



## 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:<br>Wheezing<br>History of cough (worse particularly at night), recurrent wheeze, recurrent difficulty in breathing, recurrent chest tightness.<br><br>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. | Diagnosis and management goals   | Follow GINA 2022 Diagnosis Algorithm. ( <a href="#">GINA 2022 Diagnosis</a> )<br>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.<br>Use spirometry (FEV <sub>1</sub> , FVC, FEV <sub>1</sub> /FVC, FEF 25-75) in all patients age ≥ 5 to determine that airway obstruction is at least partially reversible.<br>Consider alternative causes of airway obstruction.<br>Goals of therapy are to achieve control by:<br>Reducing impairment: chronic symptoms, need for rescue therapy, OCS and maintain near-normal lung function and activity level.<br>Reducing risk: exacerbations, need for emergency care or hospitalization, loss of lung function or reduced lung growth in children, or adverse effects of therapy.  |
|  | Initiating Treatment and Stepping Up or Down as Needed   | Assess asthma control and likelihood to adherence to daily controller therapy.<br>Assess device technique, adherence and concerns at every visit.<br>Follow GINA 2022 Initiating Treatment Algorithm. ( <a href="#">GINA 2022 Initiating Treatments</a> )<br>Provide a written asthma action plan and review at every visit.<br>Assure follow-up visits every 1-3 months after starting treatment and every 3-12 month thereafter. After an exacerbation, a review visit within 1 week should be scheduled. <b>[D]</b><br>Review response and adjust medications as needed: <ul style="list-style-type: none"> <li>Obtain spirometry (FEV<sub>1</sub>, FVC, FEV<sub>1</sub>/FVC, FEF 25-75) to confirm control after symptoms have stabilized; and, at least every 1-2 years, more frequently for not well-controlled asthma.</li> <li>Assess risk &amp; control: track exacerbations requiring OCS, ED visits, hospitalizations and reliever use, seasonality of symptoms, ACT or AIRQ</li> <li>Stepping medications down or up (Link to Stepping Down and UP) <ul style="list-style-type: none"> <li>Stepping down: consider when asthma symptoms have been well controlled and lung function has been stable for 3 or more months <b>[D]</b>. Choose a low-risk season.</li> <li>Stepping up: assess device technique, adherence, environmental factors, tobacco exposure</li> </ul> </li> </ul> COVID-19: patients at risk for severe COVID, follow current COVID treatment guidelines. |
| Symptoms occur or worsen at night, awakening the patient.  | Education  | Develop written <a href="#">asthma action plan</a> in partnership with patient/family/caregiver. <b>[B]</b> Update annually, more frequently if needed.<br>Provide self-management education. <b>[A]</b> Teach and reinforce: self-monitoring to assess control and signs of worsening asthma (either symptoms or peak flow monitoring) <b>[B]</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 <i>Eligible Population column</i> ).<br>Tailor education to literacy level of patient; appreciate potential role of patient's cultural beliefs and practices in asthma management. <b>[C]</b>   |
|  | Control environmental factors and comorbid conditions  | Recommend measures to control exposures to allergens (dust, mold, pollen), smoke, vaping, pollutants, or other irritants (perfumes, chemicals) that make asthma worse. <b>[A]</b><br>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>[B]</b><br>Treat relevant conditions (e.g., allergic bronchopulmonary aspergillosis <b>[A]</b> gastroesophageal reflux/laryngotracheal reflux <b>[B]</b> , obesity <b>[B]</b> , obstructive sleep apnea <b>[D]</b> , rhinitis and sinusitis <b>[B]</b> , chronic stress or depression <b>[D]</b> , vocal cord dysfunction, <b>[D]</b> .)<br>Vaccines: Inactivated influenza vaccine for all patients over 6 months of age <b>[A]</b> unless contraindicated. COVID-19 vaccine; Do not use intranasal influenza vaccine. Give age-appropriate <a href="#">pneumococcal vaccine</a> .   |
|  | Medications  | Follow stepwise management ( <a href="#">GINA 2022 Medication Management</a> )<br>Adolescents and adults should be considered for ICS-formoterol as controller and reliever.<br>Re-evaluate in 2 - 6 weeks for control. Modify treatment based on level of control. See: JACI <a href="#">A Practical Guide to Implementing SMART in Asthma Management - The Journal of Allergy and Clinical Immunology: In Practice (jaci-inpractice.org)</a> and SMART Therapy.<br>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 (FeNO), if the patient required <b>2 bursts of oral corticosteroids</b> in the past year or a hospitalization, or if the diagnosis is in doubt. <b>[D]</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 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 2022](#). 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). JACI in Practice 2021.