

GUIDELINES FOR THE DIAGNOSIS AND MANAGEMENT OF ASTHMA¹ CLASSIFYING ASTHMA SEVERITY AND INITIATING TREATMENT IN YOUTHS AND ADULTS

≥ 12 YEARS OF AGE

Components of Severity		Classification of Asthma Severity (≥12 years of age)			
		Intermittent	Persistent		
			Mild	Moderate	Severe
Impairment (Normal FEV ₁ /FVC ^{**})	Symptoms	≤ 2 days/week	> 2 days/week but not daily	Daily	Throughout the day
	Nighttime awakenings	≤ 2x/month	3-4x/month	>1x/week but not nightly	Often 7x/week
	SABA [†] use for symptom control (not prevention of EIB [*])	≤ 2 days/week	> 2 days/week but not daily and not more than 1x on any day	Daily	Several times per day
	Interference with normal activity	None	Minor limitation	Some limitation	Extremely limited
	Lung function	<ul style="list-style-type: none"> • Normal FEV₁ between exacerbations • FEV₁ >80% predicted • FEV₁/FVC normal 	<ul style="list-style-type: none"> • FEV₁ > 80% predicted • FEV₁/FVC normal 	<ul style="list-style-type: none"> • FEV₁ > 60% but < 80% predicted • FEV₁/FVC reduced 5% 	<ul style="list-style-type: none"> • FEV₁ < 60% predicted • FEV₁/FVC reduced > 5%
Risk	Exacerbations requiring oral systemic corticosteroids	0-1/year	≥ 2/year		
		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 FEV ₁			
Recommended Step for Initiating Treatment		Step 1	Step 2	Step 3	Step 4 or 5
See bar chart on reverse for treatment steps		and consider short course of oral systemic corticosteroids			
In 2-6 weeks, evaluate level of asthma control that is achieved and adjust therapy accordingly.					

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.

† SABA = short-acting beta₂-agonist

* EIB = Exercise Induced Bronchospasm

** Lung function: Normal FEV₁/FVC: 8-19 yr 85%, 20-39 yr 80%, 40-59 yr 75%, 60-80 yr 70%

‡ ATAQ = Asthma Therapy Assessment Questionnaire

§ ACQ = Asthma Control Questionnaire

∞ ACT = Asthma Control Test

ASSESSING ASTHMA CONTROL AND ADJUSTING THERAPY IN YOUTHS AND ADULTS

≥ 12 YEARS OF AGE

Components of Control		Classification of Asthma Control (≥12 years of age)		
		Well Controlled	Not Well Controlled	Very Poorly Controlled
Impairment	Symptoms	≤ 2 days/week	> 2 days/week	Throughout the day
	Nighttime awakenings	≤ 2x/month	1-3x/week	≥ 4x/week
	SABA [†] use for symptom control (not prevention of EIB [*])	≤ 2 days/week	> 2 days/week	Several times per day
	Interference with normal activity	None	Some limitation	Extremely limited
	FEV ₁ or peak flow	> 80% predicted/personal best	60-80% predicted/personal best	< 60% predicted/personal best
	Validated questionnaires: ATAQ [‡] ACQ [§] ACT [∞]	0 ≤ 0.75 ≥ 20	1-2 ≥ 1.5 16-19	3-4 N/A ≤ 15
Risk	Exacerbations requiring oral systemic corticosteroids	0-1/year	≥ 2/year	
		Consider severity and interval since last exacerbation		
	Progressive loss of lung function	Evaluation requires long-term follow-up care		
	Treatment-related adverse effects	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.		
Recommended Action for treatment <i>(See "Stepwise Approach for Managing Asthma" on reverse for treatment steps)</i>		<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • Step up 1 step. • Re-evaluate in 2-6 weeks. • For side effects, consider alternative treatment options. 	<ul style="list-style-type: none"> • Consider short course of oral systemic corticosteroids. • Step up 1-2 steps. • Re-evaluate in 2 weeks. • For side effects, consider alternative treatment options.

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.

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.

GUIDELINES FOR THE DIAGNOSIS AND MANAGEMENT OF ASTHMA¹

STEPWISE APPROACH FOR MANAGING ASTHMA IN YOUTHS AND ADULTS

≥ 12 YEARS OF AGE

Intermittent Asthma

Persistent Asthma: Daily Medication

Consult with asthma specialist if step 4 care or higher is required. Consider consultation at step 3.

Step 1

Preferred:
SABA* PRN

Step 2

Preferred:
Low-dose ICS[†]

Alternative:
Cromolyn,
LTRA,[‡]
nedocromil, or
theophylline

Step 3

Preferred:
Low-dose
ICS + LABA[§]

OR
Medium-dose ICS

Alternative:
Low-dose ICS +
either LTRA,
theophylline, or
zileuton

Step 4

Preferred:
Medium-dose
ICS + LABA

Alternative:
Medium-dose
ICS + either
LTRA,
theophylline,
or zileuton

Step 5

Preferred:
High-dose
ICS + LABA

AND
Consider
omalizumab for
patients who
have allergies

Step 6

Preferred:
High-dose
ICS + LABA +
oral
corticosteroid

AND
Consider
omalizumab for
patients who
have allergies

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

**ASSESS
CONTROL**

**Step Down
if possible**
(and asthma is
well controlled
at least
3 months)

Patient Education, Environmental Control, and Management of Comorbidities at Each Step

Consider subcutaneous allergen immunotherapy for patients who have allergic asthma at steps 2 through 4

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
- Use of SABA > 2 days a week for symptom relief (not prevention of EIB^{||}) generally indicates inadequate control and the need to step up treatment

- The stepwise approach is meant to assist, not replace, the clinical decision-making required to meet individual patient needs.
- If alternative treatment is used and response is inadequate, discontinue it and use the preferred treatment before stepping up.
- Zileuton is a less desirable alternative due to limited studies as adjunctive therapy and the need to monitor liver function. Theophylline requires monitoring of serum concentration levels.
- Clinicians who administer immunotherapy or omalizumab should be prepared and equipped to identify and treat anaphylaxis that may occur.

Establishing a diagnosis:¹

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.

Spirometry Testing:¹

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 $>200\text{mL}$ and $\geq 12\%$ 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.

¹ National Asthma Education and Prevention Program Expert Panel Report 3 Guidelines for the Diagnosis and Management of Asthma, National Heart, Lung, and Blood Institute, Summary Report 2007

*BREATHE-Asthma is a Health Management Program available to ConnectiCare members with asthma. Enrolled members may receive educational materials and individualized case management services from a Respiratory RN Case Manager. To enroll a member in BREATHE-Asthma, call **1-800-390-3522**. To find out more information about ConnectiCare's Health Management Programs, refer to ConnectiCare's Physician & Provider Manual or to www.connecticare.com.*



* Short-acting inhaled beta₂-agonist.

† Inhaled corticosteroid.

‡ Leukotriene receptor antagonist

§ Long-acting inhaled beta₂-agonist.

|| Exercise-induced bronchospasm.