ESSENTIALS FOR MANAGING ASTHMA

Goals of Therapy

- Prevent chronic and troublesome symptoms (e.g., coughing or breathlessness in the night, in the early morning, or after exertion).
- 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 or no adverse effects.
- Meet patients' and families' expectations of and satisfaction with asthma care.

The Stepwise Approach

Starting Point

Gain control as quickly as possible; then decrease treatment to the least medication necessary to maintain control. Gaining control may be accomplished by either starting treatment at the step most appropriate to the initial severity of the condition or by starting at a higher level of therapy (e.g., a course of systemic corticosteroids or a higher dose of inhaled corticosteroids).

Step Down

Review treatment every 1 to 6 months; a gradual reduction in treatment may be possible.

Step Up

First, review patient medication technique, adherence and environmental control (avoidance of allergens or other factors that contribute to asthma severity).

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General Information

- The role of some pharmacological treatment modalities (e.g., leukotriene modifiers and methylxanthines) is evolving. These agents may be appropriate in specific clinical scenarios.
- A rescue course of systemic corticosteroids may be needed at any time and at any step.
- Some patients with intermittent asthma experience severe and life-threatening exacerbations separated by long periods of normal lung function and no symptoms. This may be especially common with exacerbations provoked by respiratory infections. A short course of systemic corticosteroids is recommended.
- At each step, patients should control their environment to avoid or control factors that make their asthma worse (e.g., allergens, irritants); this requires specific diagnosis and education.
- Referral to an asthma specialist for consultation or co-management is ***recommended*** if there are difficulties achieving or maintaining control of asthma or if the patient requires Step 4 care. Referral may be *considered* if the patient requires Step 3 care.

Stepwise Approach for Managing Asthma In Adults and Children Older Than 5 Years of Age*

Steps	Symptoms	Nighttime Symptoms	Lung Function Measures	Long-Term Control	Education
STEP 4 **Severe Persistent**	• Continual symptoms • Limited physical activity • Frequent exacerbations	Frequent	• FEV_1 or PEF $\leq$ 60% predicted • PEF variability >30%	**Daily medications:** • Preferred treatment: – High-dose inhaled corticosteroids AND – Long-acting inhaled $beta_2$-agonists **AND, if needed,** • Corticosteroid tablets or syrup long term (2 mg/kg/day; generally do not exceed 60 mg per day).	Steps 2 and 3 actions plus: • Refer to individual education/counseling.

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ASTHMA PRACTICE GUIDELINES

North Carolina Alliance for Healthy Communities

Stepwise Approach for Managing Asthma In Adults and Children Older Than 5 Years of Age*

Steps	Symptoms	Nighttime Symptoms	Lung Function Measures	Long-Term Control	Education
STEP 3 **Moderate Persistent**	• Daily symptoms • Daily use of inhaled short-acting beta$_2$-agonist • Exacerbations affect activity • Exacerbations $\geq$ 2 times a week; may last days	> 1 night a week	• FEV$_1$ or PEF > 60% - < 80% predicted • PEF variability > 30%	**Daily medications:** • Preferred treatment: – Low-to-medium dose inhaled corticosteroids and long-acting inhaled beta$_2$-agonists. • Alternative treatment: – Increase inhaled corticosteroids within medium-dose range OR – Low-to-medium dose inhaled corticosteroids and either leukotriene modifier or theophylline. **If needed (particularly in patients with recurring severe exacerbations):** • Preferred treatment: – Increase inhaled corticosteroids within medium-dose range and add long-acting inhaled beta$_2$-agonists. • Alternative treatment: – Increase inhaled corticosteroids within medium-dose range and add either leukotriene modifier or theophylline.	Step 1 actions plus: • Teach self-monitoring. • Refer to group education if available. • Review and update self-management plan.
STEP 2 **Mild Persistent**	• Symptoms > 2 times a week but < 1 time a day • Exacerbations may affect	> 2 nights a month	• FEV$_1$ or PEF $\geq$ 80% predicted • PEF variability 20% - 30%	**Daily medications:** • Preferred treatment: – Low-dose inhaled corticosteroids. • Alternative treatment: – Cromolyn, leukotriene modifier, nedocromil, OR sustained release	Step 1 action plus: • Teach self-monitoring. • Refer to group education if available. • Review and update

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Stepwise Approach for Managing Asthma In Adults and Children Older Than 5 Years of Age*					
Steps	**Symptoms**	**Nighttime Symptoms**	**Lung Function Measures**	**Long-Term Control**	**Education**
	activity			theophylline to serum concentration of 5-15 mcg/mL.	self-management plan.
STEP 1 **Mild Intermittent**	• Symptoms ≤ 2 times a week • Asymptomatic and normal PEF between exacerbations • Exacerbations brief (from a few hours to a few days); intensity may vary	≤ 2 nights a month	• FEV_1 or PEF ≥ 80% predicted • PEF variability < 20%	**Daily medication:** • No daily medication needed.	• Teach basic facts about asthma. • Teach inhaler/spacer/holding chamber technique. • Discuss roles of medications. • Develop self-management plan. • Develop action plan for when and how to take rescue actions, especially for patients with a history of severe exacerbations. • Discuss appropriate environmental control measures to avoid exposure to known allergens and irritants.

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ASTHMA PRACTICE GUIDELINES

Stepwise Approach for Managing Asthma In Adults and Children Older Than 5 Years of Age*					
Steps	**Symptoms**	**Nighttime Symptoms**	**Lung Function Measures**	**Long-Term Control**	**Education**
Quick Relief All Patients:	Short-acting bronchodilator: 2-4 puffs short-acting inhaled beta$_2$-agonists as needed for symptoms. Intensity of treatment will depend on severity of exacerbation. Use of short-acting inhaled beta$_2$-agonists on a daily basis, or increasing use, indicates the need for additional long-term control therapy.				

* For infants and children 5 years of age or younger, North Carolina for Healthy Communities recommends that practitioners follow the National Heart, Lung and Blood Institute/ National Asthma Education and Prevention Program's "Stepwise Approach for Managing Infants and Young Children (5 Years of Age and Younger) With Acute or Chronic Asthma".

Adopted from National Heart, Lung, and Blood Institute/ National Institutes of Health. www.nhlbi.nih.gov/guidelines/asthma

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