Michigan Quality Improvement Consortium Guideline

July 2012

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	**Classification of Asthma Severity**					
	Components of **Severity**		*Intermittent*	*Persistent (Mild)*	*Persistent (Moderate)*	*Persistent (Severe)*
	Impairment	Symptoms	≤ 2 days/week	> 2 days/week, not daily	Daily	Throughout day
	Normal FEV$_1$/FVC: *8-19 years/85%* *20-39 years/80%* *40-59 years/75%* *60-80 years/70%*	Nighttime awakenings	≤ 2x/month	3-4x/month	> 1x/week, not nightly	Often, 7x/week
		Short-acting beta$_2$-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
		Lung function: FEV$_1$ FEV$_1$/FVC	Normal FEV$_1$ between exacerbations > 80% Normal	> 80% Normal	60%-80% Reduced 5%	< 60% Reduced > 5%
	Risk	Exacerbations requiring oral steroids	0-1/year	≥ 2/year		
			◆ Consider severity & interval since last exacerbation. Frequency & severity may fluctuate over time for patient of any severity class. ◆ 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**
			Re-evaluate control in 2-6 weeks and adjust therapy accordingly.			
On follow-up, assess control and step therapy up or down	**Classification of Asthma Control**					
	Components of **Control**		*Well-Controlled*	*Not Well-Controlled*	*Very Poorly*	
	Impairment	Symptoms	≤ 2 days/week	> 2 days/week	Throughout day	
		Nighttime awakenings	≤ 2x/month	1 - 3x/week	≥ 4x/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	
		FEV$_1$ or Peak Flow	> 80%	60%-80%	< 60%	
	Risk	Exacerbations requiring oral steroids	0-1x/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		◆ Maintain current step ◆ Regular follow-up every 1-6 months ◆ Consider step down if well-controlled ≥ 3 months	◆ Step up 1 step ◆ Re-evaluate in 2-6 weeks	◆ 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.)	◆ Quick relief medication for all patients: Inhaled short-acting beta$_2$-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 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 if step 4 or higher **[D]**, or progressive decreased lung function. 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 Leukotriene receptor antagonist; or Nedocromil; or Theophylline **[B]**	**Preferred** Low-dose inhaled corticosteroid + long-acting beta$_2$-agonist **[A] or** medium-dose inhaled corticosteroid **[A]** **Alternative** Low-dose inhaled corticosteroid + either a leukotriene receptor antagonist **[A]**, theophylline **[B]**, or zileuton **[D]**	**Preferred** Medium-dose inhaled corticosteroid + long-acting beta$_2$-agonist **[B]** **Alternative** Medium-dose inhaled corticosteroid + either a leukotriene receptor antagonist, theophylline **[B]** or zileuton **[D]**	**Preferred** High-dose inhaled corticosteroid + long-acting beta$_2$-agonist **[B]** **and** consider omalizumab for patients who have IgE-mediated allergies **[B]**	**Preferred** High-dose inhaled corticosteroid + long-acting beta$_2$-agonist + oral corticosteroid **[D] and** consider omalizumab for patients who have IgE-mediated allergies **[B]**

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.

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.