Asthma: Diagnosis, Treatment and Management
About 9 million children in the United States have asthma, according to the National Institutes of Health. The implementation of new federal guidelines regarding the diagnosis, treatment and management of asthma has improved diagnostic sensitivity, leading to greater accuracy in diagnosis.

Treating patients with asthma involves not only initial diagnosis and treatment to achieve asthma control, but also long-term, regular follow-up care to maintain control. Asthma control focuses on reducing the frequency and intensity of symptoms and reducing the likelihood of future asthma attacks. Achieving and maintaining asthma control requires providing appropriate medication, addressing environmental factors that cause worsening symptoms, helping patients learn self-management skills and monitoring over the long term to assess control and adjust therapy accordingly.

**Establish Asthma Diagnosis**

Determine that symptoms of recurrent airway obstruction are present, based on history and exam.

- History of cough, recurrent wheezing, recurrent difficulty breathing or recurrent chest tightness
- Symptoms occur or worsen at night or with exercise, viral infection, exposure to allergens and irritants, changes in weather, hard laughing or crying, stress, or other factors.
- Symptoms respond to asthma medications.
- In patients ≥ 5 years of age, spirometry may help identify airway obstruction (and response to albuterol), determine asthma severity, and monitor illness over time.

**Initial Visit**

During an asthma patient’s initial visit, physicians should assess asthma severity and initiate proper treatment.

- Physicians should teach patients and caregivers how to monitor their asthma for any signs that the condition is worsening.
- Patients should be shown how to take medications correctly, including how to properly use inhalers and how to choose the correct spacer.
- Patients also should understand the difference between long-acting medications, designed to control asthma, and quick-relief medications used to treat acute attacks.
- Patients should also know how to identify environmental factors that may aggravate their asthma.

The initial visit should include the development of a written asthma action plan (see sample plan by visiting the American Academy of Allergy, Asthma & Immunology at [AAAAI.org](http://www.aaaa.org) and searching “asthma action plan”). Establish plan goals that will enable patients to:

- Take daily actions to prevent asthma flare-ups.
- Adjust medications in response to worsening asthma.
- Know when to seek medical care.

Review the plan during follow-up visits and revise as necessary.
Follow-Up Visits
Assess asthma control to determine if therapy should be adjusted.
• Assess at each visit: asthma control, proper medication technique, written asthma action plan, patient adherence and patient concerns.
• Obtain lung function measures by spirometry at least every 1 to 2 years; more frequently for asthma that is not well-controlled.
• Determine if therapy should be adjusted: maintain treatment; step up, if needed; step down, if possible.

Schedule Follow-Up Care
Asthma is highly variable over time. See patients:
• Every 2-6 weeks while gaining control
• Every 1-6 months to monitor control
• Every 3 months if a step down in therapy is anticipated

Treat Comorbid Conditions
• Consider allergic bronchopulmonary aspergillosis, gastroesophageal reflux, obesity, obstructive sleep apnea, rhinitis and sinusitis, and stress or depression. Treatment of these conditions may improve asthma control.
• Recommend inactivated flu vaccine for all patients ≥6 months of age.

The Asthma Program at Nationwide Children’s Hospital
At Nationwide Children's Hospital, asthma outpatient care is delivered by specialists from both the Section of Allergy/Immunology and the Section of Pulmonary Medicine. Our collaborative approach creates a team of physicians, nurse practitioners and respiratory therapists providing quality asthma care through diagnostic testing, up-to-date treatment strategies and comprehensive education for both patients and families. To learn more about our team and outpatient clinics and access patient education, visit NationwideChildrens.org/Asthma.
The following checklist was designed by our team to help physicians who treat patients with asthma. During your patient visits, you can use this tool to assess asthma risk and impairment; measure escalating asthma impairment; determine how much your patient understands about asthma and its treatment; and establish whether your patient is using his or her medication appropriately.

### Asthma Impairment/Control During the Past Month

**Frequency of daytime symptoms**
- □ 2 days/week
- □ 2 days/week (not daily)
- □ Daily
- □ Throughout the day

**Frequency of nighttime symptoms**
- □ None or <1 time/month
- □ 1-2 times/month
- □ 2-3 times/month
- □ 3-4 times/month
- □ 4 times/week
- □ Often, >7 times/week

**How often does the patient use albuterol?**
- □ With exercise only
- □ 2 days/week
- □ 2 days/week (not daily)
- □ Daily
- □ Several times/day

**How often does asthma limit the patient’s activities?**
- □ None
- □ Minor limitation
- □ Some limitation
- □ Extremely limited

**Asthma Risk**
- Number of asthma-related ED/UC visits in the past year: _______________________________
- Number of asthma-related hospitalizations in the past year: _______________________________
- Number of asthma-related ICU admissions in the past year: _______________________________

**Frequency of asthma exacerbations requiring oral steroids**
- □ 0-1 courses/year
- □ 2 times in 6 months
- □ 2 times/year
- □ 3 times/year

**Is the patient using a spacer with Metered Dose Inhaler (MDI)?**
- □ Yes
- □ No

**How often does the patient use controller medications?**
- □ Always
- □ Usually
- □ Sometimes
- □ Never
- □ Not prescribed

---

**Referrals and Consultations**

Online: NationwideChildrens.org
Phone: (614) 722-6200 or (877) 722-6220  |  Fax: (614) 722-4000
Physician Direct Connect Line for 24-hour urgent physician consultations: (614) 355-0221 or (877) 355-0221.