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

Consider a referral or consult to Pulmonology/Allergy:
- Diagnostic uncertainty
- 3 ED visits/year for asthma exacerbation
- Side effects of medications (weight gain, mood changes, poor growth)
- High Risk Patient (compliance, social concerns, poor perception of disease)
- Allergic component
- On Steps 3 therapy or higher

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

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Intermittent Asthma</th>
<th>Management of Persistent Asthma in Individuals Ages 0–4 Years</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>STEP 1</strong></td>
<td>PRN SABA and At the start of RTI</td>
<td>Daily low-dose ICS and PRN SABA</td>
</tr>
<tr>
<td><strong>STEP 2</strong></td>
<td>Daily low-dose ICS-LABA and PRN SABA* or Daily low-dose ICS + montelukast* or daily medium-dose ICS and PRN SABA</td>
<td>Daily medium-dose ICS-LABA and PRN SABA</td>
</tr>
<tr>
<td><strong>STEP 3</strong></td>
<td>Daily high-dose ICS-LABA and PRN SABA</td>
<td>Daily high-dose ICS-LABA + oral systemic corticosteroid and PRN SABA</td>
</tr>
</tbody>
</table>

**Assess Control**
- First crack adherence, inhaler technique, environmental factors, and comorbid conditions.
- **Step up if necessary**: reassess in 4-6 weeks
- **Step down if possible**: if asthma is well controlled for at least 3 consecutive months

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 healthcare 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-agonist; SABA, inhaled short-acting beta-agonist; RTI, respiratory tract infection; PRN, as needed
- *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 Black Box Warning for montelukast in March 2020.
# ASTHMA PATHWAY

## Expert Panel Review-4

### Stepwise Approach to Asthma by Age

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

<table>
<thead>
<tr>
<th>Treatment</th>
<th>STEP 1</th>
<th>STEP 2</th>
<th>STEP 3</th>
<th>STEP 4</th>
<th>STEP 5</th>
<th>STEP 6</th>
</tr>
</thead>
</table>
| **Preferred** | PRN SABA | Daily low-dose ICS and PRN SABA | Daily and PRN combination low-dose ICS-foameterol

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| 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-LABA + oral systemic corticosteroid and PRN SABA | Daily high-dose ICS + LTRA* or daily high-dose ICS + Theophylline,* and PRN SABA | Daily high-dose ICS + LTRA* or oral systemic corticosteroid or daily high-dose ICS + Theophylline,* and PRN SABA |

### 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 beta₂-agonist; LTRA, leukotriene receptor antagonist;
- SABA, inhaled short-acting beta₂-agonist

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**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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**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.

[Children's Nebraska Pathways](https://www.childrensnebraska.org/pathways)

*Updated 01/2022*
## ASTHMA PATHWAY

### Expert Panel Review-4

**Stepwise Approach to Asthma by Age**

### Ages 12+ Years: Stepwise Approach for Management of Asthma

<table>
<thead>
<tr>
<th>Intermittent Asthma</th>
<th>Management of Persistent Asthma in Individuals Ages 12+ Years</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Treatment</strong></td>
<td>STEP 1</td>
</tr>
<tr>
<td>Preferred</td>
<td>PRN SABA</td>
</tr>
<tr>
<td>Alternative</td>
<td>Daily LTRA* and PRN SABA or Cromolyn,* or Nedocromil,* or Zileuton,* or Theophylline* and PRN SABA</td>
</tr>
</tbody>
</table>

### 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 healthcare 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 beta₂ agonist
- LAMA: long-acting muscarinic antagonist
- LTRA: leukotriene receptor antagonist
- SABA: inhaled short-acting beta₂-agonist

* 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 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-IL-5, anti-IL-13, anti-IL-17, and anti-IL-4/IL-13). 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.