

Physician Guidelines for Diagnosis and Management of Asthma

1. Measures of Assessment and Monitoring	Initial Assessment and Diagnosis of Asthma		Periodic Assessment and Monitoring
	<p>Determinants:</p> <ul style="list-style-type: none"> • Episodic symptoms of airflow obstruction are present • Airflow obstruction is at least partially reversible • Alternate diagnoses are excluded (GE reflux, recurrent sinusitis, CHF, COPD, foreign body aspiration, tumor) <p>Assessments:</p> <ul style="list-style-type: none"> • Detailed medical history • Physical exam focusing on upper respiratory tract, chest, and skin • Spirometry to demonstrate reversibility • Evaluate alternative diagnoses • Identify precipitating factors • Assess severity • Investigate potential complications and/or methacholine challenge <p>Additional Studies:</p> <ul style="list-style-type: none"> • Lung volumes, inspiratory and expiratory flow volume loops, diffusing capacity test • Assessment of diurnal variation in peak expiratory flow over 1 to 2 weeks • Bronchoprovocation with methacholine, histamine, or exercise challenge • Chest x-ray • Allergy testing • Evaluation for nasal polyps and sinus disease • Evaluation for gastroesophageal reflux • Identification of irritant and allergen sensitivities—especially for patients with persistent asthma on daily medications 		<p>Goals of Therapy</p> <ul style="list-style-type: none"> • Prevent chronic and troublesome symptoms • Maintain (near) “normal” pulmonary function • Maintain normal activity levels (including exercise and other physical activity). • Prevent recurrent exacerbations of asthma and minimize the need for emergency department visits or hospitalizations. • Provide optimal pharmacotherapy with minimal adverse effects • Meet patients’ and families’ expectations of and satisfaction with asthma care • Routine Peak flow monitoring <p>Measurements:</p> <ul style="list-style-type: none"> • Signs and symptoms of asthma • Pulmonary function (spirometry, peak flow) • Quality of life/functional status • History of exacerbations • Pharmacotherapy • Evaluate outcomes in terms of patient perceptions of improvement, especially quality of life and the ability to engage in usual activities
2. Control of Factors Contributing to Asthma Severity	<ul style="list-style-type: none"> • Avoid exposure to allergens, tobacco smoke, exertion during high levels of air pollution, use of beta-blockers, and sulfite-containing and other foods to which they are sensitive • Adult patients with severe persistent asthma, nasal polyps, or a history of sensitivity to aspirin or nonsteroidal anti-inflammatories should be counseled regarding the risk of severe and even fatal exacerbations from using these drugs • Patients should be treated for rhinitis, sinusitis, and gastroesophageal reflux, if present • Patients with persistent asthma should be given an annual influenza vaccine 		
3. Pharmacologic Therapy	Severity	Preferred Treatment	Alternative Treatment
<p>Note: Ideally, asthma pharmacotherapy should be instituted in conjunction with environmental control measures</p>	Step 1- Mild Intermittent	No daily medication required	
	Step 2- Mild Persistent	Low dose inhaled corticosteroid or cromolyn or nedocromil	Sustained release theophylline to serum concentration of 5-15 mcg/ml. Zafirlukast or zileuton may also be considered for patients ≥ 12 years of age, although their disposition in therapy is not fully established.
	Step 3- Moderate Persistent	Anti-inflammatory: inhaled corticosteroid (medium dose)	Inhaled corticosteroid (low-medium dose) and add long-acting bronchodilator, especially for nighttime symptoms; either long acting inhaled beta ₂ -agonist, sustained release theophylline, or long-acting beta ₂ -agonist tablets.
	Step 4- Severe Persistent	High dose inhaled corticosteroid, AND long acting inhaled beta ₂ -agonist, AND corticosteroid tablets or syrup long term (make repeat attempts to reduce systemic steroids and maintain control with high dose inhaled steroids)	If needed inhaled corticosteroids (medium –high dose) AND long-acting bronchodilator: long acting inhaled beta ₂ -agonist, sustained release theophylline, or long acting beta ₂ -agonist tablets. High dose inhaled corticosteroid, AND either sustained released theophylline or long-acting beta ₂ -agonist tablets, AND corticosteroid tablets or syrup long term (make repeat attempts to reduce systemic steroids and maintain control with high dose inhaled steroids)
		<ul style="list-style-type: none"> • Persistent asthma is most effectively controlled with daily anti-inflammatory therapy 	Refer to specialist as appropriate.
	<ul style="list-style-type: none"> • Stepwise approach is recommended—incorporates severity appropriate medication. Initiate therapy at higher level at the onset to establish prompt control and then step down • Continual monitoring and regular follow up (at 1- to 6-month intervals) is essential to achieve and maintain control • Asthma Action Plan must include routine medications and rescue medications and instructions for managing asthma exacerbations 		

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4. Education for a

Partnership in Asthma Care

- Education should start at time of diagnosis and continue through every step of clinical asthma care
- Routine and recurrent education is the cornerstone of asthma management to include disease and self management techniques
- Systematically teach and frequently review with patient how to manage and control asthma
- Incorporate a written daily self management plan and an asthma action plan for exacerbations
- Plan should include routine use of peak flow meter and rescue inhaler/medications
- Adherence should be encouraged by promoting open communication; individualizing, reviewing, and adjusting plans as needed; emphasizing goals and outcomes; and encouraging family involvement.

References: NIH Publication. No. 97-4051. July 1997. National Asthma Education and Prevention Program. Expert Panel Report 2. Guidelines for the Diagnosis and Management of Asthma and NAEPP Expert Panel Report. Guidelines for the Diagnosis and Management of Asthma-Update on Selected Topics 2002. Both documents retrieved from: <http://www.nhlbi.nih.gov/guidelines/index.htm>.

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