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
**Stepwise Approach to Asthma by Age**

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

<table>
<thead>
<tr>
<th>Treatment</th>
<th><strong>STEP 1</strong></th>
<th><strong>STEP 2</strong></th>
<th><strong>STEP 3</strong></th>
<th><strong>STEP 4</strong></th>
<th><strong>STEP 5</strong></th>
<th><strong>STEP 6</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Alternative</strong></td>
<td>Daily LTRA* or Cromolyn* or Nedocromil* or Theophylline* and PRN SABA</td>
<td>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</td>
<td>Daily medium-dose ICS-LABA and PRN SABA or Daily medium-dose ICS + LTRA* or Daily medium-dose ICS + Theophylline* and PRN SABA</td>
<td>Daily high-dose ICS + LTRA* or daily high-dose ICS + Theophylline* and PRN SABA</td>
<td>Daily high-dose ICS + LTRA* or oral systemic corticosteroid or daily high-dose ICS + Theophylline* and PRN SABA</td>
<td></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. It 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
- * 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.

**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.

*ChildrensOmaha.org/Pathways*  Updated 01/2022
### Stepwise Approach to Asthma by Age

**Ages 12+ 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>
<tbody>
<tr>
<td>Intermittent Asthma</td>
<td>PRN SABA</td>
<td>Daily low-dose ICS and PRN SABA or PRN concomitant ICS and SABA</td>
<td>Daily and PRN combination low-dose ICS-formoterol</td>
<td>Daily and PRN combination medium-dose ICS-formoterol</td>
<td>Daily medium-high dose ICS-LABA + LAMA and PRN SABA</td>
<td>Daily high-dose ICS-LABA + oral systemic corticosteroids + PRN SABA</td>
</tr>
<tr>
<td>Preferred</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Alternative</td>
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<td></td>
</tr>
<tr>
<td>Daily LTABA and PRN SABA or Cromolyn* or Nedocromil* or Zileuton* or Theophylline* and PRN SABA</td>
<td>Daily medium-dose ICS-LABA or daily medium-dose ICS + LAMA and PRN SABA</td>
<td>Daily medium-dose ICS-LABA or daily medium-dose ICS + LTRA* or daily medium-dose ICS + Theophylline* or daily medium-dose ICS + Zileuton* and PRN SABA</td>
<td>Consider adding Asthma Biologics (e.g., anti-IgE, anti-IL5, anti-IL13, and IL-4/IL-13)**</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Assess Control**
- First check adherence, inhaler technique, environmental factors, and comorbidity conditions.
- Step up if needed; re-assess 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; 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-IgE, anti-IL5, anti-IL13, and 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.