General Principles for the Diagnosis and Management of Asthma

Eligible Population

- Children and adults with the following:
  - History of cough (worse particularly at night), recurrent wheeze, recurrent difficulty in breathing, recurrent chest tightness
  - Symptoms occur or worsen in the presence of exercise, viral infection, inhalant allergens, irritants, changes in weather, strong emotional expression (laughing or crying hard), stress, menstrual cycles
  - Symptoms occur or worsen at night, awakening the patient

Key Components

<table>
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<th>Diagnosis and management goals</th>
<th>Recommendations</th>
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<tr>
<td>* Detailed medical history and physical exam to determine that symptoms of recurrent episodes of airflow obstruction are present</td>
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<tr>
<td>* Use of spirometry (FEV₁, FEV₆, FVC, FEV₁/FVC) in all patients ≥ 5 years of age to determine that airway obstruction is at least partially reversible</td>
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<td>* Consider alternative causes of airway obstruction</td>
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**Goals of therapy are to achieve control by:**

- Reducing impairment: chronic symptoms, need for rescue therapy and maintain near-normal lung function and activity level
- Reducing risk: exacerbations, need for emergency care or hospitalization, loss of lung function or reduced lung growth in children, or adverse effects of therapy

Assessment and monitoring

- Assess asthma severity to initiate therapy using severity classification chart for impairment and risk.
- Assess asthma control to monitor and adjust therapy. (Use asthma control chart, for impairment and risk. Step up if necessary; step down if possible).
- Obtain spirometry (FEV₁, FEV₆, FVC, FEV₁/FVC) to confirm control, and at least every 1-2 years, more frequently for not well-controlled asthma.
- Schedule follow-up care: within 1 week, or sooner, if acute exacerbation; at 2- to 6-week intervals while gaining control; monitor control at 1- to 6-month intervals, at 3-month interval if a step-down in therapy is anticipated)

- Assess asthma control, medication technique, written asthma action plan, patience adherence at every visit.

Education

- Develop written action plan in partnership with patient. Update annually, more frequently if needed.
- Provide self-management education. Teach and reinforce: self-monitoring to assess control and signs of worsening asthma (either symptoms or peak flow monitoring); using written asthma action plan; taking medication correctly (inhaler technique and use of devices); avoiding environmental and occupational factors that worsen asthma.
- Tailor education to literacy level of patient; appreciate potential role of patient’s cultural beliefs and practices in asthma management.

Control environmental factors and comorbid conditions

- Recommend measures to control exposure to allergens and pollutants or irritants that make asthma worse
- Consider allergen immunotherapy for patients with persistent asthma and when there is a clear evidence of a relationship between symptoms and exposure to an allergen to which the patient is sensitive.
- Treat comorbid conditions (e.g., allergic bronchopulmonary aspergillosis, gastroesophageal reflux, obesity, obstructive sleep apnea, rhinitis and sinusitis, chronic stress or depression).
- Inactivated influenza vaccine for all patients over 6 months of age unless contraindicated. Intranasal influenza vaccine not for use in persons with asthma.

Medications

- Initial treatment should be based on the severity of asthma, both impairment and risk.
- Inhaled corticosteroid (ICS) are the most effective long-term control therapy. Optimize use before advancing to other therapies.
- Re-evaluate in 2-6 weeks for control. Modify treatment based on level of control.
- Consider step down if well-controlled for 3 months.

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.
- Use for the shortest duration possible
- Only use if not controlled on medium-dose ICS.
- 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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Referral

- Refer to an asthma specialist for consultation or co-management if there are difficulties achieving or maintaining control; immunotherapy or omalizumab is considered; additional testing is initiated; or if the patient required 2 bursts of oral corticosteroids in the past year or a hospitalization.