### Michigan Quality Improvement Consortium Guideline

**Management of Persistent Asthma in Adults and Children Older Than 5 Years of Age**

The following guideline applies to adults and children older than 5 years of age with persistent asthma. It recommends routine use of peak flow measurements, anti-inflammatory medications, a written action plan and education to guide patients in self-management.

<table>
<thead>
<tr>
<th>Eligible Population</th>
<th>Key Components</th>
<th>Recommendation and Level of Evidence</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adults and children &gt; 5 years of age with persistent asthma - (symptoms &gt; 2/week but &lt; 1x/day and/or &gt; 2 nights/month with FEV1 or PEF &gt; 80% predicted and PEF variability 20% - 30%)</td>
<td>Use of peak flow meters</td>
<td>• Prescribe peak flow meter [B] and determine personal best.</td>
<td>At least once</td>
</tr>
</tbody>
</table>
| | Regular use of controller medications | • Prescribe daily use of inhaled corticosteroids. [A]  
• Add intermediate or long acting inhaled beta2-agonist (LABA)1 2 if symptoms persist despite maximum inhaled steroid dose [A]. LABA should not be used as the first medication to treat asthma or as mono-therapy [D]. (LABA therapy has been associated with increased risk of severe asthma exacerbations and asthma-related deaths).  
• Avoid the regular scheduled use of short-acting beta2-agonists for long-term control of asthma.  
• Prescribe spacer for all meter-dosed inhalers [A]. | Reassess at least every 6 months, or at each periodic visit. |
| | Management of acute exacerbations | • Prescribe short-acting, inhaled beta2-agonist3 [A].  
• Prescribe oral steroids for acute exacerbations that fail to respond adequately3 [A].  
• Routine use of antibiotics for exacerbations is not recommended. | During acute episode |
| | Medical follow-up after discharge | • Recommend and schedule, if possible, follow-up outpatient visit at discharge from hospital or emergency department [D]. | Visit within 3 - 5 days of discharge |
| | Periodic Assessment - Monitoring, management and education | • Patients receiving LABA should have close surveillance to assess benefit and safety of medication.  
• Provide and review written action plan for self-management (e.g., http://www.mqic.org/pdf/a_action.pdf).  
• Assess adherence to written action plan, psychosocial status, asthma control, triggers, medication use and side effects.  
• Recommend influenza immunization and ensure age appropriate immunization status (e.g., pneumococcal vaccine).  
• Educate patient/family regarding:  
  - Use of asthma action plan, peak flow meter, inhaler, spacer, dry powder inhaler, and medications  
  - Importance of using long-term control medication (i.e., inhaled corticosteroids) [D]  
  - Recognition and treatment of symptoms and when to seek medical attention  
  - Identification and avoidance of specific triggers  
  - Smoking cessation and secondhand smoke avoidance [C] | At each periodic visit |
| | Referral | • Consultation with an asthma specialist is recommended when patient is not responding optimally to asthma therapy; has signs, symptoms or conditions that make it difficult to obtain asthma control; or following a life-threatening asthma exacerbation. | |

---

1 Inhaled corticosteroids with long-acting beta2-agonists are preferred therapy for 
**moderate** persistent asthma. Alternative treatments include inhaled corticosteroids with either leukotriene modifier or theophylline.  

2 Alternative therapies for **mild** persistent asthma include cromolyn, leukotriene modifier, nedocromil or sustained release theophylline to serum concentration of 5-15 mcg/mL.  

3 Prescribe these medications for the patient to have at home to use in the event of an acute exacerbation.

---

**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 several sources, including: the Diagnosis and Outpatient Management of Asthma Guideline, Institute of Clinical Systems Improvement, 2005 (www.icsi.org); and the 2002 National Asthma Education and Prevention Program Expert Panel Report, Guidelines for the Diagnosis and Management of Asthma, update on Selected Topics (www.nhlbi.nih.gov). Individual patient considerations and advances in medical science may supersede or modify these recommendations.