5 and 6.

■ Data on the use of LAMA therapy in individuals with severe persistent asthma (Step 6) were not included in the AHRQ systematic review and thus no recommendation is made.

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