

Asthma Management

Community First has adopted the National Asthma Education and Prevention Program Expert Panel Report 3: guidelines for the diagnosis and management of asthma -2007. This guideline updates a previous version: Expert Panel Report 2: guidelines for the diagnosis and management of asthma and its update on selected topics in 2002. Bethesda (MD): U.S. Department of Health and Human Services, Public Health Service, National Institutes of Health, National Heart, Lung and Blood Institute; 1997. Copies of the complete NAEPP guidelines are available at their web site <http://www.nhlbi.nih.gov/guidelines/asthma/index.htm> or from Community First Health Plans.

The 2007 NAEPP Expert Panel identified questions about asthma management in four main categories: Assessing and Monitoring Asthma Severity and Asthma Control, Education for a Partnership in Care, Control of Environmental Factors and Comorbid Conditions that Affect Asthma, and Medications. The Guidelines updated guidelines also focused on Stepwise Approach for Managing Asthma and Managing Exacerbations. Some key topics in each category include:

- Assessing and Monitoring Asthma Severity and Asthma Control
 - Utilizes multiple measures of the patient's level of current impairment and future risks.
 - Stress to look for those at high risk for frequent exacerbations even though appear to have low day-to-day effects of asthma.
- Education for a Partnership in Care
 - Patient skills to self-monitor and manage asthma
 - Use of a written asthma action plan.
 - Recommendations on educational opportunities in a variety of settings
 - Clinician education programs to improve patient-provider communication.
- Control of Environmental Factors and Comorbid Conditions that Affect Asthma
 - Allergens and Irritants
 - Comorbid conditions
- Medications
 - General Mechanisms and Role in Therapy
 - Delivery Devices for Inhaled Medications
 - Safety Issues for Inhaled Corticosteroids and Long-Acting Beta₂-Agonists
- Stepwise Approach for Managing Asthma
 - Stepwise Treatment Recommendations for Different Ages
 1. Steps for Children 0-4 Years of Age
 2. Steps for Children 5-11 Years of Age
 3. Steps for Youths > 12 Years of Age and Adults
 - Managing Special Situations
 1. Exercise-Induced Bronchospasm
 2. Pregnancy
 3. Surgery
 4. Disparities
 -
- Managing Exacerbations
 - Classifying Severity
 - Home Management
 - Management in the Urgent or Emergency Care and Hospital Settings

The foundation of care for asthma can be summarized in nine key points.

1. Conduct a detailed medical history, physical examination and pulmonary function tests (PFT).
2. Tailor asthma treatment plan to the needs of the individual patient.
3. Provide written self-management plan and tools for self-management.
4. Gain control as quickly as possible; then decrease medication to the least necessary.
5. Provide asthma education to patient and caregivers.
6. Teach proper inhaler technique.
7. Control environmental and other factors contributing to asthma severity.
8. Review treatment every 1 – 6 months, depending on severity. If control is sustained for at least 3 months, consider gradual reduction in treatment. If control is not achieved, consider step-up in treatment after reviewing patient compliance, medication use technique and control of allergens/trigger factors.
9. Consultation with an asthma specialist is recommended for unstable or complex patients.

ACAAI Asthma Disease Management Resource Manual, October 1997.

History may include cough, wheezing, chest tightness, shortness of breath and/or exercise intolerance. Children may report chest pain or nighttime coughing as their presenting symptoms. Asthma may be suspected by observing wheezing or auscultating prolonged expirations.

Asymptomatic patients may give history of prior episodes of cough, wheezing, or exercise intolerance. These patients may not have physical exam findings of asthma. Some patients may deny active asthma and have wheezing or prolonged expirations on exam.

Most patients suspected of asthma should have pulmonary function testing (PFT). This may not be obtainable on children under 5 years of age. PFT done before and after inhaled bronchodilators will often support the diagnosis of asthma, however, the lack of response does not rule out asthma. Other maneuvers may demonstrate reversibility, such as 5 – 10 day course of oral steroids followed by repeat PFT (specialty consultation is recommended). For patients with normal or near-normal PFT, provocative testing (i.e. methacholine challenge) may be indicated. Alternatively, home peak flow monitoring may demonstrate intraday variations consistent with asthma.

When patients present with history, physical exam or lab findings of asthma, a chest X-Ray (CXR) within the past year is indicated for adults. Preview of a previous normal CXR may be adequate for children. When an asthma diagnosis is substantiated, patients should be categorized according to the NHI guidelines as intermittent, mild persistent, moderate persistent, or severe persistent.

Home Peak Flow Monitoring: Home peak flow monitoring may demonstrate intraday variability consistent with a diagnosis of asthma. During a period of 2 –3 weeks, peak expiratory flow (PEF) should be recorded at least twice a day. If patient uses a bronchodilator, PEF should be recorded before and after treatment. The personal best is the highest PEF achieved. If the personal best is less than 80% of predicted or daily variability is more than 15% after adequate bronchodilator, more aggressive therapy and continued daily monitoring are indicated.

Day-to-day variability of PEF provides a reasonable index of asthma stability and/or severity. This can be calculated from at least two values (AM and PM) before and after bronchodilators (if patient is on bronchodilators):

Average Daily Variability = $(\text{highest PEF} - \text{lowest PEF}) \times 100 / \text{Highest PEF}$.

Variability greater than 15% supports a diagnosis of asthma.