Outpatient Asthma Management Pathway
Greater than 12 years of age

Make the Diagnosis
- Consider the diagnosis of asthma if symptoms include: recurrent coughing, wheezing or shortness of breath relieved by a bronchodilator.
- Spirometry > 12% increase of FEV1 post-bronchodilator
- Consider co-morbidities or alternate diagnosis, especially if poor control: GERD, aspiration, airway anomaly, foreign body, cystic fibrosis, anxiety, vocal cord dysfunction, tobacco/secondhand smoke exposure, or COPD. GERD is a common co-morbidity.
- If diagnosis is in doubt, consult with asthma specialist

Key Points of Assessment and Treatment
- Assess level of severity (Intermittent or Persistent) at the time of initial diagnosis and initiate treatment based on impairment and risk (see appendix)
- Asthma is a variable disease and needs to be assessed at every visit
- Use the Assess Asthma Control box to guide your assessment and make treatment decisions
- The goal of asthma therapy is to keep the patient in control as much as possible with the least amount of medication
- If at the first visit the patient is not well-controlled (see below), begin controller therapy. A patient should be diagnosed with persistent asthma if he/she needs a daily controller medication to stay in control.

Assess Asthma Control

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Well-Controlled</th>
<th>Not Well-Controlled</th>
<th>Very Poorly Controlled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asthma Control Test (ACT)</td>
<td>Score of ≥20</td>
<td>Score of 16-19</td>
<td>Score of ≤15</td>
</tr>
<tr>
<td>OR Assess all of the Below:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(Determination of level of control is dictated by the most severe criterion of impairment)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Daytime Symptoms</td>
<td>≤2 days/week</td>
<td>&gt;2 days/week</td>
<td>Throughout the day</td>
</tr>
<tr>
<td>2. Nighttime Awakenings</td>
<td>≤2 times/month</td>
<td>1-3 times/week</td>
<td>≥4 times/night</td>
</tr>
<tr>
<td>3. Limitation of Activities</td>
<td>None</td>
<td>Some limitation</td>
<td>Extremely limited</td>
</tr>
<tr>
<td>4. Short-acting beta-agonist use for symptom control (not prevention of EIB)</td>
<td>≤2 days/week</td>
<td>&gt;2 days/week</td>
<td>Several times per day</td>
</tr>
</tbody>
</table>

If Well Controlled:
- Follow the Stepwise Approach Guideline (see page 2). Consider step down if well-controlled for 3 consecutive months.
- Re-assess every 1-6 months.

If Not Well Controlled:
- Follow the Stepwise Approach Guideline. If initial visit, start at Step 2. Step up until well-controlled.
- Re-assess in 2-6 weeks. For side effects, consider alternative treatment.

If Very Poorly Controlled:
- Consider short course of oral prednisone 3 to 10 days (1-2 mg/kg, daily max 60 mg). If initial visit, start at Step 2. Step up 1-2 steps using Stepwise Approach Guideline. Re-assess in 2 weeks.

Consider Referral to a Specialist: If not well-controlled within 3-6 months using Stepwise Approach OR if 2 or more ED visits/hospitalizations for asthma in a year

Other Criteria

<table>
<thead>
<tr>
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<th>Well-Controlled</th>
<th>Not Well-Controlled</th>
<th>Very Poorly Controlled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Courses of prednisone in last year</td>
<td>&lt;2</td>
<td>≥2</td>
<td>≥2</td>
</tr>
<tr>
<td>FEVs % predicted</td>
<td>&gt;80% predicted or personal best</td>
<td>60-80% predicted or personal best</td>
<td>&lt;60% predicted or personal best</td>
</tr>
<tr>
<td>OR</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FEV1/FVC ratio</td>
<td>Normal ratio for age</td>
<td>≤5% decrease in ratio for age</td>
<td>&gt;5% decrease in ratio for age</td>
</tr>
</tbody>
</table>

Other Things to Consider at Every Visit:
1. Environmental Controls, Pets, Smoke, Perfume, Allergies, Respiratory Infections
2. Provide Asthma Care Plan, Educate on use of MDI and Spacers
3. Treat Comorbidities
4. Check Adherence to Medication Routine

## Outpatient Asthma Management Pathway

### Greater than 12 years of age

#### Intermittent Asthma

- **Step 1**: Short-acting beta-agonist e.g., albuterol or levalbuterol (Xopenex HFA) PRN
  - If used more than 2 days/week (other than for exercise), consider inadequate control and the need to step up treatment.

#### Persistent Asthma: Daily Medication

- **Step 2**
  - **Preferred:**
    - Low-dose ICS
    - Fluticasone MDI (44mcg) 2 puffs 2x daily
    - Flovent HFA
  - **Alternative:**
    - Leukotriene blockers: (LB)
    - Montelukast
      - 12-14 yrs - 5mg/day
      - >15 yrs - 10mg/day

- **Step 3**
  - **Preferred:**
    - Medium dose ICS
    - Fluticasone MDI (110 mcg) 2 puffs 2x daily
  - **OR**
    - Low-dose inhaled steroid plus LABA Combinations:
      - Fluticasone/Salmeterol Advair Diskus (100 mcg/25mcg) 1 inh 2x daily
      - Fluticasone/Salmeterol Advair HFA (45 mcg/21mcg) 2 inh 2x daily

- **Step 4**
  - **Preferred:**
    - Medium dose ICS + LABA
    - Fluticasone/Salmeterol Advair Diskus (250 mcg/50 mcg) 1 inh 2x daily
  - **OR**
    - Mometasone/Formoterol Dulera MDI (100 mcg/5 mcg) 2 inh 2x daily
    - Mometasone/Formoterol Symbicort MDI (80 mcg/4.5 mcg) 2 inh 2x daily
    - Fluticasone/Salmeterol Breo Elepta (100 mcg/25 mcg) 1 inh 1x daily

- **Step 5**
  - **Preferred:**
    - High-dose inhaled steroid plus LABA -and-
    - Consider omalizumab (Xolair) if allergies
    - Fluticasone/Salmeterol Advair HFA (500 mcg/50 mcg) 1 inh 2x daily
  - **OR**
    - Mometasone/Formoterol Dulera MDI (200 mcg/5 mcg) 2 inh 2x daily
    - Mometasone/Formoterol Symbicort MDI (160/4.5 mcg) 2 puffs 2x daily
    - Ciclesonide Alvesco (160 mcg) 2 puffs 2x daily

- **Step 6**
  - **Preferred:**
    - High-dose inhaled steroid plus LABA -and-
    - Consider omalizumab (Xolair) if allergies

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**Schedule Follow-up Care**: Frequency of follow-up visits based on severity:
- **Step 1-2**: 2x per year
- **Step 3-4**: Every 3 months
- **Step 5-6**: Every 1-2 months

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**Consider Pediatric Pulmonary Consultation at Step 3**