Summary of the NAEPP's EPR-3: Guidelines for the Diagnosis and Management of Asthma

Consider the Diagnosis of ASTHMA if:

- Patient has RECURRENT episodes of cough, wheeze, shortness of breath, or chest tightness.
- Symptoms occur or worsen at night, awakening the patient.
- Symptoms occur or worsen in the presence of factors known to precipitate asthma.
- Alternative diagnoses have been considered such as GERD (a common co-morbidity), airway anomaly, foreign body, cystic fibrosis, vocal cord dysfunction, TB, or COPD. If diagnosis is in doubt, consider consulting an asthma specialist.

Confirm the Diagnosis of ASTHMA if:

- Spirometry demonstrates ***obstruction*** and ***reversibility*** by an increase in FEV_1 of ≥12% after bronchodilator (in all adults and children 5 years of age or older).

Assess Asthma Severity: Any of the following indicate PERSISTENT ASTHMA

- Daytime symptoms >2 days per week **OR**
- Awakens at night from asthma ≥2X per month (age 0-4 years: ≥1X per month) **OR**
- Limitation of activities, despite pretreatment for EIB **OR**
- Short-acting $beta_2$-agonist (SABA) use for symptom control >2 days per week (not prevention of EIB) **OR**
- Two or more bursts oral corticosteroids in 1 year (age 0-4 years: ≥2 bursts oral corticosteroids in 6 months*) **OR**
- Age ≥5 years: FEV_1 <80% predicted **OR** FEV_1/FVC ratio < predicted normal range for age (see below)

***NOTE:** For children age 0-4 years who had 4 or more episodes of wheezing during the previous year lasting >1 day, check risk factors for persistent asthma. Risk factors include either (1) one of the following: parental history of asthma, a physician diagnosis of atopic dermatitis, or evidence of sensitization to aeroallergens, or (2) two of the following: evidence of sensitization to foods, ≥4% peripheral blood eosinophilia, or wheezing apart from colds.

Treatment for Persistent Asthma:
Daily Inhaled Corticosteroids (Step 2 or higher)
Follow the Stepwise Approach

Assess response within 2-6 weeks

Is Asthma *Well Controlled*?

1. Daytime symptoms ≤2 days per week **AND**
2. Awakens at night from asthma ≤1X per month (age ≥12 years: ≤2X per month) **AND**
3. No limitation of activities **AND**
4. SABA use for symptom control (not prevention of EIB) ≤2 days per week **AND**
5. ≤1 burst oral corticosteroids per year
6. FEV_1 ≥80% predicted
7. FEV_1/FVC →

FEV_1/FVC:
5-19 yrs ≥85%
20-39 yrs ≥80%
40-59 yrs ≥75%
60-80 yrs ≥70%

YES → Consider ***step down*** if ***well controlled*** for 3 consecutive months. **Reassess every 3 to 6 months.**

NO → ***Step up*** therapy. **Reassess in 2-6 weeks**. Continue to ***step up*** until ***well controlled***.

Quick Tips for All Patients with Asthma

- **Planned Asthma Visits**: Every 1-6 months
- **Environmental Control**: Identify and avoid exposures such as tobacco smoke, pollens, molds, animal dander, cockroaches, and dust mites (Allergy testing recommended for anyone with persistent asthma who is exposed to perennial indoor allergens)
- **Flu Vaccine**: Recommend annually
- **Spirometry (Not During Exacerbation)**: At diagnosis and at least every 1-2 years starting at age 5 years
- **Asthma Control**: Use tools such as ACQ®, ACT™ or ATAQ© to assess asthma control
- **Asthma Education**: Review correct inhaled medication device technique at every visit
- **Asthma Action Plan**: At diagnosis; review and update at each visit
- **SABA** (e.g., inhaled albuterol): 1) for quick relief every 4-6 hours as needed (see step 1), 2) pretreat with 2 puffs for exercise-induced bronchospasm (EIB) 5 minutes before exercise
- **Inhaled Corticosteroids (ICS)**: Preferred therapy for all patients with persistent asthma
- **Oral Corticosteroids**: Consider burst for acute exacerbation
- **Valved Holding Chamber (VHC) or Spacer**: Recommend for use with all metered dose inhalers (MDI)
- **Mask**: Recommend for use with VHCs or spacers and/or nebulizer for age <5 years and anyone unable to use correct mouthpiece technique

Indications for **asthma specialist consultation** include: Asthma is unresponsive to therapy; asthma is not well controlled within 3-6 months of treatment; life-threatening asthma exacerbation; hospitalization for asthma; required >2 bursts oral corticosteroids in 1 year; requires higher level step care (see Stepwise Approach, next page); immunotherapy is being considered.

This guideline is based on the recommendations from the NAEPP EPR-3 and is intended to assist the clinician in the diagnosis and management of asthma and should not be construed as a replacement for individualized evaluation and treatment based on clinical circumstances. Detailed recommendations on this complex topic are available at www.nhlbi.nih.gov/guidelines/asthma. The New Mexico Council on Asthma (NMCOA) obtained permission to use this guideline from the California Asthma Public Health Initiative (CAPHI).

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Summary of the NAEPP's EPR-3: Stepwise Approach for Managing Asthma in Children and Adults

Intermittent Asthma

Persistent Asthma: Daily Medication

Classifying asthma severity in patients not currently taking long-term control medication is a guide for selection of initial step therapy. Regularly monitoring the level of asthma control is a guide for adjusting therapy.

Assess Control

Step up as indicated and/or address possible poor adherence to medication. Reassess in 2 to 6 weeks.

Step down if ***well controlled*** for 3 months and reassess in 3-6 months.

All long-acting beta-agonists (LABAs) and combination agents containing LABAs have a black box warning.

Step 1

(All ages)

Preferred:
SABA every 4-6 hours prn

If used more than 2 days per week (other than for EIB) consider inadequate control and the need to ***step up*** treatment

Step 2

Age 0-4 yrs
Preferred:
Low dose ICS
Alternative:
Cromolyn or Montelukast
Consider consulting an asthma specialist

Age 5-11 yrs
Preferred:
Low dose ICS
Alternative:
Cromolyn, LTRA Nedocromil or Theophylline
+ Consider immunotherapy if patient has allergic asthma

Age >12yrs
Preferred:
Low dose ICS
Alternative:
Cromolyn, LTRA Nedocromil or Theophylline
+ Consider immunotherapy if patient has allergic asthma

Step 3

Age 0-4 yrs
Preferred:
Medium dose ICS
+
Consult an asthma specialist

Age 5-11 yrs
Preferred - EITHER:
Low dose ICS + either LABA, LTRA or Theophylline
OR
Medium dose ICS
+ Consider immunotherapy if patient has allergic asthma
+
Consider consulting an asthma specialist

Age >12yrs
Preferred: Low dose ICS + LABA
OR Medium dose ICS
Alternative:
Low dose ICS + either LTRA, Zileuton, or Theophylline
+ Consider immunotherapy if patient has allergic asthma
+
Consider consulting an asthma specialist

Step 4

Age 0-4 yrs
Preferred:
Medium dose ICS **+** either LABA or Montelukast
+
Consult an asthma specialist

Age 5-11 yrs
Preferred: Medium dose ICS + LABA
Alternative:
Medium dose ICS + either LTRA or Theophylline
+ Consider immunotherapy if patient has allergic asthma
+
Consult an asthma specialist

Age >12yrs
Preferred:
Medium dose ICS + LABA
Alternative:
Medium dose ICS + either LTRA or Theophylline or Zileuton
+ Consider immunotherapy if patient has allergic asthma
+
Consult an asthma specialist

Step 5

Age 0-4 yrs
Preferred:
High dose ICS + either LABA or Montelukast
+
Consult an asthma specialist

Age 5-11 yrs
Preferred: High dose ICS + LABA
Alternative:
High dose ICS + either LTRA or Theophylline
+
Consult an asthma specialist

Age >12yrs
Preferred: High dose ICS + LABA
+ Consider Omalizumab for patients who have allergies
+
Consult an asthma specialist

Step 6

Age 0-4 yrs
Preferred: High dose ICS + either LABA or Montelukast
+
Oral systemic corticosteroid
+
Consult an asthma specialist

Age 5-11 yrs
Preferred: High dose ICS + LABA
+
Oral systemic corticosteroid
Alternative:
High dose ICS + LTRA or Theophylline
+
Oral systemic corticosteroid
+
Consult an asthma specialist

Age >12yrs
Preferred: High dose ICS + LABA
+
Oral systemic corticosteroid
+ Consider Omalizumab for patients who have allergies
+
Consult an asthma specialist

This guideline is based on the recommendations from the NAEPP EPR-3 and is intended to assist the clinician in the diagnosis and management of asthma and should not be construed as a replacement for individualized evaluation and treatment based on clinical circumstances. Detailed recommendations on this complex topic are available at www.nhlbi.nih.gov/guidelines/asthma. The New Mexico Council on Asthma (NMCOA) obtained permission to use this guideline from the California Asthma Public Health Initiative (CAPHI).

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