MQIC

Michigan Quality Improvement Consortium Guideline

General Principles for the Diagnosis and Management of Asthma

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

Eligible Population	Key Components	Recommendation and Level of Evidence
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 Symptoms occur or worsen at night, awakening the patient	Diagnosis and management goals	Detailed medical history and physical exam to determine precipitating factors and that symptoms of recurrent episodes of airflow obstruction are present and reversed by bronchodilator. Use spirometry (FEV_1, FEV_6, FVC, FEV_1/FVC) in all patients age ≥ 5 to determine that airway obstruction is at least partially reversible. **[C]** 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. **[A]** Reducing risk: exacerbations, need for emergency care or hospitalization, loss of lung function or reduced lung growth in children, or adverse effects of therapy.**[A]**
	Assessment and monitoring	Assess asthma severity to initiate therapy using severity classification chart for impairment **[B]** and risk **[C]** Assess asthma control to monitor and adjust therapy **[B]**. (Use asthma control chart, for impairment and risk. Step up if necessary; step down if possible.) Obtain spirometry (FEV_1, FEV_6, FVC, FEV_1/FVC) to confirm control after symptoms have stabilized; and, at least every 1-2 years **[B]**, more frequently for not well-controlled asthma. If suspected or confirmed COVID-19, avoid nebulizers and spirometry. **Schedule follow-up care: within 1 week, or sooner, if acute exacerbation; at 2- to 6-week intervals while gaining control [D]; monitor control at 1- to 6-month intervals, at 3-month interval if a step-down in therapy is anticipated. [D]** Assess asthma control, medication technique, written asthma action plan, patient adherence and concerns at every visit.
	Education	Develop written asthma action plan in partnership with patient/family/caregiver. **[B]** Update annually, more frequently if needed. Provide self-management education. **[A]** Teach and reinforce: self-monitoring to assess control and signs of worsening asthma (either symptoms or peak flow monitoring) **[B]**; using written asthma action plan; taking medication correctly (inhaler technique and use of devices); recognizing, reporting and avoiding environmental and occupational factors that worsen asthma (outdoor activity, reflux; *see Eligible Population column*). Tailor education to literacy level of patient; appreciate potential role of patient's cultural beliefs and practices in asthma management. **[C]**
	Control environmental factors and comorbid conditions	Recommend measures to control exposures to allergens (dust, mold, pollen), smoke, pollutants, or other irritants (perfumes, chemicals) that make asthma worse. **[A]** Consider allergen immunotherapy for patients with persistent asthma and when there is clear evidence of a relationship between symptoms and exposure to an allergen (dust, mold, pollen, pets) to which the patient is sensitive. **[B]** Treat relevant conditions (e.g., gastroesophageal reflux/laryngotracheal reflux **[B]**, allergic bronchopulmonary aspergillosis **[A]**, obesity **[B]**, obstructive sleep apnea **[D]**, rhinitis and sinusitis **[B]**, chronic stress or depression **[D]**, vocal cord dysfunction, especially in adolescent females **[D]**.) Inactivated influenza vaccine for all patients over 6 months of age **[A]** unless contraindicated. Do not use intranasal influenza vaccine. Give 23-valent pneumococcal polysaccharide vaccine (PPSV23) age 19 and older (age 2-18 if using high-dose oral steroids).
	Medications (Link to national age-specific guidelines for treatment recommendations)	Initial treatment should be based on the severity of asthma, both impairment and risk. Inhaled short-acting beta agonist and/or inhaled corticosteroids (ICS), for intermittent asthma. For persistent asthma, **Inhaled corticosteroids (ICS) alone or in combination with Long-Acting Beta Agonist (LABA) appears to be the most effective long-term control strategy. [D]** Re-evaluate in 2 - 6 weeks for control. Modify treatment based on level of control. See asthma yardstick: Children Adults Consider step down if well-controlled for 3 months.
	Referral	Consider referral to an asthma specialist for consultation or co-management if there are difficulties achieving or maintaining control, if immunotherapy or biologics is considered, if additional testing is indicated, if the patient required 2 bursts of oral corticosteroids in the past year or a hospitalization, or if the diagnosis is in doubt. **[D]**

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 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; Global Initiative for Asthma. Global Strategy for Asthma Management and Prevention, 2020; NHLBI Asthma Care Quick Reference Diagnosing and Managing Asthma NIH Publication No. 12-5075, Revised September 2012; Advisory Committee on Immunization Practices, Pneumococcal ACIP Vaccine Recommendations (cdc.gov).