

Michigan Quality Improvement Consortium Guideline

Management of Asthma in Children 0 to 4 Years

Key Components	Recommendation and Level of Evidence						
First, assess severity to decide initial therapy	Assess Asthma Severity						
	Components of Severity		<i>Intermittent</i>	<i>Persistent (Mild)</i>	<i>Persistent (Moderate)</i>	<i>Persistent (Severe)</i>	
	Impairment	Symptoms	≤ 2 days/week	> 2 days/week, not daily	Daily	Throughout day	
		Nighttime awakenings	0	1-2x/month	3 - 4x/month	> 1x/wk	
		Short-acting beta ₂ -agonist use for symptoms	≤ 2 days/week	> 2 days/week, not daily	Daily	Several times daily	
		Interference with normal activity	None	Minor limitation	Some limitation	Extremely limited	
Risk	Exacerbations requiring oral steroids	0-1/year	≥ 2 in 6 months requiring oral steroids, or ≥ 4 in 1 year lasting > 1 day and have risk factors for persistent asthma				
Recommended step for initiating treatment		Step 1		Step 2		Step 3	
		Re-evaluate control in 2-6 weeks and adjust therapy accordingly.					
On follow-up, assess control and step therapy up or down. Check adherence, inhaler/spacer technique, environment, and comorbidities.	Assess Asthma Control						
	Components of Control		<i>Well-Controlled</i>	<i>Not Well-Controlled</i>		<i>Very Poorly Controlled</i>	
	Impairment	Symptoms	≤ 2 days/week, but not > 1/day	> 2 days/week or many times on ≤ 2 days/week		Throughout day	
		Nighttime awakenings	≤ 1x/month	> 1x/month		> 1x/week	
		Short-acting beta ₂ -agonist use for symptoms	≤ 2 days/week	> 2 days/week		Several times/day	
		Interference with normal activity	None	Some limitation		Extremely limited	
Risk	Exacerbations requiring oral steroids	0-1x/year	2-3x/year		> 3x/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 treatment and follow-up		<ul style="list-style-type: none"> • Maintain current step • Regular follow-up every 1-6 months • Consider step down if well-controlled ≥ 3 months 		<ul style="list-style-type: none"> • Step up 1 step • Re-evaluate in 2-6 weeks 		<ul style="list-style-type: none"> • Consider oral steroids • Step up 1-2 steps • Re-evaluate in 2 weeks 	
Step approach for asthma management (Use lowest treatment level required to maintain control.)		<ul style="list-style-type: none"> • Quick relief medication for all patients: Inhaled short-acting beta₂-agonist (SABA) as needed [A]. Up to 3 treatments at 20-minute intervals as needed. Short course of oral corticosteroids may be needed. • Use of SABA > 2 days a week for symptom control (not prevention of exercise-induced bronchospasm) indicates inadequate control and the need to step up treatment. • Patient education and environmental control at each step. • Persistent asthma: Daily long-term control therapy [A]; consult with asthma specialist step 4 or higher [D]; consider consultation at step 3 [D] 					
Intermittent	Mild Persistent		Moderate Persistent		Severe Persistent		
Step 1	Step 2		Step 3	Step 4	Step 5	Step 6	
Preferred Short-acting beta ₂ -agonist as required	Preferred Low-dose inhaled corticosteroid [A] Alternative Cromolyn or Montelukast [B]		Preferred Medium-dose inhaled corticosteroid [D]	Preferred Medium-dose inhaled corticosteroid + either a long-acting beta ₂ -agonist* or montelukast [D]	Preferred High-dose inhaled corticosteroid + either a long-acting beta ₂ -agonist* or montelukast [D]	Preferred High-dose inhaled corticosteroid + oral corticosteroid + either a long-acting beta ₂ -agonist* or montelukast [D]	

Warning for use of Long-acting beta-agonists (LABA). See Black Box Warning:

- Do not use LABA as monotherapy. Use only with an asthma controller such as inhaled corticosteroids (preferably combination product for children).
- Use for the shortest duration possible.
- Only use if not controlled on other drugs.
- Pediatric and adolescent patients who require the addition of a LABA to an inhaled corticosteroid should use a combination product containing both.

*Currently there are no LABAs identified for use in children 0-4 years of age.

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 Asthma, National Heart, Lung and Blood Institute (www.nhlbi.nih.gov). Individual patient considerations and advances in medical science may supersede or modify these recommendations.