

**Michigan Quality Improvement Consortium Guideline  
Management of Asthma in Youth 12 Years and Older and Adults**

Key Components	Recommendation and Level of Evidence					
First, assess severity to decide initial therapy	<b>Classification of Asthma Severity</b>					
	Components of Severity		Intermittent	Persistent (Mild)	Persistent (Moderate)	Persistent (Severe)
	Impairment	Symptoms	< 2 days/week	> 2 days/week, not daily	Daily	Throughout day
		Nighttime awakenings	< 2x/month	3-4x/month	> 1x/week, not nightly	Often, 7x/week
	Normal FEV <sub>1</sub> /FVC: 8-19 years/85% 20-39 years/80% 40-59 years/75% 60-80 years/70%	Short-acting beta <sub>2</sub> -agonist use for symptoms	< 2 days/week	> 2 days/week, not daily and not > 1/day	Daily	Several times daily
		Interference with normal activity	None	Minor limitation	Some limitation	Extremely limited
Risk	Lung function: FEV <sub>1</sub> FEV <sub>1</sub> /FVC	Normal FEV <sub>1</sub> between exacerbations > 80% Normal	> 80% Normal	60%-80% Reduced 5%	< 60% Reduced > 5%	
	Exacerbations requiring oral steroids	0-1/year	> 2/year			
		<ul style="list-style-type: none"> <li>Consider severity &amp; interval since last exacerbation. Frequency &amp; severity may fluctuate over time for patient of any severity class.</li> <li>Relative annual risk of exacerbations maybe related to FEV<sub>1</sub>.</li> </ul>				
	Recommended step for initiating treatment	<b>Step 1</b>	<b>Step 2</b>	<b>Step 3</b>	<b>Step 4 or 5</b>	
		Re-evaluate control in 2-6 weeks and adjust therapy accordingly.				
On follow-up, assess control and step therapy up or down	<b>Classification of Asthma Control</b>					
	Components of Control		Well-Controlled	Not Well-Controlled	Very Poorly Controlled	
	<b>Impairment</b>	Symptoms	< 2 days/week	> 2 days/week	Throughout day	
		Nighttime awakenings	< 2x/month	1 – 3x/week	> 4x/week	
		Short-acting beta <sub>2</sub> -agonist use for symptoms	< 2 days/week	> 2 days/week	Several times/day	
		Interference with normal activity	None	Some limitation	Extremely limited	
	FEV <sub>1</sub> or Peak Flow	> 80%	60% - 80%	< 60%		
	<b>Risk</b>	Exacerbations requiring oral steroids	0-1 x/year	> 2x/year		
		Treatment-related adverse effects	Intensity of medication-related side effects does not correlate to specific levels of control, but should be considered in overall assessment of risk.			
	Recommended action for treatment	<ul style="list-style-type: none"> <li>Maintain current step</li> <li>Regular follow-up every 1-6 months</li> <li>Consider step down if well-controlled &gt;3months</li> </ul>	<ul style="list-style-type: none"> <li>Step up 1 step</li> <li>Re-evaluate in 2-6 weeks</li> </ul>	<ul style="list-style-type: none"> <li>Consider oral steroids</li> <li>Step up 1-2 steps</li> <li>Re-evaluate in 2 weeks</li> </ul>		
Step approach for asthma management (Use lowest treatment level required to maintain control.)	<ul style="list-style-type: none"> <li>Quick relief medication for all patients: Inhaled short-acting beta<sub>2</sub>-agonist (SABA) as needed for symptoms [A]. Intensity of treatment depends on severity of symptoms; up to 3 treatments at 20-minute intervals as needed. Short course of systemic oral corticosteroids may be needed. Use of SABA &gt; 2 days a week for symptom control (not prevention of exercise-induced bronchospasm)</li> <li>Patient education and environmental control at each step</li> <li>Persistent asthma: Daily long-term control therapy [A]; consult with asthma specialist if step 4 or higher [D], or progressive decreased lung function. Consider consultation at step 3 [D].</li> </ul>					
	<b>Intermittent</b>	<b>Mild Persistent</b>	<b>Moderate Persistent</b>		<b>Severe Persistent</b>	
	<b>Step 1</b>	<b>Step 2</b>	<b>Step 3</b>	<b>Step 4</b>	<b>Step 5</b>	<b>Step 6</b>
<b>Preferred</b> Short-acting beta <sub>2</sub> -agonist as required	<b>Preferred</b> Low-dose inhaled corticosteroid [A]  <b>Alternative</b> Cromolyn Or Leukotriene receptor antagonist; or Nedocromil; or Theophylline [B]	<b>Preferred</b> Low-dose inhaled corticosteroid + long-acting beta <sub>2</sub> -agonist [A] or medium-dose inhaled corticosteroid [A]  <b>Alternative</b> Low-dose inhaled corticosteroid + either a leukotriene receptor antagonist [A], theophylline [B], or zileuton [D]	<b>Preferred</b> Low-dose inhaled corticosteroid + long-acting beta <sub>2</sub> -agonist [A] or medium-dose inhaled corticosteroid + long-acting beta <sub>2</sub> -agonist [B]  <b>Alternative</b> Medium-dose inhaled corticosteroid + either a leukotriene receptor antagonist, theophylline [B] or zileuton [D]	<b>Preferred</b> High-dose inhaled corticosteroid + long-acting beta <sub>2</sub> -agonist [B] and consider omalizumab for patients who have IgE-mediated allergies [B]	<b>Preferred</b> High-dose inhaled corticosteroid + long-acting beta <sub>2</sub> -agonist + oral corticosteroid [D] and consider omalizumab for patients who have IgE-mediated allergies [B]	

**Levels of Evidence for the most significant recommendations:** A =randomized controlled trials; B =controlled trials, no randomization; C =observational studies; D =opinion of expert panel

This guideline lists core management steps. It is based on the 2007 National Asthma Education and Prevention Program Expert Panel Report 3, Guidelines for the Diagnosis and Management of Asthmas, National Heart, Lung and Blood Institute (www.nhlbi.nih.gov). Individual patient considerations and advances in medical science may supersede or modify these recommendations.