# Guidelines for the Diagnosis and Management of Asthma

## Classifying asthma severity and initiating treatment in youths and adults

### Components of Severity

<table>
<thead>
<tr>
<th>Impairment (Normal FEV1/FVC*)</th>
<th>Intermittent</th>
<th>Persistent</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mild</td>
<td>Moderate</td>
</tr>
<tr>
<td>Symptoms</td>
<td>≤2 days/week</td>
<td>&gt;2 days/week but not daily</td>
</tr>
<tr>
<td>Nighttime awakenings</td>
<td>≤2x/month</td>
<td>3-4x/month</td>
</tr>
<tr>
<td>SABA¹ use for symptom control</td>
<td>≤2 days/week</td>
<td>&gt;2 days/week but not daily and not more than 1x on any day</td>
</tr>
<tr>
<td>Interference with normal activity</td>
<td>None</td>
<td>Minor limitation</td>
</tr>
<tr>
<td>Lung function</td>
<td>× Normal FEV1 between exacerbations</td>
<td>× FEV₁ &gt;80% predicted</td>
</tr>
<tr>
<td></td>
<td>× FEV₁/FVC normal</td>
<td>× FEV₁/FVC reduced 5%</td>
</tr>
<tr>
<td>Exacerbations requiring oral systemic corticosteroids</td>
<td>0-1x/year</td>
<td>≥2x/year</td>
</tr>
</tbody>
</table>

Consider severity and interval since last exacerbation. Frequency and severity may fluctuate over time for patients in any severity category. Relative annual risk of exacerbations may be related to FEV₁.

### Risk

| Exacerbations requiring oral systemic corticosteroids | 0-1x/year | ≥2x/year |

### Recommended Step for Initiating Treatment

See bar chart on reverse for treatment steps

1. **Step 1**
2. **Step 2**
3. **Step 3**
4. **Step 4 or 5**

### Assessing asthma control and adjusting therapy in youths and adults

<table>
<thead>
<tr>
<th>Components of Control</th>
<th>Well Controlled</th>
<th>Not Well Controlled</th>
<th>Very Poorly Controlled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symptoms</td>
<td>≤2 days/week</td>
<td>&gt;2 days/week</td>
<td>Throughout the day</td>
</tr>
<tr>
<td>Nighttime awakenings</td>
<td>≤2x/month</td>
<td>1-3x/month</td>
<td>≥4x/month</td>
</tr>
<tr>
<td>SABA¹ use for symptom control</td>
<td>≤2 days/week</td>
<td>&gt;2 days/week</td>
<td>Several times per day</td>
</tr>
<tr>
<td>Interference with normal activity</td>
<td>None</td>
<td>Minor limitation</td>
<td>Some limitation</td>
</tr>
<tr>
<td>FEV₁ or peak flow</td>
<td>&gt;80% predicted/personal best</td>
<td>60-80% predicted/personal best</td>
<td>&lt;50% predicted/personal best</td>
</tr>
<tr>
<td>Validated questionnaires: ATAQ² ACQ³ ACT⁴</td>
<td>0</td>
<td>1-2</td>
<td>3-4</td>
</tr>
<tr>
<td></td>
<td>≤0.75</td>
<td>≤1.5</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>&lt;20</td>
<td>16-19</td>
<td>≤15</td>
</tr>
<tr>
<td>Exacerbations requiring oral systemic corticosteroids</td>
<td>0-1x/year</td>
<td>≥2x/year</td>
<td></td>
</tr>
<tr>
<td>Progressive loss of lung function</td>
<td>Consider severity and interval since last exacerbation</td>
<td>Evaluation requires long-term follow-up care</td>
<td></td>
</tr>
<tr>
<td>Treatment-related adverse effects</td>
<td>Medication side effects can vary in intensity from none to very troublesome and worrisome. The level of intensity does not correlate to specific levels of control but should be considered in the overall assessment of risk.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Recommended Action for Treatment

(See "Stepwise Approach for Managing Asthma" on reverse for treatment steps)

- **Maintain current step.**
- **Regular follow-up at every 1-6 months to maintain control.**
- **Consider step down if well controlled for at least 3 months.**
- **Step up 1 step.**
- **Re-evaluate in 2-6 weeks.**
- **For side effects, consider alternative treatment options.**
- **Consider short course of oral systemic corticosteroids.**
- **Step up 1-2 steps.**
- **Re-evaluate in 2 weeks.**
- **For side effects, consider alternative treatment options.**

### Level of severity is determined by assessment of both impairment and risk. Assess impairment domain by patient’s/caregiver’s recall of previous 2-4 weeks and spirometry. Assign severity to the most severe category in which any feature occurs.

### Assessing asthma control and adjusting therapy in youths and adults

Before step up in therapy: **Review adherence to medication, inhaler technique, environmental control, & comorbid conditions.**

- If an alternative treatment option was used in a step, discontinue and use the preferred treatment for that step.

The level of control is based on the most severe impairment or risk category. Assess impairment domain by patient’s recall of previous 2-4 weeks and by spirometry or peak flow measures. Symptom assessment for longer periods should reflect a global assessment, such as inquiring whether the patient’s asthma is better or worse since the last visit.

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¹SABA = short-acting beta₂-agonist; ²EIB = Exercise Induced Bronchospasm;
³Lung function: Normal FEV1/FVC: 8-19 yr 85%, 20-39 yr 80%, 40-59 yr 75%, 60-80 yr 70%;
⁴ATAQ = Asthma Therapy Assessment Questionnaire; ⁵ACQ = Asthma Control Questionnaire; ⁶ACT = Asthma Control Test.
Guidelines for the Diagnosis and Management of Asthma

Stepwise approach for managing asthma in youths and adults

<table>
<thead>
<tr>
<th>Intermittent Asthma</th>
<th>Persistent Asthma: Daily Medication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consult with asthma specialist if step 4 care or higher is required. Consider consultation at step 3.</td>
<td></td>
</tr>
</tbody>
</table>

Step 1
Preferred: SABA* PRN
Alternative: Cromolyn, LTRA†, nedocromil, or theophylline

Step 2
Preferred: Low-dose ICS† OR Medium-dose ICS
Alternative: Low-dose ICS + either LTRA, theophylline, or zileuton

Step 3
Preferred: Medium-dose ICS + LABA
Alternative: Medium-dose ICS + either LTRA, theophylline, or zileuton

Step 4
Preferred: Medium-dose ICS + LABA AND Consider omalizumab for patients who have allergies

Step 5
Preferred: High-dose ICS + LABA + oral corticosteroid AND Consider omalizumab for patients who have allergies

Step 6
Step Up if needed (first check adherence, environmental control, and comorbid conditions)

Establishing a diagnosis:

To establish a diagnosis of asthma, use medical history and physical examination to determine that symptoms of recurrent episodes of airflow obstruction are present.

Use spirometry in all patients ≥5 years of age to determine that airway obstruction is at least partially reversible. Consider alternative causes of airway obstruction.

Quick-Relief Medications for all Patients
- SABA as needed for symptoms. Intensity of treatment depends on severity of symptoms: up to 3 treatments at 20-minute intervals as needed.
- Use of SABA >2 days a week for symptom relief (not prevention of EIBII) generally indicates inadequate control and the need to step up treatment.

Spirometry testing:

Spirometry is an essential objective measure to establish the diagnosis of asthma because the medical history and physical examination are not reliable means of excluding other diagnoses or of assessing lung status. Reversibility is determined by an increase in FEV₁ of >200mL and ≥12% from baseline measure after inhalation of short-acting beta₂-agonist (SABA).

Spirometry should also be used to obtain objective measures of lung function at the following intervals:
- After treatment is initiated and symptoms and PEF have stabilized.
- During periods of progressive or prolonged loss of asthma control.
- At least every 1-2 years; more frequently depending on response to therapy.

To enroll a member in ConnectiCare’s Total Population Health Program, call 1-800-390-3522. To learn more about the program, refer to ConnectiCare’s Physician and Provider Manual or connecticare.com.

*Short-acting inhaled beta₂-agonist; †Inhaled corticosteroid; ‡Leukotriene receptor antagonist; §Long-acting inhaled beta₂-agonist; IIIExercise Induced Bronchoconstriction