The following guideline recommends general principles and key clinical activities for the diagnosis and management of asthma.

### Eligible Population
- Children and adults with the following:
  - Wheezing
  - 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

### Key Components

#### Diagnosis and management goals
- *Detailed medical history and physical exam to determine that symptoms of recurrent episodes of airflow obstruction are present*
- *Use of spirometry (FEV₁, FVC, FEV₁/FVC) in all patients ≥ 5 years of age to determine that airway obstruction is at least partially reversible*
- *Consider alternative causes of airway obstruction*

**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, 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.*

#### 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 mgmt.*

#### 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 corticosteroids (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.

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