



## Clinical Practice Guideline: Management of Asthma

### Assessment:

- The critical aspect of asthma assessment is precise lung function measurement for asthma severity determination and therapeutic course monitoring.
- When establishing the diagnosis of asthma, evaluate:
  - Medical history (including smoking, drug and alcohol use), physical examination, and supportive diagnostic lung function testing
  - Within Medical History, establish that episodic symptoms of airflow obstruction are present, and objectively demonstrate that obstruction is at least partially reversible with Spirometry
  - Exclude the presence of any alternative diagnoses; particularly COPD or vocal chord obstruction in adults, and aspiration, cardiac failure, inhaled foreign body, structural abnormality or cystic fibrosis in children
  - Medication requirements: Short-acting bronchodilators used more than twice per week should prompt daily inhaled corticosteroid administration for persistent asthma, even if mild severity
- Measures of assessment and monitoring:
  - **Spirometry:** At least once a year before and after inhaled bronchodilator therapy
    - Significant reversibility is indicated by an increase of  $\geq 12\%$  and 200 ml in FEV1
  - **Peak Flow:** Symptomatic patients with normal spirometry:
    - Daily assessment of peak flow monitoring upon rising and before bedtime
    - Maintain an accurate log of daily readings to help detect subtle changes in lung function that may otherwise go unnoticed by the patient or the Provider

### Contributing Factors: Assess at initial evaluation & additional visits based on seasonal variations:

- Identify possible environmental inhalant allergens, indoor irritants, pet dander, air pollution
- Viral Respiratory Infection component to induction of Reactive Airways Disease
- Identify modifiable risk factors: sedentary lifestyle, obesity, stress, smoking, drug use
- Identify other factors: acute/chronic rhino-sinusitis, gastro-esophageal reflux, drugs (ASA/NSAIDS, sulfites, beta-adrenergic blockers in sensitive patients)

### Pharmacotherapy: Maintain optimal outcomes:

- Control chronic and nocturnal symptoms
- Maintain normal activity levels, including exercise
- Maintain near normal pulmonary function
- Prevent acute episodes of asthma exacerbation
- Avoid adverse effects of asthma medications
- In addition to allergen avoidance, enhance pharmacotherapy for environmental allergy based seasonal asthma, e.g. daily antihistamines and nasal steroid sprays to avoid asthma induction, daily inhaled corticosteroids during season even if not needed outside of season, etc.
- Annual Influenza immunization; Pneumococcal vaccination as appropriate

### Pharmacotherapy based on individual's needs:

- **Rescue Medication:**
  - Short Acting Beta2 Adrenergic Agonist Bronchodilator
  - Primary medication only for infrequent symptoms or pre-exposure prophylaxis
- **First Line Controller Medication:**
  - Inhaled Corticosteroids
  - To be added for ALL persistent disease, no matter how mild

• **Second Line Controller Medication:**

- Long Acting Beta2 Adrenergic Agonist Bronchodilators
- To be added for asthmatics inadequately controlled on steroids

• **Third Line Medications:**

- Other anti-inflammatory inhalers
- Only added for asthmatics inadequately controlled on 1st & 2nd step therapy

• **Fourth Line Medications:**

- Methylxanthines
- Available, but rarely required

**Patient Education:** All Asthma patients should have a written Asthma Action Plan which incorporates all aspects of their Asthma care, and is re-evaluated at least annually or more often for changing status. The Asthma Team consists of the PCP, certified asthma educator, and appropriate specialists. The patient must understand the Asthma Action Plan:

- Short and long term goals
- Written environmental control recommendations
- Lifestyle changes including sick day interventions
- Self-monitoring of peak flows with use of a recording system (monthly calendar charting seasonal variations in asthma symptoms)
- Basic facts about asthma (provide written material for patient reference)
- List of environmental controls (stress the importance of implementation)
- Appropriate role of Asthma medications:
  - Explain use of controller vs. reliever medications
  - Provide Asthma Action Plan for medication use
  - Provide use instructions for MDI (observe use and critique technique)
  - Refer to ‘Ohana Asthma Disease Management Program

**Monitoring and Reporting:**

- Establish therapeutic goals: Normal Activity without restriction, rare symptoms
- Provide instructions for monitoring and reporting
  - Practice use of peak flow meter as a monitoring tool
  - Instruct patient to record missed school/work days, altered activity, symptom changes

**Follow up:**

- Routine office exams seasonally or every 1 to 6 months if stable, with increased frequency in acute cases or if patient’s routine “stable” status changes
- Assess attainment of patient goals and concerns
- Adjust treatment plans as often as necessary for optimal control; add inhaled corticosteroids for all persistent (rescue meds > twice per week) asthma, no matter how mild the severity
- Update the Asthma Action Plan and self-management plan at least annually, and more often as indicated for changes in status
- Re-assess patient’s peak flow and inhaler technique
- Smoking cessation program referral for smokers

**Physician Measurement and Assessment of Compliance with Guidelines**

- Percent of members aged 5-56 years of age during the measurement year who were identified as having persistent asthma during the year prior to the measurement year and who were appropriately prescribed inhaled corticosteroids, leukotriene modifiers, or Nedocromil during the measurement year.

**References:**

Expert Panel Report 3: Guidelines for the Diagnosis and Management of Asthma. National Heart, Lung, and Blood Institute. <http://www.nhlbi.nih.gov/guidelines/asthma/asthgdln.pdf> Full Report 2007

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