

# VA/DoD Clinical Practice Guideline Management of Asthma in Children and Adults

## The Diagnosis of ASTHMA should be considered if:

- RECURRENT symptoms of cough, wheeze, shortness of breath, or chest tightness.
- Symptoms occur or worsen at night, awakening from sleep.
- Symptoms occur or worsen due to factors/triggers commonly known to precipitate asthma.
- Alternative diagnoses have been considered such as EIB, GERD, airway anomaly, foreign body, cystic fibrosis, vocal cord dysfunction, TB, or COPD. If diagnosis is in doubt, consider specialist consultation.

## The Diagnosis of ASTHMA may be confirmed if:

- Spirometry demonstrates obstruction and reversibility by an increase in FEV1 of >12% after bronchodilator (in all adults and children > 5 years of age).
- Spirometry demonstrates variability on repeat testing at different times.
- Spirometry should be readily available, to include appropriately trained personnel to perform and interpret testing properly

## Assess Asthma Severity:

### Any of the following indicate PERSISTENT ASTHMA

- Daytime symptoms >2 days/week **OR**
- Nighttime awakening >2/month **OR**
- Limitation of activities, despite pretreatment for EIB **OR**
- Short-acting beta2-agonist (SABA) use for symptom control >2 days per week (not prevention of EIB) **OR**
- Exacerbation requiring oral/intravenous systemic steroids **OR**  
Age > 5 yrs: ≥ 2 in past year  
Age 0-4 yrs: ≥ 2 in 6 months, or > 4 wheezing episodes during the past year lasting >1 day and risk factors for persistent asthma
- FEV1 < 80% predicted **OR**
- FEV1/FVC < predicted normal range for age

Risk factors for persistent asthma include parental history of asthma, a physician diagnosis of atopic dermatitis, or evidence of sensitization to aeroallergens, or two of the following: evidence of sensitization to foods, >4% peripheral blood eosinophilia, or wheezing apart from colds.

#### FEV1/FVC:

5-19 yrs >85%  
20-39 yrs >80%  
40-59 yrs >75%  
60-80 yrs >70%

**Initiate treatment for Persistent Asthma:  
Daily Inhaled Corticosteroids (Step 2 or higher)**

**Assess response within 2-6 weeks**  
(Following ED visit and/or admission, reassess within 72 hours)

### Is Asthma Well Controlled?

1. Daytime symptoms: ≤2 days/week **AND**
2. Nighttime awakening: ≤2 nights/ month **AND**
3. No interference with normal activities **AND**
4. SABA use for symptom control ≤2 times/week (not prevention of EIB) **AND**
5. Exacerbation requiring oral systemic steroids 0-1x/year **AND**
6. FEV1 >80% predicted **AND**
7. FEV1/FVC in normal range (see normal value above)

No

Yes

Maintain therapy.  
Consider **Step Down** if **well controlled** for 3 consecutive months.  
**Reassess every 1 to 6 months**

Review adherence to medication, inhaler technique, environmental control, and co-morbid conditions.  
If an alternative treatment option was used in a step, discontinue and use the preferred treatment.

If no issues identified, then **Step Up** therapy.  
**Reassess in 2-6 weeks.** Continue to **step up** until **well controlled**

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### Quick Tips for All Patients with Asthma

<b>Asthma Action Plan</b>	At diagnosis; Review and update at each visit
<b>Medications</b>	<p><b>SABA</b> (e.g., inhaled albuterol):</p> <ol style="list-style-type: none"> <li>1) for quick relief every 4-6 hours as needed</li> <li>2) Pre-treat with 2 puffs for exercise-induced bronchospasm (EIB) 5 minutes before exercise</li> </ol> <p><b>Inhaled Corticosteroids (ICS):</b> Preferred therapy for all patients with persistent asthma</p> <p><b>Oral Corticosteroids:</b> Consider burst for acute exacerbation</p> <p><b>Correct</b> Inhaled Medication Device technique at every visit</p>
<b>Environmental Control</b>	Identify and avoid exposures such as tobacco smoke, pollens, molds, animal dander, cockroaches, and dust mites (Allergy testing recommended for patient with persistent asthma who is exposed to perennial indoor allergens)
<b>Follow-up Visit</b>	Every 1-6 months
<b>Asthma Control</b>	Use tools such as ACT™ © to assess asthma control
<b>Spirometry</b>	At diagnosis and At least every 1-2 years starting at age 5 <b>(Not During Exacerbation)</b>
<b>Preventive Health</b>	<ul style="list-style-type: none"> <li>▪ <b>Flu Vaccine:</b> Recommend annually</li> <li>▪ <b>Smoking Cessation</b></li> <li>▪ <b>Coping with chronic disease counseling</b></li> </ul>

### Indications for Asthma Specialist Consultation

- Asthma is unresponsive to therapy
- Asthma is not well controlled within 3-6 months of treatment
- Life-threatening asthma exacerbation
- Hospitalization for asthma
- Required >2 bursts oral corticosteroids in 1 year
- Requires higher level step care (see Stepwise Approach)
- Patient is being considered for immunotherapy or specialized medication
- Patient requires additional education on complications of therapy, problems with adherence, or allergen avoidance (Asthma Educator)
- Patient / parent request
- Other conditions complicate management (e.g., recurrent sinusitis, nasal polyps, aspergillosis, severe rhinitis, VCD, GERD, COPD) that do not respond to appropriate management
- Additional diagnostic testing is indicated (e.g., allergy skin testing, rhinoscopy, complete pulmonary function studies, bronchoscopy)

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Step	Daily Medications <sup>[a]</sup>		
	Age	Preferred	Alternative
1		SABA PRN <sup>[b]</sup>	--
2		Low-dose ICS	--
3	0-4	Medium-dose ICS or Low-dose ICS +LTRA	--
	5 to Adult:	Low-dose ICS + LABA or Medium-dose ICS	Low-dose ICS + LTRA
4	0-4	Medium-dose ICS + LTRA	Consider referral to specialist
	5 to Adult	Medium-dose ICS + LABA	Medium-dose ICS + LTRA
5	0-4	Medium-dose ICS + LABA + LTRA	Refer to specialist
	5 to Adult	High-dose ICS + LABA Consider oral corticosteroids <sup>[c]</sup>	Medium-dose ICS + LABA + LTRA Consider referral to specialist
6	0-4	High-dose ICS + LABA + LTRA (Consider 5-10 day course of oral corticosteroids)	Refer to specialist
	5 to Adult	High-dose ICS + LABA + oral corticosteroids	High-dose ICS + LABA + LTRA Refer to specialist

**[a] Every step:** Patient education, environmental control, and management of co-morbidities.

**Steps 2-4:** Consider subcutaneous allergen immunotherapy for patients who have allergic asthma.

**Steps 4-6:** Consider referral to specialist for evaluation and/or management.

**Steps 5-6:** Consider Omalizumab for patients with allergies and elevated IgE.

**[b] 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. Short course of oral systemic corticosteroids may be needed.

**[c] More than 2 exacerbations per year** (requiring oral systemic steroids) should prompt step up in therapy

ICS = Inhaled Corticoid Steroids ; LTRA = Leukotriene Receptor Antagonist;  
LABA =Long-Acting Beta Agonists; SABA = Short-Acting Beta Agonists;