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
- 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>Criterion</th>
<th>Well-Controlled (Yes 3/5)</th>
<th>Not Well-Controlled (Yes 3/5)</th>
<th>Very Poorly Controlled (Yes 5/5)</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>
</tbody>
</table>

OR Assess all of the Below:
1. Daytime Symptoms ≤2 days/week >2 days/week Throughout the day
2. NighttimeAwakenings ≤2 times/week 1-3 times/week ≥4 times/night
3. Limitation of Activities None Some limitation Extremely limited
4. Short-acting beta-agonist use for symptom control (not prevention of EIB) ≤2 days/week >2 days/week Several times per day
5. FEVs₁% predicted >80% predicted or personal best 60-80% predicted or personal best <60% predicted or personal best

OR
FEVs₁/FVC ratio Normal ratio for age ≤5% decrease in ratio for age >5% decrease in ratio for age

Exercise-Induced Bronchospasm (EIB)
- If symptoms resolve without treatment after 5 minutes of rest, it is more likely poor conditioning.
- If EIB is unresponsive to albuterol and the patient has allergies, consider starting an inhaled steroid (see Stepwise Treatment Table)
- If still unresponsive after starting inhaled steroid, refer to specialist

Spirometry
- Normal
- FEVs₁/FVC
- 8-19 yrs > 85%
- 20-39 yrs ≥ 80%
- 40-59 yrs ≥75%
- 60-80 yrs ≥70%
- FEVs₁,
- Severe Asthma < 60% predicted
- Moderate Asthma 60-79% predicted
- Mild Asthma 80-100% predicted

If Well Controlled:
Follow the Stepwise Treatment 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 for 3 to 10 days (1-2 mg/kg, daily max 60mg). 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

### Intermittent Asthma

<table>
<thead>
<tr>
<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>Short-acting beta-agonist e.g., albuterol PRN or levalbuterol (Xopenex HFA) PRN</td>
<td><em>Preferred:</em> Low-dose ICS: Fluticasone MDI Flovent HFA (44mcg) 1-2 puffs 2x daily  Or Fluticasone DPI Flovent Diskus (50-100mcg) 1 inh 2x daily  Or Budesonide DPI Pulmicort Flexhaler (90 mcg) 1 inh 2x daily  Or Budesonide Suspension Pulmicort Respule (0.50mg) 2x daily  Or Beclomethasone MDI QVAR HFA (40mg) 2 puffs 2x daily  Or Montelukast Asmanex Twisthaler (110mcg) 1 inh 1x daily Asmanex MDI (100 mcg) 1 puff 2x daily</td>
<td><em>Preferred:</em> Medium dose ICS: Fluticasone MDI Flovent HFA (44mcg) 2-4 puffs 2x daily or (110mcg) 1 puff 2x daily  Or Fluticasone DPI Flovent Diskus (100mcg) 2 inh 2x daily  Or Budesonide DPI Pulmicort Flexhaler (180mcg) 1 inh 2x daily  Or Budesonide Suspension Pulmicort Respules (0.5mg) 1 respule 2x daily or (1mg) 1 respule 1x daily  Or Beclomethasone MDI QVAR HFA (80 mcg) 2 puffs 2x daily  Asmanex (200 mcg) 1 puff 2x daily  Or Alvesco Ciclesonide 80 mcg 2 puffs 2x daily</td>
<td><em>Preferred:</em> Medium-dose ICS plus LABA Fluticasone/Salmeterol Advair MDI (115/211) 1 inh 2x daily  Or Dulera (100mcg /5mcg) 2 puffs 2x daily  Or Mometasone Asmanex Twisthaler (220mcg) &gt;2 inh 2x daily</td>
<td><em>Preferred:</em> High dose inhaled steroid plus LABA Fluticasone/Salmeterol Advair Diskus (500mcg/50mcg) 1 inh 2x daily  Or Advair MDI (230/21mcg) 2 puffs 2x daily  Or Budesonide/Formoterol Symbicort MDI (160mcg/4.5mcg) 2 inh 2x daily  Or Dulera 200mcg /5mcg 2 puffs 2x daily  Or Mometasone Asmanex Twisthaler (220mcg) &gt;2 inh 2x daily</td>
<td><em>Alternative:</em> High-dose ICS and leukotriene inhibitor and oral steroid  Ciclesonide Alvesco 160 mcg 2 puffs 2x daily  Or Fluticasone DPI Flovent Diskus (100mcg) 2 inh 2x daily  Or Budesonide DPI Pulmicort Flexhaler (180mcg) 2 inh 2x daily  Or Budesonide Respules Pulmicort Respules (1.0mg) 1 respule 2x daily  Or Beclomethasone MDI QVAR HFA (80mcg) &gt;2 puffs 2x daily  Or Mometasone Asmanex (200mcg) 2 inh 2x daily  Montelukast (Singulair) 5mg daily  Or Zafirlukast (Accolate) 10mg 2x daily</td>
</tr>
</tbody>
</table>

**Consider Pediatric Pulmonary Consultation at Step 3**

**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

Reviewed By: Shimoni Dharia, M.D.  
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