

# 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<br><br><i>Normal FEV<sub>1</sub>/FVC:</i><br>8-19 years/85%<br>20-39 years/80%<br>40-59 years/75%<br>60-80 years/70% | 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   |  |
|   | 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  |  |
|   | Lung function:<br>FEV <sub>1</sub><br>FEV <sub>1</sub> /FVC | Normal FEV <sub>1</sub> between exacerbations<br>> 80%<br>Normal  | > 80%<br>Normal  | 60%-80%<br>Reduced 5%   | < 60%<br>Reduced > 5%  |  |
| Risk  | Exacerbations requiring oral steroids                       | 0-1/year  | ≥ 2/year   |   |  |  |
| 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  |   | Classification of Asthma Control  |  |   |  |  |
|   |   | Components of Control   | Well-Controlled  | Not Well-Controlled   | Very Poorly Controlled   |  |
| Impairment  | 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%   |  |  |
| 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  |   | <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 ≥ 3 months</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) indicates inadequate control and the need to step up treatment.</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> |  |   |  |  |
|   |   | Intermittent Step 1   | Mild Persistent Step 2   | Moderate Persistent Step 3  | Severe Persistent Step 5   | Severe Persistent Step 6   |
| Preferred   |   | Preferred   | Preferred  | Preferred   | Preferred  |  |
| Short-acting beta <sub>2</sub> -agonist as required   |   | Low-dose inhaled corticosteroid [A]<br><br>Alternative<br>Cromolyn<br>Or<br>Leukotriene receptor antagonist; or<br>Nedocromil; or<br>Theophylline [B]   | Low-dose inhaled corticosteroid + long-acting beta <sub>2</sub> -agonist [A] or medium-dose inhaled corticosteroid [A]<br><br>Alternative<br>Low-dose inhaled corticosteroid + either a leukotriene receptor antagonist [A], theophylline [B], or zileutin [D] | Medium-dose inhaled corticosteroid + long-acting beta <sub>2</sub> -agonist [B]<br><br>Alternative<br>Medium-dose inhaled corticosteroid + either a leukotriene receptor antagonist, theophylline [B] or zileutin [D] | High-dose inhaled corticosteroid + long-acting beta <sub>2</sub> -agonist [B] and consider omalizumab for patients who have IgE-mediated allergies [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 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.