### Michigan Quality Improvement Consortium Guideline

**Management of Asthma in Youth 12 Years and Older and Adults**

**July 2012**

#### Key Components

- **First, assess severity to decide initial therapy**
- **On follow-up, assess control and step therapy up or down**
- **Step approach for asthma management (Use lowest treatment level required to maintain control.)**

### Classification of Asthma Severity

<table>
<thead>
<tr>
<th>Components of Severity</th>
<th>Intermittent</th>
<th>Persistent (Mild)</th>
<th>Persistent (Moderate)</th>
<th>Persistent (Severe)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impairment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Normal FEV1/FVC</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8-13 years/85%</td>
<td>≤ 2 days/week</td>
<td>&gt; 2 days/week, not daily</td>
<td>Daily</td>
<td>Thoroughly day</td>
</tr>
<tr>
<td>20-35 years/80%</td>
<td>≤ 2 days/week</td>
<td>&gt; 2 days/week, not daily</td>
<td>Daily</td>
<td>Several times daily</td>
</tr>
<tr>
<td>40-59 years/75%</td>
<td>≤ 2 days/week</td>
<td>&gt; 2 days/week, not daily</td>
<td>Daily</td>
<td>Several times daily</td>
</tr>
<tr>
<td>60-80 years/70%</td>
<td>≤ 2 days/week</td>
<td>&gt; 2 days/week, not daily</td>
<td>Daily</td>
<td>Several times daily</td>
</tr>
<tr>
<td>Nighttime awakenings</td>
<td>≤ 2 days/week</td>
<td>&gt; 2 days/week, not daily</td>
<td>Daily</td>
<td>Several times daily</td>
</tr>
<tr>
<td>Short-acting β2-agonist use for symptoms</td>
<td>≤ 2 days/week</td>
<td>&gt; 2 days/week, not daily</td>
<td>Daily</td>
<td>Several times daily</td>
</tr>
<tr>
<td>Interference with normal activity</td>
<td>None</td>
<td>Minor limitation</td>
<td>Some limitation</td>
<td>Extremely limited</td>
</tr>
<tr>
<td>Lung function: FEV1/FVC</td>
<td>Normal</td>
<td>Between exacerbations</td>
<td>FEV1 &gt; 80%</td>
<td>Normal</td>
</tr>
<tr>
<td>Normal FEV1 between exacerbations</td>
<td>FEV1 &gt; 80%</td>
<td>60%-80% Reduced 5%</td>
<td>&lt; 60%</td>
<td></td>
</tr>
</tbody>
</table>

### Classification of Asthma Control

<table>
<thead>
<tr>
<th>Components of Control</th>
<th>Well-Controlled</th>
<th>Not Well-Controlled</th>
<th>Very Poorly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impairment</td>
<td>≤ 2 days/week</td>
<td>&gt; 2 days/week</td>
<td>Thoroughly day</td>
</tr>
<tr>
<td>Nighttime awakenings</td>
<td>≤ 2x/month</td>
<td>1 - 3x/week</td>
<td>≥ 4x/week</td>
</tr>
<tr>
<td>Short-acting β2-agonist use for symptoms</td>
<td>≤ 2 days/week</td>
<td>&gt; 2 days/week</td>
<td>Several times daily</td>
</tr>
<tr>
<td>Interference with normal activity</td>
<td>None</td>
<td>Some limitation</td>
<td>Extremely limited</td>
</tr>
<tr>
<td>FEV1, or Peak Flow</td>
<td>&gt; 80%</td>
<td>60%-80% Reduced 5%</td>
<td>&lt; 60%</td>
</tr>
</tbody>
</table>

### Recommended step for initiating treatment

- Re-evaluate control in 2-6 weeks and adjust therapy accordingly.

### 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 2-6 weeks

### Intermittent

- **Mild Persistent**
  - Preferred: Short-acting β2-agonist as required
  - Alternative: Cromlyn, or Leukotriene receptor antagonist, or Nedocromil, or Theophylline

- **Moderate Persistent**
  - Preferred: Low-dose inhaled corticosteroid + long-acting β2-agonist
  - Alternative: Medium-dose inhaled corticosteroid + long-acting β2-agonist

- **Severe Persistent**
  - Preferred: High-dose inhaled corticosteroid + long-acting β2-agonist + oral corticosteroid

### 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

Warning for use of Long-acting β2-agonists (LABA).

- Do not use LABA as monotherapy.
- Use only with an asthma controller such as an inhaled corticosteroid (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.

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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.