Managing Asthma and Allergies in DC Schools

A Comprehensive Resource and Educational Guide for Improving Asthma and Allergy Care in District of Columbia Schools
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www.aafa.org
Asthma Foundation of Western Australia
www.asthmawa.org.au
Asthma Initiative of Michigan
www.getasthmahelp.org
Attack on Asthma Nebraska
www.attackonasthma.org
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www.bhcs.com
California Healthy Schools Campaign
www.calhealthyschools.org
Centers for Disease Control and Prevention
www.cdc.gov
Dallas Asthma Consortium
www.dallasasthma.org
The Food Allergy & Anaphylaxis Network
www.foodallergy.org
Illinois Department of Human Services
www.dhs.state.il.us/chp/ofh/schoolhealth/pdf/asthma.pdf
Illinois Emergency Medical Services for Children
www.luhs.org/depts/emsc/schl_man.htm
Massachusetts Department of Education
www.doe.mass.edu/cnp/allergy.pdf
Metropolitan Washington Council of Governments
www.mwcog.org
Missouri Department of Health and Senior Services
www.dhss.mo.gov/asthma/Publications.html
National Association of School Nurses
www.nasn.org
National Association of Elementary School Principals
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www.nsc.org

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www.sjvhc.org

The Pediatric/Adult Asthma Coalition of New Jersey  
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www.epa.gov

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www.vahealth.org/cdpc/asthma/publications.htm

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U.S. Department of Education
U.S. Environmental Protection Agency, Region III
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What is the purpose of this guide?
The purpose of this guide is to help schools and families to create an environment where students with asthma and allergies are healthy, active, and ready to learn. In their joint publication, *Managing Asthma: A Guide for Schools*, the U.S. Department of Health and Human Services and the U.S. Department of Education describe the positive results of effective asthma (and anaphylaxis) management:

- Creates a supportive learning environment,
- Reduces absences,
- Eases disruption in the classroom,
- Ensures appropriate emergency care, and
- Enables full student participation in physical activities.

This guide offers an overview of asthma, allergy, and anaphylaxis and sample strategies, policies, and tools for consideration in caring for students with these conditions. It is intended for use by school personnel in all disciplines, including administrators, principals, teachers, school nurses, coaches, athletic trainers, facilities staff, nutrition services staff, counselors, and bus drivers.

What are the limitations of this guide?
This guide is NOT A POLICY MANDATE. Instead, it is designed to serve as a resource for schools in managing asthma, allergy, and anaphylaxis and to inform policies, practices, and procedures. School administrators and staff should make sure that strategies and actions to address asthma, allergy, and anaphylaxis conform to prevailing legal, regulatory, and administrative policies, requirements, forms, and procedures. Keep in mind that such policies and practices are subject to revision over time.

Furthermore, this guide is not intended to endorse any particular brand of product discussed or shown in its pages. Pictures and descriptions of such products are for illustrative purposes only.

Finally, this guide is for educational purposes only. It is not intended to replace the medical advice or services of a licensed healthcare provider.
How Do I Get Started?

Use the Table of Contents to find sections of use to you.

This guide offers information on managing asthma, allergies, and anaphylaxis in school settings, including relevant laws and sample policies and forms. Further, it provides guidance for emergency management of asthma and anaphylaxis. The guide also includes recommendations for asthma and anaphylaxis education for staff, students, and families. The final section features an extensive list of resources for additional tools and information and a glossary of key terms.

Understand the legal requirements that affect how schools deal with students and staff who have asthma and anaphylaxis.

Federal and state laws require that schools take steps to promote the health, development, and achievement of students and staff with asthma, anaphylaxis, and other special needs. Be sure to read the “Legislation and Guidance” section.

Use the guide to educate others.

Use the action checklists for various staff disciplines, healthcare providers, students, and parents/guardians and supplement with other materials from the guide as handouts to assist you in conducting workshops, brown bag lunches, and meetings with school personnel, students, families, and the community.

Develop an Asthma/Anaphylaxis Management Plan for your school.

Start with the How Comprehensive is Your School Asthma Management Program Checklist (adapted to include anaphylaxis) and the How Asthma-Friendly Is Your School? Checklist, both from the National Asthma Education and Prevention Program of the National Institutes of Health, and/or the asthma module of the School Health Index self-assessment and planning tool from the Centers for Disease Control and Prevention (http://apps.nccd.cdc.gov/shi) to reveal how well your school deals with the needs of students with asthma and anaphylaxis. Then use the ten-step sample plan from the National Association of State Boards of Education and additional guidelines provided in this guide to develop a written plan describing what actions, policies, and procedures your school will use to address asthma, allergies, and anaphylaxis, including how to prevent and respond to emergencies.

Get recognized for your efforts.

Visit www.DCSchoolAsthma.org find out how your school can qualify for the DC Asthma-Friendly Schools Award and sign up for the Asthma-Friendly Schools e-newsletter with the latest tips and resources.
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About Asthma

Smile, breathe and go slowly.

— Thich Nhat Hanh
# Section 1

## About Asthma

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It is a disease of the airways that:

- Is chronic
- Has no cure
- Produces recurring episodes of breathing problems ("asthma attacks")
  - Coughing
  - Wheezing
  - Chest tightness
  - Shortness of breath
- Is TREATABLE!

If asthma is left untreated and allowed to progress unchecked, permanent damage can be done to the airways.
ASTHMA IS...

Life-threatening even when mild

All asthma is serious. Even in children whose underlying asthma severity is diagnosed as mild, symptoms can suddenly become severe. Too often, children with asthma do not receive the care they need to keep their asthma symptoms under control, leaving them vulnerable to an asthma attack (also called an asthma flare-up, episode, or exacerbation). That’s why every child with asthma needs a written asthma action plan with instructions to prevent and treat asthma emergencies.


1.2 Managing Asthma and Allergies in DC Schools
Facts about Childhood Asthma in the U.S.

**ASTHMA IS...**

**An epidemic.**
- An estimated 22.2 million Americans had asthma in 2005, including 6.5 million children under 18 years of age.\(^1\)

**The most common serious chronic disease of childhood.**\(^2\)
- In 2005, 8.9% of children currently had asthma.\(^3\)

**Under-treated and under-controlled.**
- In 2003, 39% of children with asthma reported receiving an asthma management plan from their healthcare provider.\(^5\)
- In 2000, fewer than half (42.3%) of children under age 18 who had an asthma attack in the previous year reported using an inhaled corticosteroid as recommended for long-term control of persistent asthma.\(^4\)
- Asthma is uncontrolled in 85% of inner-city children who have asthma.\(^5\)
- Among children with persistent asthma, only 20% have optimal control.\(^6\)

**A major cause of morbidity.**
- Nearly two of every three children who currently have asthma had at least one asthma attack in the past 12 months.\(^3\)
- Asthma accounts for one-third of all pediatric emergency department visits.\(^2\)
- Asthma is the third-ranking cause of hospitalization among children under 15.\(^7\)
The leading cause of school absenteeism due to a chronic childhood condition.²

- In 2003, the 4 million children who had at least one asthma attack in the previous year missed an estimated 12.8 million school days due to asthma.¹

A major source of health disparities.

- Estimates from 2004-2005 indicate that asthma prevalence rates are higher among non-Hispanic black children (12.8%) and Puerto Rican children (19.2%) compared to non-Hispanic white children (7.9%).³

- Minority children also experience higher rates of emergency department (ED) visits, hospitalizations and deaths. For example, compared with white children, black children in 2003-2005 had a 260% higher ED visit rate, a 250% higher hospitalization rate, and a 500% higher death rate from asthma.³

Expensive.

- The estimated cost of treating asthma in those under 18 is $3.2 billion per year.⁸

---


• In 2003, an estimated 11.8% of DC children (more than one in ten) currently had asthma, compared with 8.8% of children nationally.¹

• An estimated 10,000² to 12,645¹ DC children under age 18 have asthma.

• From 2002 through 2006, DC children averaged more than 4,200 emergency department visits for asthma each year at DC hospitals.³

• Hospital admissions for asthma by DC children jumped from a recent low of 296 hospitalizations in 2004 to 512 hospitalizations in 2006.³

• Among a sample of 488 children seen for acute asthma care at DC’s Children’s National Medical Center, more than half had made 3 or more emergency department visits for asthma in the prior 12 months.⁴

• Emergency department visits for asthma among DC children are highest in the fall (September to November) with the second-highest peak occurring in the spring (March to May).⁵

• The 2002 rate of emergency department visits for asthma was nearly 12 times greater among children in DC’s most disadvantaged areas than among its most affluent.⁴

• Most of DC’s pediatric emergency department visits originate from five DC zip codes (20020, 20019, 20002, 20011, and 20032) that roughly correspond to Wards 4, 6, 7, and 8.⁵

• From 1995 through 2004, there were 14 deaths due to asthma among DC children aged 1 to 19 years.⁶


Why is Asthma a Problem for Schools?

**ASTHMA CAN...**

**Affect a student’s academic performance.**

Asthma is frequently associated with nighttime cough even when the patient is not actively wheezing. Nighttime cough or wheeze can disrupt sleep, leading to poor recall memory, lack of concentration, and mood swings. These factors can affect a student’s grades, self-esteem, and chances at long-term success.

**Unnecessarily limit a student.**

Poor asthma control and misunderstandings about the disease contribute to poor outcomes. The landmark Children and Asthma in America™ survey found that 62% of children had activity limitations to asthma.

**Be DEADLY!**

An asthma episode can quickly escalate and may result in death if a student does not receive prompt medical attention.

---

**Children and Asthma in America™**

Limitations on Various Activities Due to Asthma

- Any of these: 32% (A lot), 30% (Some), 62% (Total)
- Sleeping: 7% (A lot), 43% (Some), 27% (Total)
- Outdoor Activities: 11% (A lot), 30% (Some), 33% (Total)
- Having Pets: 16% (A lot), 22% (Some), 30% (Total)
- Going out/Playing with friends: 7% (A lot), 18% (Some), 25% (Total)
- Things with family: 3% (A lot), 13% (Some), 16% (Total)
- School Activities*: 4% (A lot), 10% (Some), 14% (Total)
- Doing well in school*: 5% (A lot), 11% (Some), 16% (Total)
- Playing organized sports*: 14% (A lot), 24% (Some), 38% (Total)

* For children 6 years of age and older (n=694).

---


1.6 Managing Asthma and Allergies in DC Schools
Normal breathing allows air to flow freely

During normal breathing, air flows freely in and out of the lungs. The normal airway has several parts – the nose, mouth, throat, larynx (voice box), trachea (windpipe), and the lungs. As it enters the lungs, the trachea splits into smaller divided airways called bronchi and bronchioles, which are like the smaller branches of an upside-down tree. As in the tree, these smaller branches lead to the “leaves” of the lung, the alveoli, which exchange oxygen so we can breathe.

A child having an asthma episode may seem to struggle to inhale air, but actually, the child is having trouble exhaling.

Asthma obstructs air flow

One, two, or all three of the following key features can obstruct the airways making it very difficult to breathe:

1. **Inflammation of the airways**
   (swelling)

2. **Bronchoconstriction**
   (tightening of the muscles around the airways)

3. **Excessive mucus production**
   (clogs the airway)

What happens during an asthma episode or “attack”?

Before an asthma episode or “attack,” the lungs of people who have asthma are more likely to react to “triggers” by developing inflammation, bronchoconstriction or excess mucous production. During an asthma episode, linings of the airways (bronchioles) swell, muscles around the airways tighten, and mucus clogs the tiny airways, blocking the flow of air. The airways become overly responsive (hyperreactive) to environmental changes, such as dust, smoke, mold, pollen, perfume, change in the seasons and chemicals with strong odors. This sometimes results in wheezing, coughing, restlessness, headaches, fatigue or tightness in the chest.

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Illustration created by Trudy Watson, American Lung Association of Illinois.
**Why is Asthma So Serious?**

**During an asthma attack:**

- It is possible for the lungs to become completely blocked and not allow air to pass through.
- If air doesn’t pass through, oxygen doesn’t get to the heart, brain, kidneys and other important organs in the body.
- If those organs don’t get oxygen, they stop working.

*A person can die during an asthma attack. TAKE IMMEDIATE ACTION!*

---

![Why asthma makes it hard to breathe](image-url-here)
**What are the Symptoms of Asthma?**

**Asthma symptoms include, but are not limited to:**

- Coughing
- Breathing hard and fast
- Shortness of breath
- Breathlessness
- Wheezing (a whistling noise in the chest while breathing)
- Waking at night due to asthma symptoms
- Fatigue, tiredness, or lethargy
- Difficulty breathing out
- Headaches
- Can’t talk, eat, or walk well
- Chest pain or tightness
- Blue or gray lips and fingernails

**Asthma symptoms are the tip of the iceberg.**

Treating the underlying inflammation of the airways is essential for preventing and maintaining control of asthma symptoms. Early and aggressive treatment with preventive (controller) medications is important. Most asthma treatment regimens include a daily dose of inhaled corticosteroids, supplemented by a rescue medication, or bronchodilator, to be used during attacks.

---

**Waiting to treat after symptoms occur can lead to severe consequences.**

**When do asthma symptoms occur?**

Asthma symptoms and severity can vary greatly from child to child, hour-to-hour and day-to-day. Symptoms are often worse at night and in the early morning hours. Many children with asthma also have allergies that can intensify their asthma symptoms. Severity may worsen or improve depending on the child’s symptom control and exposure to allergens, irritants, and other asthma triggers, such as viral infections. Some children have occasional symptoms (for example, after strenuous exercise), while others have symptoms that interfere with their daily life, including concentration and participating in school.
How is Asthma Diagnosed and Assessed?

Diagnosing Asthma

Diagnosing an individual as having asthma is the first step in reducing the symptoms, functional limitations, impairment in quality of life, and risk of adverse events that are associated with the disease. In its revised *Pediatric Asthma: Promoting Best Practice – Guide for Managing Asthma in Children*, the American Academy of Allergy, Asthma, and Immunology describes three steps for diagnosing asthma in children:

1. Obtain a Medical History

   Begin by asking the parents/guardians and/or child about:

   a. **Family history** of allergy and asthma.

   b. **Child’s symptoms** (coughing, wheezing, shortness of breath or rapid breathing, chest tightness, etc.), including when symptoms occur (night or early morning? during/after exercise? after exposure to tobacco smoke or other substance? seasonally?) what causes symptoms, and what makes symptoms worse.

   c. **Frequency and severity of the child’s symptoms and impact on child and family**, including school absences, visits to the emergency room or hospital, and interference with school performance, daily activities, physical activity, and sleep as well as perceptions, beliefs, and coping skills regarding asthma.

   d. **Medications the child is using**, e.g., how many times does child use rescue inhaler? Daily? Weekly?

2. Conduct a Physical Examination

   a. **Wheeze**ng (high-pitched whistling sounds when exhaling) may or may not be present for a diagnosis of asthma to be made.

   b. **Other physical findings** that raise the probability of asthma include rapid breathing, presence of other allergic diseases (e.g., atopic dermatitis/eczema, swollen nasal passages, runny nose with clear discharge).

3. Confirm with Objective Measures

   a. **Spirometry** is recommended (but not required) for a diagnosis of asthma. A spirometer is an instrument used to measure how much air the lungs can hold and how well the respiratory system is able to move air into and out of the lungs. Generally, the individual is asked to take the deepest breath they can, and then exhale into the sensor as hard as possible, for as long as possible. Because spirometry is based on a maximal forced exhalation, the accuracy of its results is highly dependent on the patient’s understanding, cooperation, and best efforts. Common parameters that spirometry measures are:

   Photo: MIR Medical International Research
i. **Forced vital capacity (FVC)** – The maximum volume of air, measured in liters that can be forcibly and rapidly exhaled.

ii. **Forced expiratory volume (FEV₁)** – The volume of air expelled in the first second of a forced expiration.

iii. **FEV₁/FVC ratio** – The forced expiratory volume in one second divided by the forced vital capacity expressed as a percentage. A low value indicates an obstructive pattern, whereas a normal value indicates either a restrictive or a normal pattern.

b. Some young children cannot perform spirometry (particularly children under age 4). For these children, clinical judgment and/or response to asthma treatment may be the only reliable means of diagnosing asthma.

c. Consider also monitoring peak expiratory flow (PEF) variability for one to two weeks using a peak flow meter, including when a child has asthma symptoms but spirometry findings are normal.

### Assessing and Monitoring Asthma

According to the updated *Expert Panel Report 3 (EPR-3): Guidelines for the Diagnosis and Management of Asthma*, released in August 2007 by the National Heart, Lung, and Blood Institute, the functions of assessment and monitoring are closely linked to the concepts of severity, control, and responsiveness to treatment as described below. No matter what the level of underlying asthma severity or how well asthma responds to treatment, the goal is always to achieve and maintain asthma control.

1. **Severity** indicates the intrinsic intensity of the disease process. Severity is measured most easily and directly in a patient not receiving long-term control therapy. For any child with asthma, the severity of the disease can change over time, and **any child with asthma may have a severe episode**.

2. **Control** is how well manifestations of asthma are minimized and the goals of therapy are met, including reducing the frequency and intensity of symptoms and functional limitations and lowering the risk of adverse events, such as acute asthma symptoms, progressive decline in lung function (or, for children, reduced lung growth), or problems from medications.

3. **Responsiveness** is the ease with which asthma control is achieved by therapy.

### Classifying Asthma Severity

Determination of asthma severity is an important stage of asthma management, as it allows the healthcare provider to propose appropriate treatment. Asthma severity is a continuum ranging from mild to moderate and severe. The assessment of severity is based on measures of both impairment (i.e., frequency of the child's daytime and/or nighttime symptoms and lung function for children able to use a spirometer or peak flow meter) and risk (namely, how often the child relies on the use of quick-relief medicines for symptom control and the frequency and intensity of exacerbations requiring unscheduled, urgent, emergency, and hospital admission and the use of oral systemic corticosteroids).

When there is a lack of agreement between the clinical examination and the lung function test, the highest degree of severity noted by either of the two evaluations will be used to define the level
of asthma severity. It is better to overestimate than underestimate the severity, since underestimation could result in inadequate treatment.

Classifying asthma severity can be made in any of three periods (1) before treatment has been started, (2) before optimal therapy is attained (i.e., the child is taking medication but has had insufficient time to achieve optimal asthma control), and (3) after optimal therapy is obtained. In the latter case, severity is classified according to the level of treatment needed to maintain control. For example, for a child with mild persistent asthma, one daily long-term control medication is necessary to maintain control. Below are the symptoms generally associated with the continuum of asthma severity for children not currently taking long-term control medication. Assessment is made on symptoms over the previous 2-4 weeks because detailed recall of symptoms decreases over time.

1. Intermittent Asthma (previously called Mild Intermittent Asthma)

Children with intermittent asthma have brief episodes of wheezing, coughing, or shortness of breath occurring no more than twice a week with only one or two nighttime awakenings per month of mild symptoms. Symptoms between flare-ups are rare, but asthma episodes still can be severe.

2. Mild Persistent Asthma

Children with mild persistent asthma have episodes of wheezing, coughing, or shortness of breath that occur more than twice a week but less than daily. Symptoms usually occur at least twice a month at night and flare-ups may affect normal activity, including exercise and other physical activity and attendance at school.

3. Moderate Persistent Asthma

Children with moderate persistent asthma have daily symptoms and require daily medication. Nighttime symptoms occur more than once a week but not every night. Flare-ups occur more than twice a week, last for several days, and usually affect normal activity.

4. Severe Persistent Asthma

Children with severe persistent asthma have symptoms continuously. They tend to have frequent flare-ups that may require emergency treatment and even hospitalization. Many children with severe persistent asthma have frequent symptoms at night. They experience a great deal of limitation in their normal activity.

In the specific case of seasonal asthma, when asthma symptoms occur only in relation to certain seasonal molds or pollens with few symptoms the rest of the year, EPR-3 recommends that healthcare providers consider treating patients who may have seasonal asthma as having persistent asthma during the season and as having intermittent asthma the rest of the year.

Can Asthma Go Away?

Asthma can be controlled, but it cannot be cured. Asthma is a life-long disease. An individual may become free of symptoms all or most of the time, but asthma does NOT go away when the symptoms go away. As they get older, some, but not all, children experience fewer symptoms as their lungs grow and the airways expand. But asthma symptoms can return without warning! For other children, symptoms continue or worsen throughout their entire lives. It is important to see a healthcare provider regularly to monitor asthma and to have a quick-relief (rescue) inhaler readily available in case an asthma attack occurs.
What are the Goals of Asthma Management?

Students with asthma should be able to live healthy and active lives without symptoms.

Because children and adolescents spend a great deal of time in school, school personnel can play a pivotal role in helping students manage their asthma. By working together with parents/guardians, healthcare providers and students, schools can devise strategies to improve the health and safety of both students and personnel.

Goals for students who have asthma:

- Good asthma control (no asthma symptoms)
- Optimal school performance and attendance
- Normal levels of physical activity
- Asthma triggers minimized or avoided
- Acceptance by classmates
- Accessible written Asthma Action Plan
- Student and family’s health, educational, and extracurricular goals are met

Most asthma episodes can be prevented.

By combining a reduction of environmental asthma “triggers” in the school environment with increased asthma awareness and proper medical management, most asthma episodes can be prevented. Good communication among parents, the student’s healthcare provider, and school staff also is vital to successful asthma prevention. The result is a better learning environment.
How is asthma controlled?

Asthma can usually be managed with the right medications and modification to the home and school environments. For the student with asthma, the key steps are to:

1. **Follow an Asthma Action Plan.**
2. **Avoid or control exposure to things that make asthma worse.**
3. **Use medication appropriately.**

**Involve students in the development of an Asthma Action Plan with their physician.**
What is an Asthma Action Plan?

An Asthma Action Plan, or written treatment plan, is an individualized tool that can help students, parents/guardians, school nurses, and school staff to evaluate, monitor, and provide care for a student who has asthma. The Asthma Action Plan is a detailed outline of how to manage asthma on a day-to-day basis and describes what to do in an emergency. It includes information about the student, the student's medications, and emergency contact information. It is advisable that the student's Asthma Action Plan be available at all times.

DC now has an Asthma Action Plan form endorsed by the DC Department of Health and available at www.DCSchoolAsthma.org, www.doh.dc.gov, and www.k12.dc.us (see next page). The triplicate form includes copies for the student/family, school nurse, and healthcare provider; check-off boxes for emergency administration of medication to students and/or for students to self-medicate when needed and for the waiver of liability; and other instructions. For more information, call (202) 442-5925.

How to use an Asthma Action Plan

Asthma Action Plans come in a number of different formats but most commonly use a three-color (zone) system like that of a traffic signal:

Green Zone = Go
Yellow Zone = Caution
Red Zone = Danger.

Each zone has assessment measures and tailored instructions specific to that zone. When you match the symptoms (and peak flow measurements, if available) to the correct color section, you will find the steps to take. Most students can benefit from using both symptoms and peak flow measurements to determine their current asthma zone, but either method is acceptable.

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**Step 1: Follow an Asthma Action Plan**

**GREEN means Go!**
Use CONTROL medicine daily (if control medicine required)

**YELLOW means Caution!**
Add RESCUE medicine

**RED MEANS DANGER!**
Get help from a doctor now!
Asthma Action Plan

The goal of asthma treatment is to live a healthy, active life.

<table>
<thead>
<tr>
<th>Name</th>
<th>Date of Birth</th>
<th>Effective Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Care Provider</td>
<td>Provider's Phone</td>
<td>/ / to / /</td>
</tr>
<tr>
<td>Parent/Guardian</td>
<td>Parent's Phone</td>
<td>School</td>
</tr>
<tr>
<td>Additional Emergency Contact</td>
<td>Contact Phone</td>
<td></td>
</tr>
</tbody>
</table>

Asthma Severity Classification
- [ ] Mild Intermittent
- [ ] Moderate Persistent
- [ ] Severe Persistent
- [ ] Mild Persistent
- [ ] Moderate Persistent
- [ ] Severe Persistent
- [ ] No Control Medicines Required
- [ ] Fast-Acting Inhaled β-Agonist
- [ ] Nebulizer Treatment

Asthma Triggers (Things that make your asthma worse)
- [ ] Colds
- [ ] Smoke
- [ ] Exercise
- [ ] Pollen
- [ ] Dust
- [ ] Animals
- [ ] Strong odors
- [ ] Molds/moisture
- [ ] Pests (rodents, cockroaches)
- [ ] Season (circle): Fall, Winter, Spring, Summer
- [ ] Other:

Flu Shot?
- [ ] Yes
- [ ] No

Green Zone: Go! – Take these CONTROL (PREVENTION) Medicines EVERY Day

You have ALL of these:
- Breathing is easy
- No cough or wheeze
- Can work and play
- Can sleep all night

Peak flow in this area: ___ to ___ (More than 80% of Personal Best)

Personal best peak flow: ___

- No control medicines required.
- Fast-Acting Inhaled β-Agonist, take _____ puff(s) ___ times a day
- Nebulizer treatment(s), take _____ by mouth once daily at bedtime
- For asthma with exercise, ADD: Fast-Acting Inhaled β-Agonist, use _____ puff(s) with spacer 15 minutes before exercise
- For nasal/environmental allergy, ADD: Mucosal steroid, use _____ spray(s) per nostril ___ times a day

Yellow Zone: Caution! – Continue CONTROL Medicines and ADD RESCUE Medicines

You have ANY of these:
- First sign of a cold
- Cough or mild wheeze
- Tight chest
- Problems sleeping, working, or playing

Peak flow in this area: ___ to ___ (50%-79% of Personal Best)

- Fast-Acting Inhaled β-Agonist, use _____ puff(s) every ___ hours as needed
- Nebulizer treatment(s), use _____ every ___ hours as needed
- Other: _____

ALWAYS use a spacer with your inhaler!

Call your doctor if you have these signs often, use rescue medicines more than two times a week, or your rescue medicine doesn’t work!

Red Zone: DANGER! – Continue CONTROL & RESCUE Medicines and GET HELP!

You have ANY of these:
- Can’t talk, eat, or walk well
- Medicine is not helping
- Breathing hard and fast
- Blue lips and fingernails
- Tired or lethargic
- Ribs show

Peak flow in this area: ___ to ___ (Less than 50% of Personal Best)

- Fast-Acting Inhaled β-Agonist, use _____ puff(s) with spacer every 15 minutes, for THREE treatments
- Nebulizer treatment(s), use _____ every 15 minutes, for THREE treatments

Call your doctor while administering the treatments.

IF YOU CANNOT CONTACT YOUR DOCTOR:
Call 911 for an ambulance, or go directly to the Emergency Department!

SCHOOL MEDICATION CONSENT AND PROVIDER ORDER FOR CHILDREN AND YOUTH:

☐ This student is capable and approved to self-administer the medication(s) named above.
☐ This student is not approved to self-medicate.
☐ This student may be administered RESCUE medication(s) (e.g., albuterol) by a school nurse or trained staff as directed above.
☐ As the parent/guardian, I understand that the school, its employees and its agents shall incur no liability and shall be held harmless against any claims that may arise relating to the administration, supervision, training, or self-administration of medication.

Patient or Parent/Guardian Signature: __________________________ Date: __________
Health Care Provider Signature: __________________________ Date: __________
Follow-Up Asthma Visit: __________________________
GREEN = GO
Feeling good, no symptoms, peak flow between 80% – 100% of personal best

Children whose asthma is well controlled should be in this zone all of the time. By following the instructions in the green zone, students can often avoid slipping into the yellow or red zones. In addition, the green zone includes instructions for the controller medication(s) the child may take every day (if prescribed). It also includes instructions for any prescribed use of medications prior to strenuous activity for children with exercise-induced symptoms.

YELLOW = CAUTION
Having some asthma symptoms, peak flow is 50% – 79% of personal best

A student may slip down into this zone if he or she forgets to take controller medication (if prescribed) or if he or she is exposed to asthma triggers. The yellow section provides specific instructions for medication administration when the child is starting to have asthma symptoms. **If action is taken when in the yellow zone, the student can often prevent dropping further into the more dangerous red zone.**

RED = DANGER
Severe symptoms, peak flow less than 50% of personal best

This zone means the child’s symptoms have progressed to the point where emergency care is needed. A description of escalating symptoms and a peak flow meter reading that has dropped to below 50% indicates a child’s lungs are filling with mucus and that the bronchial muscles are so contracted that the lungs cannot pull in air. Follow the instructions regarding emergency treatment and medication administration. **Call 911 immediately** if the student is getting worse or is struggling to breathe.

If not treated properly or if not treated in time, asthma attacks can be fatal.
What are Peak Flow Meters?

A peak flow meter is a simple measurement tool used to determine how the individual’s large airways are performing. It determines whether a child’s ability to exhale air is lessening by measuring the amount of air forcefully exhaled in 1 second.

Use of peak flow meters has greatly improved the ability to determine the child’s respiratory status. It provides an objective measure rather than relying on subjective assessments. In addition, it helps to determine the effectiveness of interventions such as medications.

**Every child’s peak flow is different depending on his/her personal best or predicted peak flow reading.**

*Personal best* peak flow readings are evaluated and determined by a medical provider when the student is healthy and doing well with her or her asthma. The student measures his or her peak flow reading every morning and afternoon for two weeks. The best reading during that time is considered their personal best peak flow reading and that reading is used to calculate the 80% cut-off for the green zone and the 50% cut-off for the red zone.

*Predicted* peak flow readings are based on studies of children at different heights. If the predicted peak flow does not seem to be accurate for a particular student (e.g., the student consistently blows higher than their predicted peak flow reading), the reading can be adjusted to the higher number.

A dropping peak flow rate can indicate a child’s asthma is becoming worse and an episode is developing, even before symptoms appear. It is important to note that peak flow readings are *effort-dependent*, meaning if the student doesn't blow hard or use his/her best effort in blowing, the reading may not be accurate.
### Predicted Pediatric Peak Flow Zones for Providers

<table>
<thead>
<tr>
<th>HEIGHT</th>
<th>PREDICTED PEAK FLOW</th>
<th>GREEN ZONE (100-80%)</th>
<th>YELLOW ZONE (79-50%)</th>
<th>RED ZONE (Below 50%)</th>
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<tbody>
<tr>
<td>43”</td>
<td>147</td>
<td>150 – 119</td>
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<td>539</td>
<td>540 – 431</td>
<td>430 – 269</td>
<td>&lt; 269</td>
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Many schools keep one stock peak flow meter in the health suite for use by students who do not have their own peak flow meter for school. In this case, one-way plastic filtered mouthpieces or disposable cardboard mouthpieces can be used to create a sanitary way to practically check peak flow readings on students who have no peak flow meter at school. To improve the accuracy of the results, guide the student through the proper technique using the instructions below.

**Instruction for students on use of a peak flow meter:**

1. Slide the marker down as far as it will go. This sets the meter to zero.
2. Stand up.
3. Take a deep breath with your mouth open.
4. Put the meter in your mouth and quickly close your lips firmly around the tube.
5. Do not put your tongue in the hole.
6. Blow hard once as fast as you can.
7. The marker will go up and stay up. Find the number where the marker stopped.
8. Repeat these steps twice more.
9. Record the best of the three attempts and compare to a reference chart.
10. Clean the peak flow meter according to the manufacturer’s instructions.
A peak flow meter helps you check how well your asthma is controlled. Peak flow meters are most helpful for people with moderate or severe asthma.

This guide will tell you:
1. how to find your personal best peak flow number
2. how to use your personal best number to set your peak flow zones
3. how to take your peak flow
4. when to take your peak flow to check your asthma each day

**STARTING OUT**

**Find Your Personal Best Peak Flow Number**

It is important to find out your personal best peak flow number. Each person’s asthma is different, so your personal best peak flow number may be different from another person’s personal best number.

To find your personal best peak flow number, take your peak flow each day for two to three weeks. Your asthma should be under good control during this time. Take your peak flow as close to the times listed below as you can. (These times for taking your peak flow are only for finding your personal best peak flow. To check your asthma, each day you should take your peak flow in the morning.)

- Between noon and 2:00 p.m. each day.
- Each time you take your quick-relief medicine to relieve symptoms. Measure your peak flow after you take your medicine.
- Any other time your doctor or asthma counselor suggests.

Write down the number you get for each peak flow reading. The highest peak flow number you had during the two to three weeks is your personal best. Your personal best can change over time. Ask your doctor when to check for a new personal best.

**Your Peak Flow Zones**

Your peak flow zones are based on your personal best peak flow number. The zones will help you check your asthma and take the right actions to keep it controlled. The colors used with each zone come from the traffic light.

Ask your doctor to write an Asthma Action Plan for you that tells you:

- The peak flow numbers for your green, yellow, and red zones. Mark the zones on your peak flow meter with colored tape or a marker.
- The medicines you should take while in each peak flow zone.
### How to Take Your Peak Flow

1. Move the marker to the bottom of the numbered scale (zero).
2. Stand up or sit up straight.
3. Take a deep breath. Fill your lungs all the way.
4. Hold your breath while you place the mouthpiece in your mouth, between your teeth. Close your lips around it. **DO NOT** put your tongue inside the hole.
5. Blow out as hard and fast as you can. Your peak flow meter will measure how fast you can blow out air.
6. Write down the number you get. But if you cough or make a mistake, do not write down the number. Do it over again.
7. Repeat steps one through six two more times. Write down the highest of the three numbers. This is your peak flow number. If blowing out hard causes coughing and smaller numbers each time, write down the first number and make a note in your diary about what happened and why you wrote this number down.
8. Check to see which peak flow zone your peak flow number is in. Do the actions your doctor told you to do while in that zone.

Your doctor may ask you to write down your peak flow numbers each day. You can do this on a calendar or other paper. This will help you and your doctor see how your asthma is doing over time.

### Checking Your Asthma: When to Use Your Peak Flow Meter

- Every morning when you wake up, before you take medicine.
- Make this part of your routine.
- When you are having asthma symptoms or an attack, and after you take medicine for the attack. This can tell you how bad your asthma attack is and whether your medicine is working.
- Any other time your doctor suggests.

If you use more than one peak flow meter (such as at home and at school), be sure that both meters are the same brand.

### Bring to Each of Your Doctor’s Visits

- Your peak flow meter.
- Your peak flow numbers if you have written them down each day.

Also, ask your doctor or asthma coordinator to check how you use your peak flow meter – just to be sure that you are doing it right.
## Asthma Symptoms and Peak Flow Diary

### DIRECTIONS

1. Take your peak flow reading every morning (a.m.) when you wake up. If the morning reading is less than 80% of your personal best, you should measure your peak flow more than once a day to check your progress. Try to take your peak flow readings at the same time each day. If you take an inhaled beta-agonist medicine, take your peak flow reading **before** taking that medicine. Write down the highest reading of three tries in the box that says “peak flow reading.”

2. Look at the box at the top of this sheet to see whether your number is in the Green, Yellow, or Red Zone.

3. In the space below the date and time, put an “X” in the box that matches the symptoms you have when you record your peak flow reading; see description of symptom categories on the right.

4. Look at your Asthma Action Plan for what to do when your number is in one of the zones or when you have asthma symptoms.

5. Put an “X” in the box beside “medicine used to stop symptoms” if you took extra asthma medicine to stop your symptoms.

6. If you made any visit to your doctor’s office, emergency department, or hospital for treatment of an asthma episode, put an “X” in the box marked “urgent visit to the doctor.” Tell your doctor if you went to the emergency department or hospital.

**No symptoms** = No symptoms (wheeze, cough, chest tightness, or shortness of breath) even with normal physical activity.

**Mild symptoms** = Symptoms during physical activity, but none at rest. It does not keep you from sleeping or being active.

**Moderate symptoms** = Symptoms while at rest; symptoms may keep you from sleeping or being active.

**Severe symptoms** = Severe symptoms at rest (wheeze may be absent); symptoms cause problems walking or talking; muscles in neck or between ribs are pulled in when breathing.

### My predicted peak flow ____________________  My personal best peak flow ____________________

- **My Green (Good Control) Zone** ______________  80–100% of personal best
- **My Yellow (Caution) Zone** ______________  50–79% of personal best
- **My Red (Danger) Zone** ______________ below 50% of personal best

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<td><strong>Urgent Visit to the Doctor</strong></td>
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**Source:** Asthma Initiative of Michigan. [www.getasthmahelp.org](http://www.getasthmahelp.org)
Step 2: Avoid or Control Asthma Triggers

What is an asthma trigger?

Asthma attacks (episodes) can be caused by something that irritates the airways of the lungs and these are called asthma triggers. Asthma attacks can be triggered by a variety of allergens, irritants, and other factors. What triggers an attack depends on the individual.

**Allergens** are substances that cause no problem for a majority of people but which start an allergic reaction in some people. During an allergy attack, the body releases chemicals called mediators. These mediators can trigger an asthma attack in susceptible individuals. Indoor air allergens, such as dust mites, cockroaches, pollen, mold, and animal dander, have been identified as principal allergens that trigger asthma symptoms. Approximately 75% to 80% of children with asthma have allergies. Between 6% and 8% of children with asthma also are allergic to certain foods that may trigger their asthma. Among children with asthma, an estimated 37% are allergic to cockroaches, 35% to dust mites, and 23% to cats.

**Irritants**, such as cigarette smoke, perfumes, and gasoline fumes, also can trigger asthma. These irritants probably trigger asthma symptoms by stimulating irritant receptors in the airways. These receptors, in turn, cause the muscles surrounding the airway to constrict resulting in an asthma attack.

**Other factors**, such as viral infections, exercise, and some medications, also are critical triggers that produce and worsen asthma symptoms in susceptible individuals. The most common asthma trigger in children is viral upper respiratory tract infections; that is, the “common cold.”

An asthma attack occurs when the airways undergo changes due to allergies, irritants, respiratory infection, and other environmental triggers.
Common Asthma Triggers in Schools: Allergens

**Dust mites**

Too small to be seen, dust mites are microscopic insects found in homes, schools, and other buildings. Exposure to dust mite allergens (dust mite droppings and remains) causes some people to develop asthma attacks. Evidence also shows that dust mite exposure may lead to the development of asthma in children. In schools, they live in carpets, upholstered furniture, clothes, pillows, and stuffed toys where they feed on dead skin flakes. Dust mites like warm, moist places. To reduce dust mite exposure in school buildings:

- Choose washable stuffed toys, clean them often in hot water, and dry them thoroughly.
- Cover classroom pillows with dust-proof (allergen-impermeable), zippered covers.
- Dust hard surfaces often with a **damp** cloth or **damp** mop.
- Vacuum carpet and upholstered furniture daily to reduce dust accumulation and use a **vacuum with a high-efficiency particulate air (HEPA)** filter (to trap very fine particles).
- Clean classrooms thoroughly on a regular basis.

**Pests**

Droppings or body parts of pests such as cockroaches or rodents act as allergens, triggering allergic reactions or asthma episodes. Pests thrive where there is water, food, and warmth. Use Integrated Pest Management practices to prevent and manage cockroach and pest problems as safely as possible:

- Avoid leaving food or garbage out (e.g., relocate dumpsters away from school buildings).
- Fix plumbing leaks and other moisture problems.
- Store food in airtight containers and review food handling and storage procedures in food preparation areas.
- Clean all food crumbs or spilled liquids right away.
- Fill or eliminate cracks and crevices in walls, floors, and pavement to remove pest pathways and shelters.
- Use poison baits, boric acid (for cockroaches), or traps first. If the use of pesticides is necessary, use spot treatments instead of area-wide applications.
**Molds and Moisture**

Molds emit tiny spores that travel through indoor and outdoor air continually and grow when they land on damp surfaces. Mold growth in a school building can cause allergic reactions and asthma episodes. Controlling and minimizing mold growth can greatly improve the health of sensitive students and staff. Moisture problems in schools – roof, window, and plumbing leaks, condensation, and excess humidity – are often the source of mold growth. To control mold growth within the school setting:

- Fix moisture problems, mop up standing water, and thoroughly dry all wet surfaces within 24 to 48 hours to prevent mold growth.
- Clean mold from hard surfaces with water and detergent and dry thoroughly.
- Replace absorbent materials, such as ceiling tiles and carpets, that have mold (also consider removing carpets to reduce dust).
- Vent showers and other moisture sources within the school to reduce indoor humidity.
- Inspect school buildings for moldy odors and water stains, especially under sinks, on ceiling tiles, in bathrooms, and in air conditioner or refrigerator drip pans.
- Add insulation to cold surfaces such as windows, piping, exterior walls, and the roof to reduce the potential for condensation.
- Maintain low indoor humidity, (ideally between 30% and 50% relative humidity), measurable with a small, inexpensive hygrometer, available at local hardware stores.

**Animals (Cats/Dogs/Birds/Hamsters/Rabbits)**

Proteins in the dander, saliva, and urine of warm-blooded animals act as allergens and pose a risk to children with asthma and allergies. Animal dander (e.g., cat hair coated with saliva) accumulates on clothing and furniture and on hands from direct contact with animals. To decrease the chances of allergic reactions or asthma episodes:

- Remove animals from the classroom. Keep in mind that even after removing the animals and extensive cleaning, the animal allergens may remain in the indoor environment for several months.
- Locate animals away from sensitive students and the classroom’s ventilation system if the animals cannot be removed altogether. Clean both animal cages and the classroom frequently.
Secondhand Smoke

Secondhand smoke, also known as environmental tobacco smoke, causes a number of serious health effects in young children, including increased frequency of asthma episodes, coughing and wheezing, bronchitis and pneumonia, ear infections, and reduced lung function. Research also suggests that secondhand smoke may cause asthma in preschool children. To eliminate students’ exposure to tobacco smoke in school settings:

- Enforce a no-smoking policy at all school buildings, grounds, vehicles, and school-sponsored events at all times.
- Encourage students, parents/guardians, and staff to quit using tobacco (smoking, chewing, or between the toes) through referrals to DC’s 1-800-QUIT-NOW helpline and to onsite or offsite tobacco cessation classes.
- Prevent tobacco use among students with tobacco prevention and media literacy programs highlighted by the Centers for Disease Control and Prevention (www.cdc.gov/HealthyYouth/tobacco) and awareness-building programs, such as the American Academy of Family Physician’s Tar Wars tobacco-free education program (www.tarwars.org) and the Campaign for Tobacco-Free Kids’ annual Kick Butts Day (www.kickbuttsday.org).

Even the smell of smoke on clothes can trigger an attack in children with sensitive airways.

Allergies

Allergies to things such as pollens, foods, insect stings, and latex can trigger an asthma episode or allergic reaction. Who is at risk will not always be known in advance, but school staff must be trained to respond to asthma episodes or severe allergic reactions quickly and appropriately. About 6%-8% of children who have asthma also have food allergies that can trigger asthma symptoms. To help manage allergies in a school setting:

- Remember that the most important aspect of the management of life-threatening allergies is avoidance of the offending allergen. Inhalation, ingestion, or even touching an allergen can trigger a severe allergic reaction.
- Ensure that action plans and lifesaving medications are readily available for students with known asthma and allergies.
- Train and certify designated school staff to identify life-threatening asthma and allergic reactions and to follow action plans and protocols for prompt administration of emergency medications.
- Close windows during times when pollen levels are high. Pollens include tree pollen in the spring, grass in the summer, and ragweed in the fall.
- Keep foods that commonly produce allergy problems off school menus and away from classroom and athletic events. The Food Allergy & Anaphylaxis Network reports that peanuts are the leading cause of severe allergic reactions, followed by shellfish, fish, tree nuts, and eggs.
Pollutants and Ground-Level Ozone

Pollutants such as the nitrogen oxides (NO2 and NO) and sulfur dioxide (SO2) can cause serious health effects. These pollutants are derived from combustion (the process of burning) of sulfur and nitrogen-containing fossil fuels (e.g., petroleum and coal) and are directly emitted by power plants. Ground-level ozone forms when emissions from motor vehicles, lawn mowers, power plants, and industry react with heat and sunlight. Ground-level ozone is harmful for everyone, especially to people with respiratory problems such as asthma. When inhaled, ozone can aggravate the lungs and can lead to chest pain, coughing, shortness of breath and throat irritation. To reduce exposure to pollutants and ground-level ozone:

- Do not allow buses, cars, and trucks to idle near students or near open windows or school ventilation systems.
- Check ozone/air quality levels prior to outside activity. Daily reports and forecasts of air quality are at [www.mwcog.org/environment/air/forecast](http://www.mwcog.org/environment/air/forecast).
- Substitute an activity that is less strenuous (e.g., walk rather than run) and move activities from outdoors to indoors (e.g., playground to gym).
- Plan outdoor activities when ozone levels are lower. Ozone concentrations change from day to day and even hour to hour. The highest concentrations usually occur in the afternoon and early-evening hours on hot, sunny days and peak in DC from May through September.

Strong smells or sprays and airborne particles

Sprays like deodorants, hairspray, perfumes or air fresheners, and odors from paint, strong smelling cleaners, whiteboard markers, pesticides, and glues may start a child’s asthma attack. Airborne particles such as talcum powder and chalk dust also can cause problems.

- Encourage school staff, visitors, and students to avoid wearing strong perfumes/cologne, talcum powder, and hair sprays.
- Avoid the use of strong-smelling cleaning agents within the school setting.
- Use less- or non-toxic art materials and paints.
- Switch to “dustless” chalk.
**Viral Infections**

Viral respiratory infections, including the common cold, bronchitis (infection of the large airways), viral pneumonia, or sinus infections, are major triggers of asthma attacks. These infections can irritate the airways (nose, throat, lungs, and sinuses), and trigger asthma flare-ups. Encourage students with asthma to:

- Have an annual flu shot as recommended by the Centers for Disease Control and Prevention for children and adults with asthma or other chronic pulmonary disorders. Some students should consult a physician before getting a flu shot, namely, students who have a severe allergy to chicken eggs, have had a severe reaction to flu shot in the past, had developed Guillain-Barré syndrome within six weeks of getting an influenza vaccine previously, or if the student is less than less than six months of age or currently has a moderate or severe illness with a fever.

- Avoid close contact with other people who have respiratory infection.

- Wash hands with soap and water regularly, especially during the cold and flu season.

- Consult with the student’s Asthma Action Plan and a healthcare provider at the first signs of a respiratory infection.

**Exercise/Physical Activity**

Running or playing hard may start a child’s asthma attack. Mouth breathing, exercising in cold, dry air, or prolonged, strenuous activities such as medium- to long-distance running can increase the likelihood of exercise-induced asthma. With proper treatment and precautions, however, children with asthma should be able to participate in vigorous exercise. To help students with asthma be active:

- Engage students in warm-up and cool-down periods before and after exercise.

- Limit outdoor activity when air pollen and/or pollution levels are forecasted as high.

- Encourage students to be proactive in addressing their asthma symptoms, allow exercise pre-medication as prescribed by a healthcare provider, and emergency-relief medications as needed for asthma symptoms.

- Have action plans in place for students with known exercise-induced asthma.

**Weather**

Cold air, changes in temperature (e.g., leaving a heated room and going outside to the cold) and humidity can cause an asthma attack. To help prevent such attacks:

- Encourage children to cover their nose and mouth with a scarf on cold or windy days. Play indoors during inclement weather.

- Use air conditioners when at all possible during humid, windy, or high air-allergy conditions.

**Knowing a child’s asthma triggers is a key first step to getting asthma under control.**
• Be aware of forecasted weather conditions. Encourage susceptible children to avoid too much activity during extreme weather.

**Gastroesophageal Reflux Disease (GERD)**

GERD is common in many individuals with asthma. It can worsen asthma symptoms without causing gastrointestinal distress. Irritation caused when stomach acid creeps into the esophagus also is believed to trigger spasms and narrowing of the airways in the lungs. Treatment for GERD through medication and through dietary and other lifestyle changes is often beneficial for asthma symptoms as well.

• Suspect that GERD may be contributing to asthma symptoms, especially if symptoms get worse after a meal, after exercise, at night or after lying down, or if asthma doesn’t respond to the standard asthma treatments.

• Be aware also that asthma and some asthma medications may worsen GERD symptoms.

**Medications**

Aspirin or other non-steroidal anti-inflammatory drugs (NSAIDS) such as ibuprofen, and beta-blockers (e.g., for migraine headaches) can trigger asthma attacks (e.g., wheezing, coughing, shortness of breath) or allergic responses (e.g., hives, swelling) in susceptible individuals. The American Academy of Allergy, Asthma and Immunology states that at least 10% of people over age 10 who have asthma will experience worsening of their asthma if they take aspirin or other NSAIDs.

• Consult with a physician before allowing a student who has asthma, or is suspected of being allergic, to take any over-the-counter medications.

• Check ingredients and avoid other aspirin/NSAID-containing products, either prescribed or over-the-counter (e.g., Pepto-Bismol®, Alka-Seltzer®).

• Ask the student’s healthcare provider for a safe alternative treatment. Except in rare cases, most experts believe that acetaminophen (e.g., Tylenol®) is safely tolerated in aspirin/NSAID-allergic patients.

**Strong Emotions**

Emotional factors alone do not cause asthma, but anxiety, stress, crying, anger, and even laughter may increase asthma symptoms and aggravate an attack.

• Encourage the student to calm down and to breathe slowly and steadily.

• Have rescue medications and action plans readily available for students susceptible to life-threatening episodes.

**Sulfites**

Used to preserve foods and beverages, sulfites can cause severe asthma exacerbations, particularly in individuals with severe persistent asthma.

• Read the label on packaged foods and avoid sulfite-containing products.

• Avoid processed foods that contain sulfites, such as processed potatoes, shrimp, dried fruits, canned vegetables, grape juices, and pickles.
Exercise is a very common trigger for asthma and often the most common cause in adolescents. Since exercise and participating in sports are a part of healthy living, however, **exercise-induced asthma (EIA) should be managed and not avoided.** Fortunately, with proper treatment, children with EIA can participate in physical activity and sports and achieve their best performance levels.

While treatment immediately before vigorous activity or exercise can prevent symptoms, frequent use of rescue inhalers (i.e., more than two times a week) is undesirable. Moreover, poor endurance or EIA can indicate poorly controlled persistent asthma. Appropriate use of long-term control medication can reduce EIA symptoms and lessen or eliminate the need for pre-medication with rescue medication before exercise. Activity should be limited or curtailed only as a last resort.

**Symptoms of Exercise-Induced Asthma**

The most common symptom of EIA is coughing, but students with EIA also may exhibit wheezing, chest tightness and shortness of breath. Symptoms may begin during exercise and may worsen 5 to 10 minutes after stopping exercise or during the normal “cooling down” period. Symptoms range from mild to severe and often resolve in 20 to 30 minutes. Occasionally, some individuals will experience “late-phase” symptoms 4 to 12 hours after stopping exercise. These late-phase symptoms are frequently less severe and can take up to 24 hours to go away. This is an important fact to remember when children are participating in school competitions that are repeated throughout the day.

**Causes of Exercise-Induced Asthma**

When exercising, individuals breathe faster due to increased oxygen demands. They also inhale through the mouth, causing the air to be dryer and cooler than when breathing normally and through the nasal passages. Decreases in warmth and humidity can cause both bronchospasm and airway constriction. Thus, physical activities that expose individuals to cold air, like skiing, skating, or hockey, are more likely to cause asthma symptoms than activities involving warm and humid air, such as swimming (although recent studies have shown the chemicals in a pool may be detrimental to children with asthma too). Air pollution such as smog, high pollen counts, and exposure to other irritants, such as smoke and strong fumes, also can worsen EIA symptoms. Further, a recent cold or asthma episode can create more difficulty with exercising.

**Famous Athletes with Asthma**

- **Greg Louganis,** Olympic diver
- **Jerome Bettis,** NFL football player
- **Hakeem Olajuwon,** NBA basketball player
- **Jackie Joyner-Kersee,** Six-time Olympic gold medalist (track)
- **Amy Van Dyken,** Four-time Olympic gold medalist (swimming)
- **Jim “Catfish” Hunter,** baseball Hall of Famer
- **Dominique Wilkins,** NBA basketball player
- **Gary Roberts,** NHL hockey player
Physical Activity for Students with Asthma

While some modifications to activities to include students with asthma may be necessary, with consistent and proper treatment, students with asthma should have a normal level of physical activity without limitations in most cases.

How to prevent and control symptoms of exercise-induced asthma

- Keep student’s rescue medication on-site.
- Consult student’s Asthma Action Plan to identify activity restrictions or orders to use a rescue medication 15-30 minutes before strenuous activity.
- Do warm-up and cool-down periods before and after exercise.
- Limit activity for a student who just had an asthma attack. He or she is at increased risk for another attack in the next few hours.
- Restrict exercise if the student has a respiratory infection.
- Avoid outdoor activity in cold weather.
- Maintain aerobic fitness.
- Consider a change in location if an allergen or irritant is present (e.g., recently mowed field, refinished gym floor).
- Encourage students to get regular asthma checkups. Students with well-controlled asthma may not need to pre-medicate before exercise.

High pollen or high ozone levels can make EIA worse in some students. Check outdoor air quality at www.mwcog.org/environment/air/forecast. Never encourage a student with asthma to “tough it out,” and do not allow other students to tease or encourage a symptomatic student to continue an activity.

Is it really asthma?

If a student consistently seems to avoid physical activity and blames it on asthma or if symptoms do not match the level of exertion, school staff always should respond as if the student is experiencing the reported symptoms. After appropriate treatment is given, the staff member should discuss any concerns with the student, school nurse, and/or parents/guardians.
There are two types of medications that are used to control asthma symptoms. One type of medication is used to prevent asthma symptoms. The other type of medication is used for quick relief when a student has asthma symptoms.

- **Long-term controller (preventive or maintenance) medications** are taken daily, over a long period of time. They are used to reduce inflammation, relax airway muscles, and improve symptoms and pulmonary function.

- **Quick-relief (rescue or emergency) medications** are used to treat acute asthma symptoms (such as coughing, wheezing, difficulty breathing, and chest tightness). They also are used to prevent exercise-induced bronchospasm.

### Guidelines for diagnosing and managing asthma


The 2007 report provides new guidance for selecting treatment based on a patient’s individual needs and level of asthma control. The guidelines focus on four components of asthma care: (1) **measures to assess and monitor asthma**, (2) **patient education**, (3) **control of environmental factors and other conditions that can worsen asthma**, and (4) **medications**. The updated recommendations for managing asthma include an expanded section on childhood asthma (with an additional age group for ages 5-11 years), new guidance on medications, new recommendations on patient education in settings beyond the physician’s office, and new advice for controlling environmental factors that can cause asthma symptoms. They also redefine proper treatment for four asthma severity levels: *Intermittent* (formerly “Mild Intermittent”), *Mild Persistent*, *Moderate Persistent*, and *Severe Persistent*.

Among the key EPR-3 recommendations for school-age children with asthma:

- **Conduct a medical review of the child’s asthma treatment regimen every one to six months; more often if indicated.** Asthma can be controlled, but the condition can change over time. It is important to monitor regularly the patient’s level of asthma control so that treatment can be adjusted as needed.

- **Refer the child to an asthma specialist if there are difficulties with asthma control,** additional education is needed to improve adherence to treatment, the child has been hospitalized, additional testing for the role of allergy is indicated, or a higher level of care is required.

- **Consider combining a long-acting beta-agonist with an inhaled corticosteroid (ICS)** for patients on an ICS who have not achieved asthma control. Check first for adherence, inhaler technique, and environmental control. See EPR-3’s stepwise asthma management charts for ages 0-4 years, 5-11 years, and 12 years and older.
• **Facilitate the child’s full participation in physical activities.** The NAEPP Expert Panel asserts that physical activity at play or in organized sports is an essential part of a child's life and should be encouraged.

• **Involve adolescents (and younger children as appropriate) directly in developing their written asthma action plans.** The written asthma action plan should include the healthcare provider's instructions for (1) daily management (medications and environmental control strategies), and (2) recognizing and handling worsening asthma, including self-adjustment of medications in response to acute symptoms or to changes in peak flow measures.

• **Encourage parents/guardians to take a copy of the child’s written asthma action plan to the child’s school** or provide their consent for the healthcare provider to send a copy to the school nurse or designee.

• **Implement school-based asthma education programs proven to be effective** to provide as many children who have asthma as possible the opportunity to learn asthma self-management skills and to help provide an “asthma-friendly” learning environment for students who have asthma.

• **Consider the potential role of chronic stress or depression in complicating asthma management for patients whose asthma is not well controlled.** Stress can play an important role in exacerbating asthma symptoms. Chronic stressors increase the risk of asthma exacerbations, especially in children who have severely negative life events.

• **Consider inactivated influenza vaccination (“flu shot”) for patients who have asthma.** It is approved for administration in children over 6 months of age and adults who have asthma, and the Advisory Committee on Immunization Practices of the CDC recommends the influenza vaccine for persons who have asthma because they may be at increased risk for complications from influenza. However, the vaccine should not be given with the expectation that it will reduce either the frequency or severity of asthma exacerbations during the influenza season.

The following pages provide a snapshot of the 2007 NAEPP guidelines for diagnosing and managing asthma for children ages 5 to 11 years and for youth and adults 12 years of age and older followed by descriptions of the main types of medications used in managing asthma. Please see [www.nhlbi.nih.gov/guidelines/asthma](http://www.nhlbi.nih.gov/guidelines/asthma) for the full EPR-3 and the glossary in the Resources Section for a further explanation of terms and recommendations.
Assessing severity and initiating therapy in children who are not currently taking long-term control medication

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<tr>
<th>COMPONENTS OF SEVERITY</th>
<th>CLASSIFICATION OF ASTHMA SEVERITY (5-11 years of age)</th>
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<td>Intermittent</td>
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<td>Nighttime awakenings</td>
<td>≤2x/month</td>
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<tr>
<td>Lung function</td>
<td>• Normal FEV₁ between exacerbations</td>
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<tr>
<td>Risk</td>
<td>Exacerbations requiring oral systemic corticosteroids</td>
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Consider severity and interval since last exacerbation. Frequency and severity may fluctuate over time for patients in any severity category.

Relative annual risk of exacerbations may be related to FEV₁.

**Recommended Step for Initiating Therapy**

- **Step 1**: In 2–6 weeks, evaluate level of asthma control that is achieved and adjust therapy accordingly.

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Key: EIB, exercise-induced bronchospasm; FEV₁, forced expiratory volume in 1 second; FVC, forced vital capacity; ICS, inhaled corticosteroids
### 2007 Guidelines for Diagnosing and Managing Asthma: Children 5-11 Years of Age

**Stepwise Approach for Managing Asthma (continued)**

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<td><strong>Consult with asthma specialist if step 4 care or higher is required. Consider consultation at step 3.</strong></td>
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| **Step 2** | Preferred: Low-dose ICS | **STEP 4 Preferred:** Medium-dose ICS + LABA  
**Alternative:** Medium-dose ICS + either LTRA or Theophylline |
| **Step 3** | Preferred: Low-dose ICS + either LABA, LTRA, or Theophylline OR Medium-dose ICS | **STEP 5 Preferred:** High-dose ICS + LABA  
**Alternative:** High-dose ICS + either LTRA or Theophylline |
| **Step 4** | Preferred: Medium-dose ICS + LABA  
**Alternative:** Medium-dose ICS + either LTRA or Theophylline | **STEP 6 Preferred:** High-dose ICS + LABA + oral systemic corticosteroid  
**Alternative:** High-dose ICS + either LTRA or Theophylline + oral systemic corticosteroid |
| **Step 5** | Preferred: High-dose ICS + LABA | **Step up if needed (first, check adherence, inhaler technique, environmental control, and comorbid conditions)** |
| **Step 6** | Preferred: Assess control | **Step down if possible (and asthma is well controlled at least 3 months)** |

**Key:** Alphabetical order is used when more than one treatment option is listed within either preferred or alternative therapy.  
ICS, inhaled corticosteroid; LABA, inhaled long-acting beta₂-agonist; LTRA, leukotriene receptor antagonist; SABA, inhaled short-acting beta₂-agonist

**Each step:** Patient education, environmental control, and management of comorbidities.  
Steps 2-4: Consider subcutaneous allergen immunotherapy for patients who have allergic asthma.

**Quick-Relief Medication for All Patients**  
- SABA as needed for symptoms. Intensity of treatment depends on severity of symptoms: up to 3 treatments at 20-minute intervals as needed. Short course of oral systemic corticosteroids may be needed.
- Caution: Increasing use of SABA or use >2 days a week for symptom relief (not prevention of EIB) generally indicates inadequate control and the need to step up treatment.
## 2007 Guidelines for Diagnosing and Managing Asthma: Youth ≥ 12 Years of Age and Adults

Assessing severity and initiating therapy in children who are not currently taking long-term control medication

<table>
<thead>
<tr>
<th>COMPONENTS OF SEVERITY</th>
<th>CLASSIFICATION OF ASTHMA SEVERITY (≥12 years of age)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Intermittent</td>
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<tr>
<td></td>
<td>Mild</td>
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<tr>
<td>Impairment</td>
<td></td>
</tr>
<tr>
<td>Normal FEV₁/FVC:</td>
<td></td>
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<tr>
<td>8 19 yr 85%</td>
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<tr>
<td>20 39 yr 80%</td>
<td></td>
</tr>
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<td>40 59 yr 75%</td>
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<tr>
<td>60 80 yr 70%</td>
<td></td>
</tr>
<tr>
<td>Symptoms</td>
<td>≤2 days/week</td>
</tr>
<tr>
<td>Nighttime awakenings</td>
<td>≤2x/month</td>
</tr>
<tr>
<td>Short-acting beta₂-agonist use for symptom control (not prevention of EIB)</td>
<td>≤2 days/week</td>
</tr>
<tr>
<td>Interference with normal activity</td>
<td>None</td>
</tr>
<tr>
<td>Lung Function</td>
<td>Normal FEV₁ between exacerbations</td>
</tr>
<tr>
<td>Risk</td>
<td>Exacerbations requiring oral systemic corticosteroids</td>
</tr>
<tr>
<td>Recommended Step for Initiating Therapy</td>
<td></td>
</tr>
<tr>
<td>Step 1</td>
<td>Step 2</td>
</tr>
<tr>
<td>and consider short course of oral systemic corticosteroids.</td>
<td></td>
</tr>
<tr>
<td>In 2–6 weeks, evaluate level of asthma control that is achieved and adjust therapy accordingly.</td>
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</tbody>
</table>

Key: EIB, exercise-induced bronchospasm; FEV₁, forced expiratory volume in 1 second; FVC, forced vital capacity; ICS, inhaled corticosteroids
# 2007 Guidelines for Diagnosing and Managing Asthma: Youth ≥ 12 Years of Age and Adults

## Stepwise Approach for Managing Asthma (continued)

<table>
<thead>
<tr>
<th>INTERMITTENT ASThma</th>
<th>PERSISTENT ASTHMA: DAILY MEDICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consult with asthma specialist if step 4 care or higher is required. Consider consultation at step 3.</td>
<td></td>
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</tbody>
</table>

### STEP 1
- **Preferred:** Low-dose ICS
- **Alternative:** Cromolyn, LTRA, Nedocromil, or Theophylline

### STEP 2
- **Preferred:** Low-dose ICS + LABA or Medium-dose ICS
- **Alternative:** Low-dose ICS + either LTRA, Theophylline, or Zileuton

### STEP 3
- **Preferred:** Medium-dose ICS + LABA
- **Alternative:** Medium-dose ICS + either LTRA, Theophylline, or Zileuton

### STEP 4
- **Preferred:** High-dose ICS + LABA and consider Omalizumab for patients who have allergies
- **Alternative:** Medium-dose ICS + either LTRA, Theophylline, or Zileuton

### STEP 5
- **Preferred:** High-dose ICS + LABA + oral corticosteroid and consider Omalizumab for patients who have allergies

### STEP 6
- **Preferred:** High-dose ICS + LABA + oral corticosteroid and consider Omalizumab for patients who have allergies

---

### Quick-Relief Medication for All Patients
- SABA as needed for symptoms. Intensity of treatment depends on severity of symptoms: up to 3 treatments at 20-minute intervals as needed. Short course of oral systemic corticosteroids may be needed.
- Caution: Increasing use of SABA or use >2 days a week for symptom relief (not prevention of EIB) generally indicates inadequate control and the need to step up treatment.

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**Key:** Alphabetical order is used when more than one treatment option is listed within either preferred or alternative therapy. ICS, inhaled corticosteroid; LABA, inhaled long-acting beta₂-agonist; LTRA, leukotriene receptor antagonist; SABA, inhaled short-acting beta₂-agonist
Controller (Preventive) Asthma Medicines

Controller, preventive, or long-term control medicines are used to control and prevent asthma symptoms and must be taken daily. Their job is to reduce the underlying inflammation of the airways that characterizes asthma. Some controller medicines also are used to relax the muscles surrounding the bronchioles (airways). They work slowly, usually over 12 to 24 hours, to improve long-term control. An individual may use multiple long-acting, prevention medicines to control asthma symptoms. Typical controller medicines include:

**Taken by metered-dose inhaler (MDI) or diskus inhaler:**

**Combination Therapy**
These formulations (including Advair® and SYMBICORT™) combine two medicines: (1) an inhaled corticosteroid to reduce inflammation of the airways and (2) a long-acting inhaled beta₂-agonist to relax muscles around the airways. Combination therapy is the preferred treatment option recommended by the National Asthma Education and Prevention Program of the National Institutes of Health for individuals with moderate-persistent and severe-persistent asthma.

**Inhaled corticosteroids**
These medicines are the most consistently effective controller medications available because they are delivered directly to the lungs. Inhaled corticosteroids are not the same as anabolic steroids used by athletes to build muscles and do not have the same side effects. Brand names of inhaled corticosteroids include: AeroBid®, Asmanex®, Azmacort®, Beclovent®, Flovent®, Pulmicort Turbuhaler®, Pulmicort Respules®, QVAR®, Vanceril®.

**Long-acting inhaled beta₂-agonists**
For example, Serevent® and Foradil® are for use only in combination with inhaled corticosteroids and never should be used alone.

**Taken by mouth:**

**Leukotriene receptor antagonists**
Singulair®, Zyflo®, Accolate®

**Others**
Intal® (cromolyn) Tilade® (nedocromil)

**Oral corticosteroids**
(such as prednisone) are taken when an episode becomes severe, or when an individual's asthma requires very intensive treatment.
Q: Will you get big and muscular using an inhaled long-term controller steroid medicine?
A: NO. The corticosteroids used in your controller medicine are different than the anabolic steroids people use to build large muscles, and work in a different way. The corticosteroids in your inhaler are a lot like those made naturally in your body. When you inhale them, they go down your airway to get rid of the inflammation (swelling) that causes asthma symptoms. You only need a small dose of corticosteroids because they are working directly on your lungs, and have fewer side effects than oral steroids.

Q: Will I gain weight by taking inhaled steroids or steroid tablets?
A: NO. Your inhaler contains such a low dose of steroids that it will not make you put on weight. Sometimes steroid tablets can make you feel hungry, and eating more will make you start to gain weight. The tablets themselves don’t make you gain, so eat your normal amounts while you take them and you should be fine.

Q: What are the side effects from inhaled steroids or steroid tablets?
A: Your controller inhaler might make you a little hoarse every now and then, because some of the medicine can stay in your mouth and throat if you don’t use a valved holding chamber or spacer. It’s also possible to get thrush in the back of your throat or tongue from this medicine. You can prevent this by making it a practice to rinse out your mouth with water and spit it out after each use of your inhaled steroid medication (controller inhaler). Steroid tablets give you a higher dose of steroids than your controller inhaler. You need this higher dose if your asthma gets really bad. When you only need to take them for a week or so, there are no serious side effects. You might get a little indigestion or heartburn, and if you do, tell your doctor. If your asthma is so serious that you need to be on steroid tablets for months or years, there can be side effects like weight gain, thinning of the bones and skin and increased blood pressure. Before you start long-term treatment with steroid tablets, you and your doctor or asthma counselor should have a talk about the risks and benefits of this kind of medicine.

Q: Will inhaled steroids or steroid tablets stunt my child’s growth?
A: Most studies have shown that children grow normally when they take low-dose inhaled steroids. Long-term steroid tablet use shows the most risk for growth problems. The doctor will carefully track how your child is growing while he or she is on these medications, and may try to step-down this therapy (decrease the dosage) when possible. On the other hand, having your child’s asthma out of control itself can lead to growth problems. Recent studies have shown that there is no known long-term growth delays associated with inhaled steroids. At the present
time, there are many studies being done on steroids; not only on how they work, but also on the possible side effects from them. Talk with your child's doctor about any concerns you have about steroids or any other medications.

Q: Can people with asthma use steroid medicines, including inhaled steroids or steroid tablets, while participating in team sports?

A: YES. The tests that are sometimes given to athletes to find out if they use performance-enhancing anabolic steroids do not look for corticosteroids, the kind of steroids used to treat asthma. There is no ban on inhaled corticosteroids by the NCAA (National Collegiate Athletic Association) or the IOC (International Olympic Committee). However, the IOC does require prior notification if the athlete is taking steroids for asthma.

CAMP study proves that inhaled corticosteroids are safe and effective

According to the “Childhood Asthma Management Program (CAMP),” a 5-year, 8-center study funded by the National Heart, Lung, and Blood Institute (NHLBI) of the National Institutes of Health (NIH), inhaled corticosteroids are safe and effective for the long-term treatment of children with mild to moderate asthma.

CAMP is the longest and largest controlled study of treatments for childhood asthma to date. It showed that inhaled corticosteroids provide superior asthma control. Their only side effect was a temporary one—a small reduction in the children’s rate of growth observed just in the first year of treatment. The inhaled corticosteroids greatly reduced airway sensitivity that leads to asthma symptoms after exposure to certain triggers.


Asthma Controllers

Steroidal

AeroBid® flunisolide
AeroBid-M® flunisolide
Azmacort® triamcinolone acetonide
QVAR® beclomethasone dipropionate HFA
Asmanex® flunisolide/furoate

Leukotriene Modifiers

Singulair® montelukast sodium

Long-Acting Beta-Agonists

Flovent® fluticasone propionate
Flovent Rotadisc® fluticasone propionate inhalation powder
Pulmicort Turbuhaler® budesonide inhalation powder
Pulmicort Respules® budesonide inhalation suspension
Zylo® Filmtab® zileutin
Accolate® aztreonam

Non-Steroidal

Serevent Diskus® salmeterol xinafoate inhalation powder
Foradil® Aerolizer® formoterol fumarate inhalation powder
Inal® cromolyn sodium
Cromolyn® solution, USP
Tilade® nedocromil sodium
Advair HFA Inhalation Aerosol

Dual Component Therapy

Discus® fluticasone propionate/salmeterol inhalation powder
The most common asthma medications most schools will encounter are the quick-relief, rescue, reliever, or emergency medications. These medications, also known as fast-acting beta₂-agonists, are taken when asthma symptoms flare up or a child is experiencing an asthma attack. These medications work fast to relieve symptoms when they occur. They also can be used as a pre-exercise treatment 15-30 minutes prior to strenuous physical activity to help prevent exercise-induced symptoms. Quick-relief medicines help relax the muscles surrounding the airways usually within 10-15 minutes after taking them.

**Taken by inhaler or nebulizer:**
- Typical brand names for inhaled rescue medicines are: Albuterol (Proventil®, Ventolin®, or generic albuterol), Xopenex®, Maxair®, Combivent®, and Alupent®. Ventolin® is the first albuterol metered-dose inhaler to have a dose counter.

**Taken by mouth:**
- **Oral corticosteroids** (such as prednisone) can be used over a short (3- to 10-day) course to gain initial control of asthma and to speed resolution of exacerbations. Long-term use is associated with systemic effects.

**Primatene Mist® is not an acceptable rescue medicine.**

Some individuals with asthma self-medicate with Primatene Mist®, an over-the-counter inhaled epinephrine preparation. It does not treat the underlying inflammation of the airways and repeated use raises the risk of serious adverse effects. Prescribed rescue medicines, such as albuterol, are longer-acting and have fewer side effects, and, if used properly, are considered much safer than Primatene Mist®.

**Follow the Rules of Two®**
*(poster on next page)*

If the student has asthma symptoms that interfere with daily activities more than twice a week, is awakened by wheezing or coughing more than two times a month, or needs more than two canisters of rescue inhalers a year, then the student lacks asthma control and should be seen by a healthcare provider.
When is quick relief for asthma NOT ENOUGH?

DO YOU...

• Take your “quick-relief inhaler” more than TWO TIMES A WEEK?

• Awaken at night with asthma more than TWO TIMES A MONTH?

• Refill your “quick-relief inhaler” more than TWO TIMES A YEAR?

• Measure your peak flow at less than two times 10 (20%) from baseline with asthma symptoms?

If YOU can answer “YES” to any of these questions, YOUR ASTHMA IS NOT UNDER CONTROL.

Talk with your healthcare provider about adding a LONG-TERM CONTROLLER” (an anti-inflammatory inhaled corticosteroid) to your treatment plan. A “long-term controller” medication can help to IMPROVE YOUR BREATHING and PREVENT ASTHMA EMERGENCIES!
Managing Side Effects of Asthma Medicines

All medications carry the potential for side effects. Some common complaints with rescue medicines, for example, include nervousness, jitteriness, nausea and drowsiness. Nevertheless, rescue medicines should be used when needed. If side effects are excessive or the student is complaining of not feeling well, promptly contact the school nurse or trained staff member for evaluation and follow-up. Do not leave the student unattended.

**Inhaled corticosteroids are safe and effective**

Inhaled corticosteroids are the most consistently effective long-term controller medications now available for asthma. They reduce the underlying inflammation that can otherwise flare-up into severe asthma symptoms or cause permanent damage to the airways.

While inhaled corticosteroids are recommended for children with persistent asthma at all levels of severity, parents may be concerned about side effects. It is important to remember that inhaled corticosteroids are delivered right to the lungs where the medicine is most effective. Thus, inhaled corticosteroids are given in much smaller doses and are much less likely than oral steroids to have systemic effects throughout the rest of the body. Moreover, they do not have the same side effects as anabolic steroids used by some athletics to build muscles.

Individuals can decrease local side effects and systemic absorption (1) by rinsing the mouth after inhaling corticosteroids and (2) by using a holding chamber or spacer to slow down the medication so it can be inhaled deeply into the lungs.

**Benefits of inhaled corticosteroids:**

- Control and prevent asthma symptoms by reducing inflammation.
- Reduce the need for quick-relief (rescue) medications.
- Have fewer side effects than oral steroids (tablets or syrup) even when used at high doses for individuals with severe persistent asthma.
- Have shown no long-term inhibition of growth based on long-term studies. On the other hand, poorly controlled asthma may delay growth.
Importance of Proper Medication Technique

Pressurized metered-dose inhalers, dry powder inhalers, and nebulizers are all designed to deliver asthma medication directly to the lungs. Side effects are diminished because the medications do not travel throughout the body and become systemic. Thus, much smaller doses of medication can be used to achieve asthma control.

Failure of a medication plan or Asthma Action Plan is often caused by poor technique. Unfortunately, with all types of inhaler devices, improper technique is common. Poor inhalation technique results in the child not receiving the correct dose of medication. For example, if a pressurized metered-dose inhaler is used too close to the mouth, much of the medicine may end up on the child’s tongue or on the back of his or her throat. If it is used too far away from the mouth or not coordinated properly with the breath, the medication may end up dispersed into the air.

Benefits of Spacers and Holding Chambers

Spacers and holding chambers are the preferred way to administer medications through pressurized metered-dose inhalers. They facilitate a more uniform dose of medication by making it easier to inhale. Spacers and holding chambers allow medication to remain suspended longer. Moreover, these devices will help prevent yeast infections in the mouth (known as thrush) when taking inhaled corticosteroid medicines. Holding chambers are
spacers that have a one-way valve. The one-way valve allows the child to breathe in and out a number of times without the holding chamber being diluted with expired air.

Technique still is important even when using a spacer or holding chamber. The medication should be inhaled as soon as possible after spraying it into the device. Otherwise, after a while, the medication will begin to fall and may stick to the sides of the spacer. It also is important to breathe in SLOWLY when using a spacer or holding chamber. If medication is inhaled too quickly, it will stick in the back of the throat and never reach the lungs. Some of these devices have a warning whistle that sounds when the child breathes too quickly. In addition, after breathing in, it is important for the child to hold the breath so that these medications have time to settle into the child’s lungs.

There are a variety of spacers (e.g., Ellipse®, Optihaler®) and valved holding chambers (e.g., Aerochamber®, Aerochamber® with Mask, Optichamber®, Vortex®) available. For best results with any inhaler or spacer, carefully follow the instructions for the specific model. Generally spacers and holding chambers need regular washing and cleaning about once a week with warm detergent water to continue to function properly. A final rinse with mild soapy water, not regular water, is recommended to help reduce any electrostatic charge on the plastic walls.
How to Use Your Metered-Dose Inhaler the Right Way

Using a metered-dose inhaler is a good way to take asthma medicines. There are few side effects because the medicine goes right to the airways inside the lungs. A spacer or valved-holding chamber attached to the inhaler can help make your inhaler easier to use and more effective.

For patients taking inhaled steroids, a valved-holding chamber or spacer may help prevent irritation to the mouth.

For the next 2 weeks, read these steps aloud as you do them or ask someone to read them to you. Ask your doctor or asthma counselor to check how well you are using your inhaler.

Use your inhaler in one of the two ways pictured below (A or B).

**STEPS FOR USING YOUR INHALER**

**Getting Ready**
1. Take off the cap and shake the inhaler
2. Breathe out all the way
3. Hold your inhaler the way your doctor or asthma counselor said (A or B)

**Breathe in slowly**
4. As you start breathing in slowly through your mouth, press down on the inhaler one time. If you are using a spacer or valved-holding chamber, first press down on the inhaler. Within 5 seconds, begin to breathe in slowly.
5. Keep breathing in slowly, as deeply as you can.

**Hold your breath**
6. Hold your breath as you count to 10 slowly, if you can.
7. For inhaled quick-relief medicine (beta₂-agonists), wait about 15–30 seconds between puffs. There is no need to wait between puffs for other medicines.
Clean Your Inhaler as Needed

The inhaler should be cleaned often to prevent buildup that will clog the inhaler.

1. Once a day, clean the inhaler and cap by rinsing them in warm running water. Let them dry before you use it again.

2. Twice a week wash the plastic mouthpiece with mild dishwashing soap and warm water. Rinse and dry it well before putting it back.

Know When to Replace Your Inhaler

If the canister is new, it is full. The number of puffs a canister contains is listed on the label. Do NOT put your canister in water to see if it is empty. This does not work. For a medicine you take each day: take the number of puffs in the canister when it is full, and divide it by the number of puffs you take every day. This will tell you how many days your inhaler will last. For example:

Your inhaler canister has 200 puffs in it, you are told to take 8 puffs total every day.

\[
\begin{align*}
25 \text{ days} & \quad 8 \text{ puffs per day} \quad 200 \text{ puffs in canister} \\
& \quad \text{So this canister will last 25 days. If you started using this inhaler on May 1, replace it on or before May 25. You can write the date on your canister.}
\end{align*}
\]

For quick-relief medicine

Take as needed and count each puff.
How to Use a Diskus® Dry Powder Inhaler

Start by taking the Diskus® out of the box and foil and writing the “Pouch opened” and “Use by” dates on the label of the inhaler. The “Use by” date is one month from date of opening.

1. OPEN
When the inhaler is removed from the box, it will be “closed.” To open it, hold the outer case in one hand and put the thumb of your other hand on the thumb grip. Push your thumb away from you as far as it will go.

2. SLIDE
Hold the inhaler with the mouthpiece facing you. Slide the lever away from you as far as it will go until you hear and/or feel a click. The inhaler is now ready to use.

3. INHALE
• Hold the inhaler away from your mouth. Breathe out as far as is comfortable. Never blow into your Diskus®.
• Put the mouthpiece to your lips. Breathe in steadily and deeply – through the inhaler, not through your nose.
• Remove the inhaler from your mouth.
• Hold your breath for about ten seconds, or for as long as is comfortable.
• Breathe out slowly.

4. CHECK the dose indicator
The dose indicator on top of the inhaler tells you how many doses are left.

5. CLOSE
To close the inhaler, put your thumb in the thumbgrip, and slide the thumbgrip back towards you, as far as it will go. When you close the inhaler, it clicks shut. The lever automatically goes back to its starting position and is reset. It is now ready to be used again.

6. STORE
Store your Diskus® at room temperature, 68° to 77° F, in a dry place away from direct heat or sunlight. Keep out of reach of children. The inhaler should be thrown away one month after it is taken from the foil pouch, or after every medication blister has been used (when the dose indicator reads “0”), whichever comes first.

Diskus® tips:
• Never breathe out into the inhaler.
• Never shake the inhaler.
• Never try to take the inhaler apart.
• Always use the inhaler in a level, horizontal position.
• Never wash the mouthpiece or any part of the inhaler – keep it dry.
• Always store the Diskus® in a dry place.

The Advair Diskus is a registered trademark of GlaxoSmithKline
A nebulizer is a compressed air machine that turns liquid asthma medicine into a fine mist you can easily breathe. Nebulizers are good for young children, people who have trouble using metered-dose inhalers, and people who have severe asthma. Nebulizers come in many forms.

**HOW TO USE A NEBULIZER**

Read the instructions that came with your nebulizer since there are many types of nebulizers available.

**GENERAL INSTRUCTIONS**

1. Measure the correct amount of normal saline solution using a clean eyedropper. Put it into the plastic attachment cup. If your medicine is premixed, do not add normal saline. Add it to the cup, then go to step 3.
2. Measure the correct amount of medicine using a clean eyedropper. Put it into the cup with the saline solution.
3. Fasten the mouthpiece to the T-shaped part of the nebulizer. Then fasten this unit to the cup, or fasten the mask to the cup. For a child over the age of two, use a mouthpiece unit because it will give more medicine than a mask.
4. Put the mouthpiece in your mouth and seal your lips tightly around it, or place the mask on your face.
5. Make sure the air tubing has been connected to the machine and the nebulizer. Turn on the machine.
6. Take slow, deep breaths in through your mouth.
7. Hold each breath 1-2 seconds before breathing out.
8. Continue until there is no more medicine in the cup (about 10 minutes).
9. Store the medicine as directed after each use.
10. Clean the nebulizer after each use.

**CLEANING A NEBULIZER**

Regularly cleaning the nebulizer is important because a dirty nebulizer may cause an infection. A good cleaning routine also keeps the nebulizer from clogging up and helps it last longer.

**After each use:**

1. Remove the mask or mouthpiece and T-shaped part from the cup. Rinse the mask or mouthpiece and T-shaped part in warm running water for 30 seconds.
2. Rinse the eyedropper in warm running water for 30 seconds.
   - If possible, use distilled or sterile water for rinsing.
   - The tubing should not be washed or rinsed.
3. After rinsing, shake off excess water. Air-dry pieces on a clean cloth or paper towel.
4. Put the mask or mouthpiece and T-shaped part, cup, and tubing back together and connect the device to the machine. Run the machine for 10-20 seconds to dry the inside of the nebulizer.
5. Disconnect the tubing from the machine. Store the parts in a zip-lock bag.

**Once every day when used:**

1. Follow steps 1 through 5 above using mild dishwashing soap to clean the parts.
2. Be sure to dry all parts completely.

**Once every week when used:**

1. After washing with mild dishwashing soap, soak the parts in a solution made of one part distilled white vinegar and two parts distilled water for 30 minutes. Rinse with water and set out to dry.
2. Throw out the vinegar water solution after use. Do not reuse it.

Never put the compressed air machine in water. Clean the surface of the machine with a damp cloth as needed.
A majority (75% to 80%) of children and adolescents with asthma have allergic asthma. When exposed to allergens such as dust mites, mold, cockroaches, animal dander, or pollen, their airways become further inflamed, triggering asthma episodes. Atopic dermatitis (a form of eczema), is a chronic, relapsing, and very itchy rash that can be one of the first signs of evolving asthma problems in children. A minority of students also are susceptible to severe allergic reactions (anaphylaxis) that can be life-threatening. Moreover, anaphylaxis can trigger asthma attacks. Diagnosing allergies may be based on symptoms, family history of allergies, or allergy tests (skin test or blood test). For individuals who suffer from both allergies and asthma, medications and therapies to control allergies also can help to keep allergic asthma in check.

**Allergy medications**

In addition to the regular daily controller medication for asthma to help keep airways open and reduce inflammation, allergy medication also can prevent and relieve asthma symptoms.

Allergy medications are available in pill, liquid, nasal spray, eye drop and topical (applied to the skin) forms. Some can be purchased over-the-counter and others must be prescribed. Students who have, or are suspected to have, allergic asthma should see their healthcare provider for the most appropriate allergy medication.

**The main types of allergy medications are:**

**Corticosteroids**

These medications help prevent and treat the inflammation associated with allergic conditions.

**Antihistamines**

These drugs block histamine, an inflammatory chemical released by the immune system during an allergic reaction.

**Decongestants**

These drugs can relieve nasal and sinus congestion, but should not be given to babies or children unless instructed to do so by the child's physician.

**Leukotriene modifiers**

These medications block the effects of leukotrienes, inflammatory chemicals released by the immune system during an allergic reaction.

**Mast cell stabilizers**

These preparations prevent the release of histamine.
**Immunotherapy**

If allergic symptoms do not improve with medications or the student is unable to use allergy medications without problematic side effects, a healthcare provider may recommend allergy shots (immunotherapy). Regular injections of allergen extracts over several years desensitize the individual to specific allergens and decrease or eliminate his or her need for medications. Immunotherapy may be especially effective for individuals who are allergic to cat dander, dust mites or pollen produced by trees, grass and weeds. Consult a healthcare provider for more information.

**Injectable epinephrine**

Individuals who are highly allergic to certain substances, including certain foods, such as peanuts, or to bee or wasp venom, may be at risk of anaphylactic shock — a sudden, life-threatening allergic reaction. The healthcare provider may recommend that the student carry an injectable dose of epinephrine (adrenaline). Epinephrine can help slow the life-threatening reaction while emergency medical treatment is sought. The student may be able to administer the drug to him or her self, after being taught how to use a self-injecting syringe and needle. A school nurse, school staff member, or medical professional called in response to a severe anaphylactic reaction also may administer the medication.

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**In many fatal reactions, the initial symptoms of anaphylaxis were mistaken for asthma. This delayed appropriate treatment with epinephrine.**
Food allergy is serious, and it’s life-threatening. Just one bite of the wrong food can bring on anaphylaxis — a severe allergic reaction that can cause death. Even trace amounts can be enough to cause problems — sometimes just through skin contact, or from inhalation when food is being cooked.

— Anne Muñoz-Furlong, founder and CEO, The Food Allergy & Anaphylaxis Network
Section 2
About Anaphylaxis

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Food Allergy & Anaphylaxis Network: Food Allergy Basics 2.5

School Safety Guidelines for Latex-Allergy Students 2.6
What is Anaphylaxis?

Definition

Anaphylaxis is a sudden, severe, potentially fatal, systemic allergic reaction that can involve various areas of the body, such as the skin, respiratory tract, gastrointestinal tract, and cardiovascular system. Symptoms occur within minutes to two hours after contact with the allergy-causing substance, but in rare instances may occur up to four hours later. Anaphylactic reactions can be mild to life-threatening. The annual incidence of anaphylactic reactions is about 30 per 100,000 persons, and individuals with asthma, eczema, or hay fever are at greater relative risk of experiencing anaphylaxis. This life-threatening allergic condition can occur with exposure to foods, stinging insects (bees, wasps), medications, and latex rubber and also in association with exercise.

• Insect sting and food reactions are more likely to occur away from the victim’s home despite the person’s best efforts to avoid exposure.

• The most important aspect of the management of life-threatening allergies is avoidance of the offending allergen.

• Designated school staff must be trained to identify life-threatening allergic reactions and follow the protocol in prompt administration of epinephrine.

A common misconception is that anaphylaxis will not occur unless a previous and milder allergic reaction already has taken place. Milder reactions do not necessarily precede a fatal or near fatal reaction, and some reactions will progress so rapidly that there will not be enough time to obtain medical attention.

Symptoms of Anaphylaxis

1. Hives – large, blotchy, raised area on the skin, may be itchy
2. Swelling of lips, throat, tongue or around the eyes
3. Difficulty swallowing or breathing
4. Redness of skin
5. Nausea, pain, vomiting, diarrhea
6. Increased heart rate
7. Decreased blood pressure
8. Weakness, dizziness, lightheaded
9. Anxiety, feeling of apprehension
10. Collapse, loss of consciousness

Food Allergies

It is estimated that up to 2 million, or 8%, of U.S. children are affected by a food allergy. Some allergies are so severe that even cleaning a tabletop contaminated by the allergen, or touching the allergen without ingestion could trigger a severe allergic reaction.

Foods that commonly produce allergy problems include, but are not limited to, peanuts and other tree nuts (walnuts, almonds, cashews, pistachios, pecans, Brazil nuts), shellfish, eggs, wheat, milk, soy, legumes, and fish.
Insect/Bee/Wasp Stings

The incidence of insect sting anaphylaxis in the U.S. is 0.5%-3%. Any reaction to a previous sting that resulted in a local skin reaction (hive or wheal) or worse is reason to consider a student at risk for anaphylaxis in the future. If the student and family are unsure as to allergy status, a referral to an allergist for evaluation should be made. Avoidance of insect stings is difficult to achieve but certain precautions can help to reduce the risk of stings to allergic students:

- Remove all insect nests on or near school property.
- Store garbage in covered containers.
- Restrict eating areas to inside; avoid open soft drink cans outside.

Latex

Latex allergies are a relatively new and increasingly frequent problem. Children who are exposed to latex products early and repeatedly, usually children with severe chronic health disorders (e.g. spina bifida) can have a risk of latex allergy that approaches 50%. Students with latex allergies should avoid certain foods as well, such as bananas, avocados, kiwi fruit, and European chestnuts.

There is no known cure for latex allergy. The best way to prevent reactions is to avoid latex products as much as possible. For example, use only non-latex gloves (vinyl) and latex-free adhesive bandages at school and in school first-aid kits.

Medications

Aspirin and non-steroidal anti-inflammatory agents can cause anaphylactic reactions as can penicillin and other prescribed medications.

Food-Dependent Exercise-Induced Anaphylaxis

Food-dependent exercise-induced anaphylaxis is very rare and occurs only when an individual eats a specific food and exercises within three to four hours after eating. Individuals experiencing this type of reaction typically have asthma and other allergic conditions. Although any food may contribute to this form of anaphylaxis, foods that have been reported include wheat, shellfish, fruit, milk, celery, and fish. Food-dependent exercise-induced anaphylaxis appears to be twice as common in females as in males and is more common in individuals who are in their late teens to thirties.
What to do in a Breathing Emergency

Signs of a life-threatening asthma attack or anaphylaxis may be any one or a combination of the following: difficulty breathing/breathlessness, inability to speak normally, difficulty swallowing, wheezing, coughing, hives, skin rash, flushed face, cyanosis (blue or gray skin, lips or nail beds), feeling of apprehension, swelling or itching of any body part, nausea/vomiting.

Do not hesitate and do not leave the student alone. Seek assistance immediately.

- Refer to the student’s asthma/allergy action plan for proper treatment.
- Implement your school’s emergency protocols for life-threatening asthma or systemic allergic reactions. Contact the school nurse (if available) or school’s designated emergency response team, and call 911.

Adapted from Asthma & Anaphylaxis: A Primer for Schools, Attack on Asthma Nebraska. www.attackonasthma.org.
Schools should be prepared to manage an anaphylactic emergency by:

- Having responsible school personnel designated and trained to respond.
- Identifying clearly the student’s needs.
- Having the physician’s orders on file.
- Maintaining a current supply of epinephrine by auto-injector (EpiPen® and/or Twinject® in both 0.15 mg and 0.3 mg dosages) in at least two easily accessible locations and/or carried by the student when appropriate. (Please note: epinephrine should never be kept in a locked cabinet.)
- Having available a municipal emergency response team prepared to respond to a 911 call with epinephrine. (Be aware of what the local emergency medical services can provide as some ambulance services may not be permitted to administer epinephrine.)

Many students with food allergies have experienced a life-threatening anaphylactic reaction and are aware of their own mortality. School policies and protocols must respect the physical safety and the emotional needs of these students.
• Food allergy is a growing health concern in the U.S.

• The incidence of food allergy has doubled in the U.S. over the last 10 years.

• Scientists don't know why.

• More than 12 million Americans have food allergies. That's one in 25, or 4 percent of the population.

• The incidence is even higher in young children – one in 17 among those under age 3.

• About 2.2 million school-age children in the U.S. have food allergies.

• In the U.S., food allergy is the leading cause of anaphylaxis (a severe allergic reaction) outside the hospital setting and results in 150-200 deaths and more than 30,000 emergency room visits annually.

• Eight foods account for 90 percent of all food-allergic reactions in the U.S.: milk, eggs, peanuts, tree nuts (e.g., walnuts, almonds, cashews, pistachios, pecans), wheat, soy, fish, and shellfish.

• There is presently no known cure for food allergy.

• Strict avoidance of the food allergen is the only way to prevent a reaction.

• Even trace amounts of a food allergen can cause a reaction.

• Most people who've had an allergic reaction to something they ate thought that it was safe.

• Food allergies are life-altering for everyone involved and require constant vigilance.

• Early administration of epinephrine (adrenaline) is crucial to successfully treating anaphylactic reactions. Epinephrine is available by prescription in a self-injectable device (EpiPen® or Twinject®).

School Safety Guidelines for Latex-Allergic Students

Although it seems like summer just started, the stores are already displaying their school supplies. It’s a reminder that the flurry of activity associated with a new school year is only a few weeks away.

Concerned parents and schools contact us year-round with requests for help in accommodating latex-allergic students. In response, the American Latex Allergy Association compiled a 72-page manual titled School Safety Guidelines For Latex-Allergic Students. The following tips appear in the manual, and are offered here as a beginning assessment and planning tool for parents and schools.

**Educate School Personnel**

Identify students and/or school employees who have a natural rubber latex allergy. Alert other school personnel about these students and/or employees, and about the need to minimize the sensitization risk for students or personnel who are at risk for developing the allergy. Attempt to balance two needs: Maximum inclusion of the student in school life and activities versus avoidance of a potentially life-threatening allergic reaction subsequent to natural rubber latex exposure.

A. Establish an inventory of latex-free alternatives for natural rubber latex medical equipment and school supplies.

B. Educate personnel regarding natural rubber latex allergy and related issues.

C. Implement natural rubber latex allergy guidelines pertaining to students and school personnel.

D. Provide task-appropriate, powder-free, latex-free gloves.

**Identify Potential Exposure**

Assess high-risk areas for students sensitized to natural rubber latex.

A. Classrooms – Remove erasers, rubber bands, art supplies, and science/lab equipment made with natural rubber latex. Provide latex-free substitutes.

B. Cafeteria – Provide latex-free gloves for food preparation. School personnel should also understand the cross-reaction between natural rubber latex and certain foods such as bananas, kiwi, avocado, chestnuts, passion fruit, celery, and melon. Foods with these substances should be clearly labeled or removed from the menu.
C. Gym and Playground – Provide substitutes for rubber mats, flooring, balls, and racquet handles. If a substitute cannot be provided, an alternate activity may need to be offered.

D. Custodial Supplies – Provide latex-free gloves for cleaning rather than natural rubber latex gloves. Protein-laden powder from natural rubber latex gloves can contaminate surfaces and remain airborne long enough to trigger a respiratory reaction.

E. Nurse’s Office – Even if a child has a separate supply of latex-free gloves and other first aid items, protein-laden powder from natural rubber latex gloves used with other children can easily contaminate surfaces and remain airborne long enough to trigger a respiratory reaction. Consider replacing all natural rubber latex gloves throughout the building with latex-free gloves, particularly for tasks that have no risk of exposure to blood or body fluids.

**Develop An Emergency Protocol**

Protocols should include specific plans for recognizing and treating a reaction in each child, when to call for help, and facilitating ambulance and emergency room preparedness and natural rubber latex safety. Easily accessible latex-free first aid supplies are an important part of any emergency plan.

*School Safety Guidelines For Latex-Allergic Students* contains several resources to help parents and schools achieve these outcomes. Some of these resources include: Sample school policies and procedures; sample individualized student health plans; position statements from the National Association of School Nurses and the American Academy of Allergy, Asthma & Immunology; helpful articles about other schools that have banned latex; a template for a balloon ban sign; and physician forms to be completed by the child’s allergist and kept on file at the school. The manual costs $45 and is available through the online store at [www.latexallergyresources.org/store](http://www.latexallergyresources.org/store).

Life can be challenging for a latex-allergic student, but planning ahead increases the odds of the student having a normal, healthy school experience. An open, working relationship between parents and school personnel is crucial to the student's success.
This section addresses the protocols and actions recommended for treatment of asthma and anaphylactic episodes and emergencies. All school staff should be provided information and training on how to recognize asthma and anaphylactic symptoms and how to provide immediate treatment. This information can prevent serious complications of asthma and anaphylaxis, and in emergencies, it can save lives.
Section 3
Emergency Management of Asthma and Anaphylaxis

Recognizing an Asthma Episode 3.1

Asthma & Anaphylaxis First Aid in the School Setting Poster 3.2

Emergency Anaphylaxis Management 3.3

How to Use Epinephrine Auto-Injectors 3.5

Asthma and Anaphylaxis Tracking and Follow-up 3.6
Recognizing an Asthma Episode

Children who have asthma often learn to identify their own unique early warning signs – the physical changes that occur as their airways begin to close. These early warning signs usually begin long before the more serious symptoms appear and taking action quickly is paramount to preventing an asthma crisis. An asthma episode is easier to subdue if a child and school staff are aware of significant changes and the child is able to take medication quickly.

Common asthma symptoms:

1. Coughing (may be forceful enough to cause vomiting)
2. Wheezing (high pitched sound heard on exhalation)
3. Shortness of breath, breathlessness, or shallow breathing
4. Tightness in the chest or chest pain
5. Difficulty exercising, talking, walking or thinking

A child may exhibit one or more of the warning signs of an asthma episode:

Changes in breathing
Coughing, wheezing (a high pitched sound heard on exhalation), shortness of breath, breathing through the mouth, and/or rapid breathing.

Verbal complaints
Often a child who is familiar with his/her asthma symptoms will know that an episode is about to happen. The child may tell school staff that his/her chest is tight, or hurts, or that he/she cannot catch a breath. Complaints may include “dry mouth” or a more general “I don't feel well” or “I’m scared.”

Behavior changes and other signs
Clipped speech – a child may speak in very short, choppy sentences and appear to be gulping at air as he/she speaks. Some children may become very quiet (trying to control their breathing or simply out of fear) and subdued, while others may become highly agitated and panicky.

Take action without delay once a child and/or staff notice a developing asthma episode.
If student has ANY of these symptoms:

**LUNG**
unrelenting cough, wheezing (noisy breathing), shortness of breath, rapid or shallow breathing, nostrils open wide, chest tight or hurts, chest/neck sucked in, trouble walking or talking

**MOUTH**
itching, swelling of lips and/or tongue

**THROAT**
difficulty swallowing, itching, tightness/closure, hoarseness

**SKIN**
itching, hives, skin rash, redness, swelling, blue or gray lips and nails

**GUT**
vomiting, nausea, diarrhea, cramps

**HEART**
weak pulse, dizziness, passing out, confusion

**AND/OR**
drop in peak flow, unusually tired or lethargic, feeling anxious or panicky, been exposed to known or suspected allergic trigger (e.g., food, bee sting)

Only a few symptoms of an asthma attack or anaphylaxis (severe allergic reaction) may be present. Symptoms can get worse quickly.

Some symptoms can be life-threatening! ACT FAST!

1. **STOP ACTIVITY**
   - Help student to an UPRIGHT position; remain calm.
   - NEVER LEAVE STUDENT ALONE!

2. **TAKE ACTION**
   - Follow student’s Asthma Action Plan, Anaphylaxis Action Plan, or emergency plan, if available.
   - For ASTHMA, use RESCUE INHALER IMMEDIATELY (usually albuterol) equal to 2 puffs (15–30 seconds between puffs) with spacer (if available). May repeat every 10–15 minutes for up to 3 treatments.
   - For ANAPHYLAXIS, use EpiPen® or Twinject® Auto-Injector to INJECT EPINEPHRINE IMMEDIATELY INTO THIGH and HOLD FOR 10 SECONDS.

3. **GET HELP**
   - Call School Nurse, if available, and resume treatment.
   - CALL 911 IMMEDIATELY if epinephrine used or life-threatening allergic reaction suspected.
   - CALL 911 IMMEDIATELY if:
     - Medications unavailable or don’t work
     - Student has LATE WARNING SIGNS of an asthma emergency:
       - struggling to breathe • chest/neck muscles are pulled in or sucked in with each breath • trouble walking or talking • nostrils open wide • lips or fingertips are gray or blue • rapidly deteriorating condition

Always notify Parent/Guardian and document in health record.
Emergency Anaphylaxis Management

Epinephrine (adrenaline) administered by means of subcutaneous or intramuscular injection is the treatment of choice for anaphylaxis. It works to reverse the symptoms of an anaphylactic reaction and helps prevent its progression. It is available via prescription as an EpiPen® or EpiPen® Jr Auto-Injector or Twinject® Auto-Injector (Twinject® second dose requires repositioning needle). It is important to administer epinephrine as soon as one detects the symptoms of anaphylaxis.

Antihistamines, such as Benadryl, and steroids are often used to further improve the recovery of a person with an anaphylactic reaction. Antihistamines and asthma medications may be administered with epinephrine, but never instead of epinephrine because they cannot reverse many of the symptoms of anaphylaxis.

Excerpted below are some of the strategies recommended by the American Academy of Allergy, Asthma, and Immunology in its position statement, Anaphylaxis in Schools and Other Child-Care Settings (bold emphasis added):

- Epinephrine is the first drug that should be used in the emergency management of a child having a potentially life-threatening allergic reaction. Epinephrine injection is available in a number of self-administration delivery devices... There are no contraindications to the use of epinephrine for a life-threatening allergic reaction.

- In patients who have had anaphylactic reactions, it is recommended that epinephrine be given at the start of any reaction occurring in conjunction with exposure to a known or suspected allergen. In situations where there has been a history of a severe cardiovascular collapse to an allergen, the physician may advocate that epinephrine be administered immediately after an insect sting or ingestion of the offending food and before any reaction has begun. Reports have shown that adequate warning signs are not always present before serious reactions develop.

- All individuals receiving emergency epinephrine should immediately be transported to a hospital even if symptoms appear to have resolved. In the majority of cases, epinephrine will be effective after 1 injection. However, further treatments may be required, and therefore observation in a hospital setting is necessary for at least 4 hours after initial symptoms subside because delayed and prolonged reactions may occur even after proper initial treatment.

- Epinephrine should be kept in locations that are easily accessible and not in locked cupboards or drawers. All staff members should know these locations. Children old enough to self-administer epinephrine should carry their own kits. For
younger children, the epinephrine device should be kept in the classroom and passed from teacher to teacher as the child moves through the school (e.g., from classroom to music to PE to lunch).

- All students, regardless of whether they are capable of epinephrine self-administration, will still require the help of others because the severity of the reaction may hamper their attempts to inject themselves. **Adult supervision is mandatory.**

- All individuals entrusted with the care of children need to have familiarity with basic first-aid and resuscitative techniques. This should include additional formal training on how to use epinephrine devices. Training programs may be through health departments or physicians’ groups to ensure that all individuals in schools and other areas of child care (e.g., school bus drivers, coaches, camp counselors, and lifeguards) are qualified in these techniques. A **school-wide food allergy awareness program for the staff,** including an allergy emergency drill, should be developed to ensure that everyone will know what to do if a reaction occurs.

Anaphylaxis Action Plans are available from a number of sources. Call the DC Department of Health at (202) 442-5925 for more information about DC’s Anaphylaxis Action Plan. Additional sample forms are available from the Allergy and Asthma Foundation of America (www.aafa.org, click on “Education” tab, then “Materials and Tools”); American Academy of Allergy, Asthma and Immunology (www.aaaai.org/members/resources/anaphylaxis_toolkit); and The Food Allergy & Anaphylaxis Network (www.foodallergy.org/school.html). Additional educational material for schools on anaphylaxis is available from The Food Allergy & Asthma Network (*The School Food Allergy Program*) and the Anaphylaxis Network in Canada.

**Fatalities more often occur away from home and are associated with either not using epinephrine or a delay in the use of epinephrine treatment.**
How to Use Epinephrine Auto-Injectors

School personnel and students authorized to carry their own anaphylaxis medication should be trained in using epinephrine auto-injector devices. Ask your school administrator and school nurse for assistance. Instructional materials, video, and placebo demonstrator and training pen devices also are available from The Food Allergy & Anaphylaxis Network in Fairfax, Virginia, from the manufacturers of epinephrine auto-injectors (including www.epipen.com and www.twinject.com), and from other sources.

**EpiPen® and EpiPen® Jr. Directions**

- Pull off gray activation cap.
- Hold black tip near outer thigh (always apply to thigh).
- Swing and jab firmly into outer thigh until Auto-Injector mechanism functions. Hold in place and count to 10. Remove the EpiPen® unit and massage the injection area for 10 seconds.

**Twinject® 0.3 mg and Twinject® 0.15 mg**

- Pull off green end cap, then red end cap.
- Put gray cap against outer thigh, press down firmly until needle penetrates. Hold for 10 seconds, then remove.

**SECOND DOSE ADMINISTRATION:**

If symptoms don’t improve after 10 minutes, administer second dose:

- Unscrew gray cap and pull syringe from barrel by holding blue collar at needle base.
- Slide yellow or orange collar off plunger.
- Put needle into thigh through skin, push plunger down all the way, and remove.

Once EpiPen® or Twinject® is used, call the Rescue Squad. Take the used unit with you to the Emergency Room. Plan to stay for observation at the Emergency Room for at least 4 hours.

**Asthma/Anaphylaxis Tracking and Follow-Up**

**Make sure every student with asthma or anaphylaxis has an action plan**

- Get updated student Asthma Action Plan, Anaphylaxis Action Plan, Student Health Record, and medication administration forms at least annually.

- Ensure that students with asthma or anaphylaxis are monitored regularly by their healthcare provider. The rule of thumb is at least two scheduled asthma healthcare visits per year for students whose asthma is under control; 3-4 visits per year for students using daily medication therapy; and more frequent visits for students with unstable asthma.

- Keep the action plan readily available in the student's health record.

- Refer to student’s action plan whenever he/she needs asthma or anaphylaxis medication or for monitoring (e.g., to check student’s medication technique).

**Track and document medication administration in student health record**

- Document each time a student receives emergency medication, whether administered by the school nurse, authorized staff, or student.

- Ask the school nurse to assess students with asthma who use rescue medications more than twice a week or have other indications that their asthma is not well controlled.

- Recommend follow-up by a healthcare provider for a student whose asthma appears to be poorly controlled (e.g., based on symptom frequency, medication use, lack of medication, school nurse assessment, or student concerns) or who needs evaluation, testing, or medication for allergies and anaphylaxis. The American Academy of Pediatrics’ Schooled in Asthma project, launched with funding from the Centers for Disease Control and Prevention, Division of Adolescent and School Health, provides sample forms and letters to facilitate communication among schools, families, and physicians (www.aap.org/schooledinasthma).

- Check medication availability and expiration date. Request refills as needed for expired or empty containers.

**Report all anaphylaxis or asthma emergencies (Red Zone symptoms)!**

- Notify the school nurse immediately, if available.

- File required incident report(s).

- Communicate about the incident with the healthcare provider and parent/guardian and document communication.

- Determine the cause of the reaction so that it can be avoided in the future.
A school’s best protection against liability is having policies and procedures in place and being proactive.

— American Association of School Administrators
# Section 4

## Legislation and Guidance

### Legal Considerations

#### Relevant Federal Legislation and Guidance

- Sharing of Health Information
- Family Education Rights and Privacy Act
- Health Insurance Portability and Accountability Act of 1996
- Section 504 of the Rehabilitation Act of 1973
- Americans with Disabilities Act
- Individuals with Disabilities Education Act
- Pro-Children Act of 1994
- Asthmatic Schoolchildren’s Treatment and Health Management Act of 2004
- Common Types of Individual Student Plans

#### Relevant DC Legislation and Guidance

- Student Access to Treatment Emergency Act of 2007 (A17-0082)
- When Should Students With Asthma or Allergies Carry and Self-Administer Emergency Medications at School?
- Administration of Medication by Public Schools Employees Act of 1993
- District of Columbia Department of Health, School Health Program,
  - Student Health Authorization Forms
- Student Health Act of 1985
- District of Columbia Child Health Certificate

#### Access to Services

- Liability and Litigation – A Legal Primer
There are legal requirements that regulate how schools work with children who have asthma and/or other special needs. Within these requirements, schools are encouraged to collaborate with parents/caregivers, students, school nurses, healthcare providers, teachers, coaches, and other relevant staff to determine what services and accommodations are appropriate for each student. The following pages include simplified summaries of current statutes and practices.
Sharing of Health Information

In the third part of its *Fit, Healthy, and Ready to Learn: A School Health Policy Guide* series, the National Association of State Boards of Education (NASBE) declares:

**School staff members often need to know about a student’s serious chronic health condition to make necessary educational accommodations and to remain vigilant to a potential medical emergency.** For example classroom teachers, physical education teachers, and coaches should probably be familiar with the full contents of students’ asthma action plans. Other school personnel such as bus drivers, maintenance staff, playground monitors, or field trip chaperones might only need to know measures they can take to decrease certain students’ exposure to asthma triggers and how they can assist a student who is experiencing an asthma attack.

This kind of information sharing within a school on a “need to know” basis is permitted by federal law. At the same time, school personnel must also respect parents’ and students’ reasonable expectations that student health records will be kept confidential to the greatest extent possible. Such information must never be shared beyond the school walls. Schools and individual staff members could be held liable for breaches of state medication confidentiality laws.

Parents/guardians are required to provide up-to-date assessments of their child’s health status to the school, but teachers, school nurses, coaches, office staff, and other personnel may be the first to detect that the child has a chronic condition such as asthma. Moreover, student health forms sometimes provide incomplete information, or reported information about the child’s health condition is not shared with the school nurse and others who need to know.

All school staff should know the warning signs of asthma and anaphylaxis and promptly inform school nurses or health staff that the student is experiencing a health problem. The U.S. Department of Education affirms that, “Nothing in FERPA [Family Education Rights and Privacy Act] prohibits a school official from sharing with parents information that is based on that official’s personal knowledge or observation and that is not based on information contained in an education record. Therefore, FERPA would not prohibit a teacher or other school official from letting a parent know of their concern about their son or daughter that is based on their personal knowledge or observation.”

**Family Education Rights and Privacy Act (FERPA)** (20 U.S.C. § 1232g; 34 CFR Part 99) is a federal law that protects the privacy of student education records. The law applies to all schools that receive funds under an applicable program of the U.S.
Department of Education. FERPA generally prohibits schools from disclosing personally identifiable information in a student’s education record unless the school obtains the consent of the student’s parent or the eligible student, that is, a student who is 18 years old or older or who attends an institution of postsecondary education.

FERPA does allow schools to disclose personally identifiable information, without obtaining consent, to school officials, including teachers, who have legitimate educational interests in the information, including the educational interests of the child. Schools that do this must include in their annual notification to parents and eligible students the criteria for determining who constitutes a school official and what constitutes a legitimate educational interest. Schools may not prevent the parents of students, or eligible students themselves, from inspecting and reviewing the student’s education records.

Health Insurance Portability and Accountability Act of 1996 (HIPAA) is a federal law intended to establish transaction, security, privacy, and other standards to address concerns about the electronic exchange of health information. The HIPAA Privacy Rule, however, excludes from its coverage those records that are protected by FERPA at school districts and postsecondary institutions that provide health or medical services to students. This is because Congress specifically addressed how education records should be protected under FERPA. For this reason, records that are protected by FERPA are not subject to the HIPAA Privacy Rule and may be shared with parents as described above.

Removal of Disability Barriers

Section 504 of the Rehabilitation Act of 1973, as amended (Title 29 U.S.C. 794 Section 504), prohibits discrimination on the basis of disability in any program or activity that receives federal financial assistance, while the Americans with Disabilities Act (ADA) prohibits discrimination on the basis of disability by state and local governments. Section 504 requires that students with physical impairments (i.e., a disability that interferes with educational performance or that substantially limits their ability to engage in a major life activity such as eating, walking or breathing) be educated with their non-disabled peers to the maximum extent appropriate. Under these criteria, NASBE states that “[a] student with persistent asthma who experiences breathing difficulties could be considered eligible.” The ADA Act of 1990 extended Section 504 requirements to physically impaired students in nonreligious private schools.

Individuals with Disabilities Education Act (IDEA) (Public Law 108–446), reauthorized in 2004, requires schools to develop, according to specific standards, an individualized education program (IEP) for each eligible student with disabilities. An IEP that meets the requirements of the IDEA also fulfills the requirements of Section 504 and Title II of the ADA for an appropriate education for a disabled student. NASBE underscores, however, that, “IDEA only targets students who have an educational disability, whereas the more broadly written Section 504 also applies to students with a health disability that significantly interferes with a major life function.”
**Pro-Children Act of 1994**, re-authorized by the No Child Left Behind Act of 2001, requires that smoking not be permitted in any indoor facility, or in some cases a portion of a facility, used routinely or regularly for the provision of certain types of “children’s services” to persons under age 18, if the services are funded by specified federal programs either directly or through state or local governments. It applies to public schools and at least some non-public schools.

**Asthmatic Schoolchildren’s Treatment and Health Management Act of 2004** (Public Law 108–377) encourages states to require schools to allow students to self-administer asthma or anaphylaxis medication in accordance with a written treatment plan prescribed by the health care practitioner with documentation from parents. It does so by giving preference to states with such a law when awarding public-health-oriented, asthma-related grants, generally by the CDC.
Common Types of Individual Student Plans

Following are general descriptions of major types of individual plans commonly used to respond to the needs of students with chronic health conditions. District and school procedures — and the specific condition of each student — will determine which kind of plan or combination of plans is necessary. Each type of plan needs to be developed in close partnership with family caregivers, primary health care providers, and the students themselves.

<table>
<thead>
<tr>
<th>PLAN</th>
<th>DESCRIPTION</th>
<th>DEVELOPED BY…</th>
<th>FOR USE BY…</th>
<th>TYPE OF RECORD</th>
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<tbody>
<tr>
<td>Asthma Action Plan</td>
<td>Provides guidance on preventive measures, symptoms of distress, instructions for medication and other health-care procedures, emergency response steps, and emergency contact information</td>
<td>Health care provider or school nurse</td>
<td>Person with the disease; family members; selected school personnel as appropriate; other caregivers</td>
<td>Personal record and confidential school health record</td>
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<tr>
<td>Anaphylaxis Action Plan</td>
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<td>Diabetes Medical Management Plan</td>
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<td>Other disease management plans</td>
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<tr>
<td>Quick-reference emergency action plan (can be individualized or generic)</td>
<td>Provides clear instructions about steps to take in a health emergency</td>
<td>School nurse or health team</td>
<td>All school personnel</td>
<td>School health record or generic document</td>
</tr>
<tr>
<td>Individual health care plans (IHCP)</td>
<td>Describes health care interventions to guide school nursing services</td>
<td>School nurse</td>
<td>School health personnel, other school staff on a “need to know” basis</td>
<td>Confidential school health record</td>
</tr>
<tr>
<td>Individual education plan (IEP)</td>
<td>Describes necessary special education and related services for students with learning disabilities</td>
<td>Special education staff or IEP team</td>
<td>Special education staff, school health personnel, and other school staff as appropriate</td>
<td>Confidential school health record</td>
</tr>
<tr>
<td>Accommodations plan</td>
<td>Describes necessary accommodations for students with disabling conditions that affect major life activities</td>
<td>School nurse or other school official</td>
<td>Selected school personnel on a “need to know” basis</td>
<td>Confidential health record</td>
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<tr>
<td>Section 504 plan</td>
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</table>

Student Access to Treatment Emergency Act of 2007 (A17-0082), enacted on July 26, 2007, permits a student with a medication action plan to possess and self-administer asthma or anaphylaxis medications while at the school in which the student is currently enrolled, at school-sponsored activities, and while on school-sponsored transportation, provided that the responsible person (that is, the parent, legal guardian, legal custodian, foster parent, or other adult charged with the ongoing care and supervision of the student or the student if the student is age 18 years or older) has submitted a valid medication action plan to the school and all other conditions set forth in DC law and regulations are met.

This law applies to any public school operated under the authority of the Mayor of the District of Columbia and any charter school, parochial school, or private school in DC. Passed unanimously by the Council of the District of Columbia and signed into law by Mayor Adrian M. Fenty, it is anticipated that this temporary legislation, effective for ninety days, will be made permanent. It also allows for the administration of medication for other potentially life-threatening illnesses (e.g., diabetes) through future regulation.

The DC Department of Health, DC Public Schools, National Capital Asthma Coalition, and community partners worked together to develop the basis for this law. Many consumer, professional, and government bodies also have endorsed students’ rights to carry asthma and anaphylaxis medications, for example:

- The Allergy & Asthma Network Mothers of Asthmatics led the charge, helping 47 states to pass similar lifesaving legislation while promoting passage of Public Law 108–377. The American Federation of Teachers, National Association of School Nurses, American Public Health Association, and other groups publicly support this effort.

- On June 25, 2007, the American Medical Association (AMA) adopted a policy calling on all states to enact laws permitting students to carry prescribed epinephrine or other medications for asthma or anaphylaxis.

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“Life-threatening allergic reactions to foods can easily happen at school or away from home, and an epinephrine injection at the first sign of a reaction is critical. All states should have laws that allow children to protect themselves by carrying lifesaving tools like epinephrine or other prescribed medication.”

— Rebecca J. Patchin, MD
AMA Board Member
Summary of the Student Access to Treatment Emergency Act of 2007

The Student Access to Treatment Emergency Act of 2007 permits students enrolled in DC’s public, private, and parochial schools to carry and self-administer life-saving medications for asthma and anaphylaxis:

1. Students MUST have a valid medication action plan on file in school, to be renewed annually, that includes:
   a. Written medical authorization signed by student’s healthcare provider that provides instructions for medication(s) and emergency procedures and confirms that the student has been instructed in proper technique and is capable of self-administering the medication effectively.
   b. Written consent signed by parent/guardian that states that a school nurse or trained school employee may administer medication to the student and/or the student may possess and self-administer medication.
   c. Written waiver signed by parent/guardian acknowledging that the school, its employees and its agents shall incur no liability, and shall be held harmless against any claims that may arise relating to the administration, supervision, training, or self-administration of medication.

2. In addition, schools SHALL:
   a. Maintain the medication action plan in the school health suite, or other designated, easily accessible location.
   b. Create a list of students with valid medication action plans, including emergency contact information for each student. The school principal may distribute this list among appropriate school employees.
   c. Properly label and store medications, including additional medication from the parent/guardian of a student with a valid medication action plan, where the student has immediate access in case of an emergency.
   d. Discipline students (if need be) who misuse their medication, but the disciplinary action shall not limit or restrict the student’s access to his or her prescribed medication.
Physicians and others authorized to prescribe medications, working together with parents and school nurses, should consider the list of factors below in determining when to entrust and encourage a student with diagnosed asthma and/or anaphylaxis to carry and self-administer prescribed emergency medications at school.

Most students can better manage their asthma or allergies and can more safely respond to symptoms if they carry and self-administer their life-saving medications at school. Each student should have a personal asthma/allergy management plan on file at school that addresses carrying and self-administering emergency medications. If carrying medications is not initially deemed appropriate for a student, then his/her asthma/allergy management plan should include action steps for developing the necessary skills or behaviors that would lead to this goal. All schools need to abide by state laws and policies related to permitting students to carry and self-administer asthma inhalers and epinephrine auto-injectors.

Health care providers should assess student, family, school, and community factors in determining when a student should carry and self-administer life-saving medications. Health care providers should communicate their recommendation to the parent/guardian and the school, and maintain communication with the school, especially the school nurse. Assessment of the factors below should help to establish a profile that guides the decision; however, responses will not generate a “score” that clearly differentiates students who would be successful.

**Student factors:**
- Desire to carry and self-administer
- Appropriate age, maturity, or developmental level
- Ability to identify signs and symptoms of asthma and/or anaphylaxis
- Knowledge of proper medication use in response to signs/symptoms
- Ability to use correct technique in administering medication
- Knowledge about medication side effects and what to report
  - Keeping one’s bronchodilator inhaler and/or auto-injectable epinephrine with him/her at all times;
  - Notifying a responsible adult (e.g., teacher, nurse, coach, playground assistant) during the day when a bronchodilator inhaler is used and immediately when auto-injectable epinephrine is used;
  - Not sharing medication with other students or leaving it unattended;
  - Not using bronchodilator inhaler or auto-injectable epinephrine for any other use than what is intended;
  - Responsible carrying and self-administering medicine at school in the past (e.g. while attending a previous school or during an after-school program).

NOTE: Although past asthma history is not a sure predictor of future asthma episodes, those children with a history of asthma symptoms and episodes might benefit the most from carrying and self-administering emergency medications at school. It may be useful to consider the following:
- Frequency and location of past sudden onsets
- Presence of triggers at school
- Frequency of past hospitalizations or emergency department visits due to asthma
Parent/guardian factors:
- Desire for the student to self-carry and self-administer
- Awareness of school medication policies and parental responsibilities
- Commitment to making sure the student has the needed medication with them, medications are refilled when needed, back-up medications are provided, and medication use at school is monitored through collaborative effort between the parent/guardian and the school team

School and community factors:
In making the assessment of when a student should carry and self-administer emergency medicines, it can be useful to factor in available school resources and adherence to policies aimed at providing students with a safe environment for taking medicines. Such factors include:
- Presence of a full-time school nurse or health assistant in the school all day every day
- Availability of trained staff to administer medications to students who do not self-carry and to those who do (in case student loses or is unable to properly take his/her medication); to monitor administration of medications by students who do self-carry
- Provision for safe storage and easy, immediate access to students’ medications for both those who do not self-carry and for access to back-up medicine for those who do
- Close proximity of stored medicine in relationship to student’s classroom and playing fields
- Availability of medication and trained staff for off-campus activities
- Communication systems in school (intercom, walkie-talkie, cell phones, pagers) to contact appropriate staff in case of a medical emergency
- Past history of appropriately dealing with asthma and/or anaphylaxis episodes by school staff
- Provision of opportunities for asthma and anaphylaxis basic training for school staff (including after-school coaches and bus drivers)

NOTE: The goal is for all students to eventually carry and self-administer their medications. However, on one hand, if a school has adequate resources and adheres to policies that promote safe and appropriate administration of life-saving medications by staff, there may be less relative benefit for younger, less mature students in this school to carry and self-administer their medication. On the other hand, if sufficient resources and supportive policies are NOT in place at school, it may be prudent to assign greater weight to student and family factors in determining when a student should self-carry.
Administration of Medication by Public Schools Employees Act of 1993

The Administration of Medication by Public Schools Employees Act of 1993 (DC Law 10-55) authorizes a public school employee, in the absence of licensed nurses, to administer medication to a student under specified circumstances. Among the law’s requirements, public school employees must be trained, certified, and authorized by the principal to administer prescription or nonprescription medication to a student in compliance with the signed, written instructions of a licensed practitioner. Written policies and procedures are in place concerning parent/guardian consent, physician medication authorization, supervision of the qualified DC Public Schools staff member, storage of medication, record keeping, and training. The act also immunizes the public school employee from civil liability arising from the authorization or administration of medication. This act currently applies only to public school employees but may be changed in the future to apply to private and parochial school employees as well.

The following Student Health Authorization Form issued by the DC Department of Health’s School Health Program includes the Parent/Guardian Consent Form and the Physician’s Medication Authorization Order required to allow the school nurse or authorized staff member to administer a medication to the student. The Student Health Authorization Form also is included in the DC Asthma Action Plan approved by the DC Department of Health. The full Student Health Packet from the DC Public Schools’ Office of School Programs, which includes instructions for authorizing the administration of medication and additional forms, may be downloaded from www.k12.dc.us.

When medications are administered by properly authorized trained school personnel, clear procedures should be in place and followed to ensure that the medications are administered safely, effectively, and exactly as ordered by the healthcare provider or as indicated on manufacturer’s instructions. When administering medication, both nursing and non-nursing personnel should keep in mind the six rights: right student, right time, right medicine, right dose, right route, and right documentation.

The Six Rights of Medication Administration

- **Right Student**
- **Right Time**
- **Right Medicine**
- **Right Dose**
- **Right Route**
- **Right Documentation**
### PART I: PARENT/GUARDIAN CONSENT FORM

**Parent/Guardian:** Please complete and sign this form.

I hereby request and authorize the school nurse/licensed practical nurse/certified DCPS personnel to administer prescribed medications as directed by the physician to my son/daughter.

**Student’s Name**

I have received and read a copy of the procedures for medication authorization and agree to assume responsibilities as required.

This medication is a [ ] NEW or [ ] RENEWED prescription.

*If this is a new prescription, enter the date and time of first dose given at home.*

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>AM</th>
<th>PM</th>
</tr>
</thead>
</table>

Name of Parent/Guardian ____________________________ Date __________

Signature of Parent/Guardian ________________________ Relationship __________

### PART II: PHYSICIAN’S MEDICATION AUTHORIZATION ORDER

*Please take this form to the student’s physician for completion.*

**Physician:** Please complete and sign this medication authorization order.

Please check one: [ ] ORIGINAL [ ] RENEWAL [ ] CHANGE

**Name of Student**

**Diagnosis**

**Telephone No.**

**Name of Medication**

**Dose**

**Time and circumstances of administration at school**

**Expected duration of administration**

**Can reaction be expected?** [ ] YES [ ] NO

If YES, please describe ____________________________

______________________________

**Physician’s Name**

**Physician’s Address**

**Telephone No.**

**Physician’s Signature**

**Date**

**School Nurse** DCPS Qualified Staff ____________________________
Student Health Act of 1985 (DC Law 6-66) requires all students attending public and private schools in the District of Columbia to receive a physical examination, including eye, hearing and oral health exams. All children entering entry into grades pre-Kindergarten, Kindergarten, 1, 3, 5, 7, 9 and 11 must have a complete physical examination within 150 calendar days before the first day of school or prior to enrollment and furnish the school with completed child health certificate and oral health assessment forms. Students also are required to have a tuberculosis assessment. Under federal law, all children three years of age and older enrolling in childcare and Head Start programs in DC must have an annual physical examination, including an oral health evaluation and testing for lead poisoning.

According to the DC Public Schools’ 2007-2008 Student Health Packet (available at www.k12.dc.us), parents/guardians must have a licensed physician or certified nurse practitioner and a licensed dentist complete, sign, and date the DC Child Health Certificate Assessment Form (see following pages) and Oral Health Assessment Form to show that examinations were completed within the specified time. The form includes specific questions regarding asthma and about “significant allergies or health conditions that may require emergency medical care at school, childcare, camp, or sports activity.” The health certificate and oral health forms are available on the DC Department of Health’s Web site at www.doh.dc.gov. Additional information is available by contacting the DOH Hotline at (202) 671-5000. Students’ health certificate forms are confidential and are kept in the student's file.
**DISTRICT OF COLUMBIA CHILD HEALTH CERTIFICATE**

**Part 1: Child's Personal Information**

<table>
<thead>
<tr>
<th>Child's Last Name</th>
<th>First &amp; Middle Name</th>
<th>Date of Birth</th>
<th>Gender:</th>
<th>Hispanic:</th>
<th>Asian or Pacific Islander:</th>
<th>Other:</th>
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**Parent/Guardian:** Please complete Part 1 clearly and completely & sign Part 5 below.

<table>
<thead>
<tr>
<th>Parent or Guardian Name</th>
<th>Relationship</th>
<th>Home Address</th>
<th>Work:</th>
<th>Home City/State (if other than D.C.)</th>
<th>Emergency Contact:</th>
<th>Work:</th>
<th>Home City/State (if other than D.C.)</th>
<th>Expiration:</th>
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**School or child care facility:**

<table>
<thead>
<tr>
<th>Measure</th>
<th>Private Insurance</th>
<th>No Care</th>
<th>Memory Care Provider (MCP):</th>
<th></th>
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**Part 2: Child's Health History, Examination & Recommendations.**

**Health Provider:** Form must be fully completed.

**DATE OF HEALTH EXAM:**

<table>
<thead>
<tr>
<th>WT</th>
<th>LBS</th>
<th>HT</th>
<th>IN</th>
<th>CM</th>
<th>KD</th>
<th>NML</th>
<th>DABNL</th>
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</table>

**HEALTH CONCERNS:**

<table>
<thead>
<tr>
<th>Dental-Oral Health</th>
<th>Asthma</th>
<th>Development</th>
<th>Behavioral/Emotional</th>
<th>Learning/Attention</th>
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<tbody>
<tr>
<td>☐ None</td>
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<td>☐ None</td>
<td>☐ None</td>
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**ANNUAL DENTIST VISIT:** (Age 3 and older): Has the child seen a Dentist/Dental Provider within the last year? ☐ Yes ☐ No ☐ Referred

A. Significant health history, conditions, communicable illness, or restrictions that may affect school, childcare, sports, or camp.

☐ NONE ☐ YES, please detail:

B. Significant allergies or health conditions that may require emergency medical care at school, childcare, camp, or sports activity.

☐ NONE ☐ YES, please detail:

C. Long-term Medications or special care requirements or accommodations.

☐ NONE ☐ YES, please detail: (Please specify medication dosage/time/administration instructions and common side effects if given at school/child care)

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**This child has been appropriately examined & health history reviewed. At time of exam, this child is in satisfactory health to participate in all school, camp or childcare activities except as noted above.**

**ATHLETE IS CLEARED FOR COMPETITIVE SPORTS:** ☐ YES ☐ NO

**Part 3: Immunization Information.** (Please fill in or attach equivalent copy with provider signature and date)

**Diphtheria-Tetanus-Pertussis:** (DTaP) ☐ Diphtheria-Tetanus (DT) ☐ Hemophilus Influenzae B (HIB) ☐ Hepatitis B (HBV) ☐ Polio ☐ Measles-Mumps-Rubella (MMR) ☐ Varicella ☐ Influenza (not required) ☐ Pneumococcal conjugate (PCV7)

**Part 4: Tuberculosis & Lead Exposure Risk Assessment & Testing if PPD Positive:**

**TB EXPOSURE RISKS?** ☐ HIGH ☐ LOW

**PPD TEST DATE:**

☐ NEGATIVE ☐ POSITIVE ☐ OFFICE NEGATIVE ☐ OFFICE POSITIVE ☐ TREATED

**Health Provider:** ALL POSITIVE PPD tests MUST BE reported to T.B. Control 202-668-4070

**LEAD EXPOSURE RISKS?** ☐ YES ☐ NO

**LEAD TEST DATE:**

**RESULT:**

**Health Provider:** ALL lead levels MUST BE reported to DC Division of Lead Poisoning Prevention: Fax 202-335-3358

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**Part 5: Required Provider Certification and Signature**

**Age Appropriate Health Screening Requirements Performed Within Current Year:** ☐ YES ☐ NO

**Medical Exemption From Immunization:** I hereby certify that the student named above was not immunized against (disease) because (reason) ☐ (if applicable, attach serological test results). Date Exemption Expires: ☐

**Part 6: Required Parental/Guardian Signatures. (Release of Health Information)**

I give permission to the signing health examination/facility to share this health information on this form with my child’s school, childcare, camp, or DOH:

**PRINT NAME:**

**SIGNATURE:**

**Date:**

---

**Top Copy – School Nurse** ☐ 2nd Copy – School ☐ 3rd Copy – Parent **5/17/04**

Managing Asthma and Allergies in DC Schools 4.13
4.14 Managing Asthma and Allergies in DC Schools

INSTRUCTIONS FOR USE-SIDE TWO

DISTRICT OF COLUMBIA CHILD HEALTH CERTIFICATE

This form replaces all forms dated before February 25, 2004, used for entry into DC Schools.

Exception: It cannot be used to replace EPSDT forms or the Department of Health Oral Health Assessment Form, formally the Dental Aerial Form. This form was developed by the DC Department of Health and follows American Academy Of Pediatrics (AAP) Guidelines For School-Age Children to 21 Years Of Age. This form is a confidential document. Confidentiality is adhered to The Health Insurance Portability and Accountability Act of 1996 (HIPAA) for the health providers, and The Family Educational Rights and Privacy Act (FERPA) for the DC Schools and other providers.

General Instructions: Please use black ball pen when completing this form.

Part 1: Child’s personal information

Parent or Guardian: Please check the box that best fits the description of the child’s race or ethnicity. Please indicate the ward of your home address. List primary care provider and type of health insurance coverage, if child has no provider or is uninsured, then please write "None" in each box. This form will not be complete without parent or guardian signature in Part 5.

Part 2: Child’s health history, Examination & Recommendations: To be completed by the health care provider. Please mark all relevant boxes.

- Date of complete health exam: All children MUST have a physical examination by a physician or certified nurse practitioner per the AAP Guidelines. The date entered here must indicate that the child is in compliance with these requirements outlined in DC Law 6-68.
- WT: Child’s weight in either pounds (lbs) or kilograms (kg)
- HT: Child’s height in either inches (in) or centimeters (cm)
- BP: If child is three years of age or older, write the blood pressure value in the box and check if normal or abnormal. If abnormal please provide explanation and resolution in part 2 section “A.”
- HGB/HCT: Hemoglobin (HGB) or Hematocrit (HCT) is required. For Head Start children. Anemia screen is recommended for menstruating adolescents based on AAP guidelines. Please record level and indicate by circling HGB or HCT.

Part 3: Immunization Information: All areas of this section must be completed or an equivalent form attached with the physician’s or health care provider’s signature.

As required by D.C. Law 3-29, “Immunization of Students Studying at 19th” and DCMR Title 22, Chapter 1 (revised 03/21/13), the following immunizations are required. Medical exemptions from immunizations may be granted for valid reasons with proper documentation and certified and signed by the health care provider in Part 5.

Part 4: Tuberculosis & Lead Exposure Risk Assessment & Testing:

- TUBERCULOSIS EXPOSURE RISKS: Please assess risk of all patients to Exposure to Tuberculosis as defined by the AAP Tuberculosis Skin Test Recommendations for Infants, Children and Adolescents in the 2003 AAP RED BOOK page 646. Current DC regulations require ONE PPD (Purified Protein Derivative) Test for all children entering child care or school, whichever comes first. PPD Test is also required for all children who are assessed as HIGH RISK OF EXPOSURE. Please note date of test and mark outcome of test (negative or positive). If PPD is POSITIVE, then mark outcome of chest X-Ray (CXR) and if child was treated. ALL POSITIVE PPD tests MUST BE Reported to DC T.B. Control at 202-698-4040.
- LEAD EXPOSURE RISKS: Please assess risk of all patients for exposure to lead using the AAP Statement “Screening for Elevated Blood Lead Levels” (1998). All children require a lead test between 9 and 12 months of age and again at 24 months of age. All children between 28 months and 8 years who have not had a lead test must at least one documented lead test unless assessed as HIGH RISK OF EXPOSURE. Please document “Date” of most recent test and “Result”. Please indicate if “Pending.” “Pending” results will be due for date of testing and will NOT exclude child from activity or program. ALL lead tests must be reported to DC Lead Poisoning Prevention by Fac at 202-535-1396.

Part 5: Required Provider Certification and Signature.

All information will be kept confidential. A physician or nurse practitioner must complete this part. By checking the yes box the provider certifies that the child has received age-appropriate screenings according to AAP and EPSDT guidelines within the current year. If no is checked please explain reason in space provided.

Part 6: Required Parent/Guardian Signature.

The parent or guardian must print, sign, and date this Part. By signing this section the parent or guardian gives permission to the health examiner or facility to share the health information on this form with the child’s school, child care, camp, DOH, or the entity requesting this document.
Schools are critical partners in ensuring that all students and their families have access to the primary care, mental health, and other support services that they need. Every student should have a “medical home” (e.g., primary care physician, nurse practitioner, or community health center) for their ongoing care. Most children in DC are eligible for some form of health insurance but their families may need encouragement and assistance from the school and school nurse in the enrollment process. Schools also should advocate for children to receive the appropriate health services for which they are eligible.

**DC Healthy Families** is a free health insurance program administered by the DC Department of Health that covers children, adolescents under age 19 who live alone, pregnant women, and parents/guardians who meet certain income qualifications. DC Healthy Families is part of the State Children’s Health Insurance Program (SCHIP), or Title XXI of the Social Security Act, a national initiative jointly financed by federal and state governments and administered by the states. Eligibility in DC Healthy Families must be renewed yearly. Applications are available at CVS, Safeway, Rite Aid, and Giant stores; Department of Motor Vehicles and Department of Employment Services offices; and DC libraries; or by calling 1-888-557-1116 or (202) 526-6266.

**The Early and Periodic Screening, Diagnosis, and Treatment Program (EPSDT) Program (known as the “HealthCheck Program” in DC)** provides free check-ups and treatment to children eligible for Medicaid and/or DC Healthy Families children under age 21. EPSDT was defined by law as part of the Omnibus Budget Reconciliation Act of 1989 (OBRA ’89) legislation and includes periodic screening, vision, dental, and hearing services. In addition, Section 1905(r)(5) of the Social Security Act (the Act) requires that any medically necessary health care service listed at Section 1905(a) of the Act be provided to an EPSDT recipient even if the service is not available under the State’s Medicaid plan to the rest of the Medicaid population. The EPSDT program consists of two mutually supportive, operational components: (1) assuring the availability and accessibility of required health care resources; and (2) helping Medicaid recipients and their parents or guardians effectively use these resources. To learn more about DC’s HealthCheck, call (202) 442-5988.
There are legal requirements that affect how schools deal with students and staff who have asthma.

Federal and state laws require that schools take steps to promote the health, development and achievement of students and staff with asthma.

**School Responsibilities**

Under the Individuals with Disabilities Education Act (IDEA) of 1997, schools are required to promote the health, development, and achievement of students with asthma. Asthma is classed as a disability under the “Health Impaired” category of IDEA, if it adversely affects a child’s educational performance or interferes with learning.

Schools are also required to remove “disability barriers” under Section 504 of the Rehabilitation Act (“504”). This law prohibits discrimination against those with disabilities in education or employment. While having asthma is not considered a disability in itself, school conditions (such as poor indoor air quality (IAQ) may be considered “disability barriers” which bar equal access for those with asthma. Schools are obliged to inform parents and students whom to contact if they perceive discriminatory situations, conditions, practices or policies within the school. Further, “504” requires schools to follow certain procedures to protect the rights of parents, students, and school staff, and to ensure that decisions made regarding a child’s needs, and their implementation, are fair and appropriate. It stipulates that schools and parents should act as partners in the planning and decision making involved in the child’s welfare.

Both IDEA and “504” outline student evaluation procedures and stipulate the creation of individual health plans—an Individualized Education Plan (IEP) and a “504” accommodation plan, respectively. In addition to a student’s asthma-related information, these plans include environmental modifications, physical education planning, and provision for studies during asthma-related absences from school. “504” ensures access to federally funded services for any handicapped person; IDEA provides funds to help schools serve these students when specific requirements are followed (IDEA grants.)

Maurice Watson, an attorney with Blackwell Sanders Peper Martin of Kansas City, MO, and a specialist in education law, notes that in disability cases the courts increasingly look at the severity of the impairment. Thus, if the asthma can be reasonably managed by medication, he continues, that individual might no longer have protection under IDEA and other federal statutes. “The court might say there is no ‘need’ for further accommodation. On the other hand parents might respond that if there was higher compliance with IAQ, the child could use fewer medications.”
A school's best protection against liability is having policies and procedures in place and being proactive. In the event of a lawsuit against the school district, it is important to be able to demonstrate that a school maintained its duty of care to students and staff by responding to complaints, dealing with problems (establishing or disapproving causation between, for example, poor IAQ and health complaints), and foreseeing potential problems.

In 1996, a court found the school’s principal, guidance counselor, and Orleans Parish school board negligent in the death of an 18-year old New Orleans schoolgirl, according to a report in the May 29, 1996 issue of Education Week. Catrina Lewis died when a call to 911 was delayed because of efforts by the school counselor to contact her mother, as directed by the principal. Lewis alerted a school security guard when her inhaler was ineffectual in controlling her asthma attack. The guard immediately contacted the school principal who said that the girl’s mother had to be called (in his testimony he said he did not mean for her to be called first, but to be contacted about the situation.) The school counselor tried unsuccessfully to reach Lewis’ mother, and after 34 minutes it was the girl's younger sister who eventually called 911.

The judge found that the principal and counselor violated a state law stating that school officials have a duty to provide emergency medical care when a student requests it, and found the school board negligent in both failing to provide adequate training for its employees, and in failing to have a clear policy on medical emergencies. The judge ordered the insurance companies for the two school officials to pay $1.4 million in damages to Ms. Lewis’ mother and two sisters, and the school board to pay $200,000.

In 2002, a California jury unanimously awarded $9 million in damages (later reduced to $2.225 million on appeal) to a mother after the death of her 11-year old son from an asthma attack at school. The school district was found guilty of negligence for failing to warn parents of an unwritten school policy that would have allowed the boy to carry an inhaler with him. Due to a written school policy stating that all medications must be stored in a specific place at the school, Phillip Gonzalez and his mother understood that he was not permitted to carry his inhaler. The school district contended that the regulation did not preclude a student from carrying necessary medication if certified necessary by a physician. However in her testimony, Phillip’s mother pointed out that the physician’s authorization form supplied by the school does not have a space for a doctor to indicate that the student should carry and/or administer his or her own medication.

The court ruled that the district was liable for negligence due to the fact that the policy requiring medications to be stored at school was written but the exception was not (Health and Health Care, 2002.) Twenty-one states [now 47 states as of August 2007, including DC] currently have statewide policies or laws giving students the right to carry and use asthma inhalers at school.
Some Uncertainties

Attorney Maurice Watson points out that in terms of air quality issues, schools are not covered by Occupational Safety Health Administration (OSHA) standards, and it is uncertain what the legal obligations might be in the future. Mold in schools is emerging as a big problem for school districts. Many schools across the country have been closed for days, weeks and in some cases permanently, due to mold. And dozens of lawsuits have been filed already by teachers. The whole school district pays in such cases: students often have to be accommodated on other campuses, repairs are expensive and public (especially if the school is closed down), and someone may have to foot the illness compensation bill.

Legal Checklist

• Know the law and be proactive in following it.
• Ensure you have policies in place to avert medical emergencies and clear emergency plans to deal with life-threatening situations.
• Inform parents of procedures for reporting complaints about health or environmental issues.
• Respond to all questions or complaints – including those from teachers – promptly and effectively.
The lesson that we have learned over the years is that asthma is a disease that is not easily managed. It can’t be just the patient. The school has to be involved. Many of the children have problems at school. It takes a team approach to manage this disease well and to reduce the morbidity as well as the mortality in our community.

— Floyd J. Malveaux, MD, PhD, former Dean, Howard University College of Medicine, Washington, DC, and principal investigator of the groundbreaking National Cooperative Inner-City Asthma Study
# Section 5
## Creating Asthma-Friendly Schools

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Addressing Asthma Within a Coordinated School Health Program

The Centers for Disease Control and Prevention encourage schools to manage asthma using a coordinated school health framework consisting of six strategies. The figures below illustrate how these six strategies fit within the eight components of a coordinated school health program.

Asthma-friendly schools have policies and procedures that allow students to successfully manage their asthma and allergies. Chances for success are better when school administrators, teachers, nurses, and staff work as a team with students, parents/guardians and healthcare providers to prevent asthma attacks and anaphylaxis (a severe systemic allergic reaction). Below are six strategies to employ when establishing a school asthma (and anaphylaxis) program.

**Six Strategies for Managing Asthma and Anaphylaxis**

1. **Establish management and support systems for asthma-friendly schools.**
   - Identify your school’s existing asthma and anaphylaxis needs, resources for meeting those needs, and potential barriers.
   - Develop and implement written policies and procedures regarding asthma and anaphylaxis education and management.
   - Use or adapt present health school records to identify students with diagnosed asthma and anaphylaxis.
   - Use 504 Plans or Individualized Education Plans as appropriate, especially for health services and physical activity modifications.
   - Obtain support from administration and from others in the school community.
   - Develop systems to promote ongoing communication among students, parents/guardians, teachers, school nurses, and healthcare providers.
   - Evaluate asthma and anaphylaxis program strategies and policies at least annually.

2. **Provide appropriate school health services for students with asthma and anaphylaxis.**
   - Obtain a written action plan for all students with asthma and/or anaphylaxis.
   - Plan should be developed and signed by a healthcare provider and be provided and signed by parents/guardians.
   - Plan should include individualized emergency protocol, medications, peak flow monitoring (for asthma), environmental triggers, and emergency contact information.
   - Share the plan (or emergency plan developed from it) with appropriate staff in accordance with the Family Educational Rights and Privacy Act (FERPA) and Health Insurance Portability and Accountability Act of 1996 (HIPAA) guidelines or with parent/guardian permission.
   - Ensure that at all times students have immediate access to medications as prescribed by their healthcare provider and approved by their parents/guardians.
   - Establish emergency protocols for students in respiratory distress if they do not have their own Asthma, Allergy, or Anaphylaxis Action Plan.
• Ensure the provision of case management by a trained professional to assess needs and plan a continuum of care for students and families, especially for students with known asthma or severe allergies or with frequent school absences, school health office visits, emergency department visits, or hospitalizations.

• Provide a full-time registered nurse all day, every day for each school.

• Ensure access to a consulting physician for each school.

• Refer students without a primary care provider to child health insurance programs and providers.

• Provide and coordinate school-based counseling, psychological, and social services for students with asthma and anaphylaxis, as appropriate. Coordinate with community services.

3. **Provide asthma and anaphylaxis education and awareness programs for students and staff.**

• Ensure that students with asthma and/or anaphylaxis receive education about their condition. Encourage parent/guardians to participate in these programs.

• Provide school staff with education on the basics of asthma and anaphylaxis, asthma and anaphylaxis management, and emergency response as part of their professional development activities. Include classroom teachers, physical education teachers, coaches, secretaries, administrative assistants, principals, facility and maintenance staff, nutrition services staff, and bus drivers.

• Integrate asthma and anaphylaxis awareness and respiratory health education lessons into health education curricula.

• Provide and/or support smoking prevention and cessation programs for students and staff.

4. **Provide a safe and healthy school environment to reduce asthma and anaphylaxis triggers.**

• Prohibit tobacco use at all times on all school property and at all school-related activities.

• Improve indoor air quality by reducing or eliminating allergens and irritants.

• Help students with asthma and severe allergies to avoid exposure to the offending allergen.

• Use integrated pest management (IPM) to control pests.
5. **Provide enjoyable physical education opportunities for students with asthma and/or anaphylaxis.**

- Encourage full participation in physical activities when students are well.
- Ensure that students have access to preventive medications before activity and immediate access to emergency medications during activity as prescribed by their healthcare provider and approved by parents/guardians.

6. **Coordinate school, family, and community efforts to better manage asthma and anaphylaxis and reduce school absences.**

- Obtain written parental permission for school health staff and primary care providers to share student health information.
- Educate, support, and involve family members in efforts to reduce student’s risk of asthma episodes, severe allergic reactions, and school absences.
- Work with local community programs. Coordinate school and community services, including community healthcare providers, community asthma programs and coalitions, community counselors, social workers, case managers, and before- and after-school programs. Encourage interested school staff to participate in community asthma coalitions.

Ongoing communication among parents/guardians, school personnel, and healthcare providers, with the student as the focus, is crucial to successful management of both asthma and anaphylaxis (a severe allergic reaction that restricts breathing and, like asthma, can lead to death).

**Parent/Guardian Responsibilities**

- Notify school of student's asthma, allergies, and/or anaphylaxis.
- Provide written medical documentation, instructions, and medications as directed by a healthcare provider. Participate in asthma/allergy/anaphylaxis action plan.
- Provide school with complete contact information in case of emergency.

**Student Responsibilities**

- Avoid known triggers for asthma/allergy/anaphylaxis.
- Recognize need for carrying emergency asthma and anaphylaxis medication while at school. Understand and demonstrate proper use of medications.
- Report symptoms to teacher/school nurse.
- Actively participate in asthma/allergy/anaphylaxis action plan.

**School Responsibilities**

- Participate in asthma/allergy/anaphylaxis action plan to accommodate student's health needs while at school.
- Implement environmental guidelines for safe and healthy indoor air quality.
- Ensure that there are staff available (as part of a response team) who are trained to administer emergency medications and provide emergency care.
- Provide basic, general education to staff regarding asthma and anaphylaxis.

**Healthcare Provider Responsibilities**

- Provide a diagnosis and prescribe proper medication for school use.
- Follow guidelines and work with parents/guardians, student, and school in the development of an asthma/allergy/anaphylaxis action plan.
- Monitor student's health status regularly and communicate need for accommodation of the action plan.

Adapted from Asthma & Anaphylaxis: A Primer for Schools, Attack on Asthma Nebraska. www.attackonnebraska.org.
Communication and Teamwork
School administrators and staff must work as a team with students, parents, and healthcare providers to prevent asthma attacks and anaphylaxis and to help students manage asthma symptoms. All students with these conditions should have a written management plan and be able to participate fully in school activities, including physical education and sports.

Professional Training in Asthma and Anaphylaxis
Professional development of school administrators and personnel should include education on how to recognize the early warning signs of asthma and anaphylaxis episodes, how to help the student follow his or her management plan, and how to assist the student in the case of a life-threatening episode.

Safe and Healthy School Environments
Growing children are especially vulnerable to environmental hazards, such as lead and pesticides. For children with asthma and severe allergies, focus areas also should include improving indoor and outdoor air quality, eliminating pests safely, using appropriate cleaning agents, and reducing moisture and mold.

Allowance for Medication Use at School by Students
Asthma and anaphylaxis symptoms that are allowed to escalate without prompt treatment can lead to death. Schools, using the guidance provided in this publication, can implement policies that allow for timely and appropriate use of medications by students with asthma and severe allergies.

An asthma-friendly school reduces absences and saves lives!
A written plan will help your school to implement the policies, procedures, and activities needed to support students with asthma and severe allergies. Use the following ten-step sample plan from the National Association of State Boards of Education as a guide for your school’s Asthma-Friendly Schools Plan.

**Purpose**
To support the academic performance and improve the health status of students with asthma.

**Rationale**
Asthma is a common chronic childhood illness and a major cause of student absences from school. Students with poorly controlled asthma may have greater difficulty with school work and a higher incidence of grade failure. Asthma attacks (acute episodes of symptoms) can be serious and life-threatening for students who experience them, and they also can disrupt classes and cause widespread distress for everyone else. Yet schools can help students control their asthma by helping them follow individualized asthma action plans, by minimizing students’ exposure to allergens and other irritants, and by responding appropriately to students’ asthma episodes.

**School Asthma Plan**
Each school shall prepare, adopt, and implement a comprehensive plan for the prevention and management of asthma that is based on current research and best practices. The plan shall be developed in partnership with families, health care providers and community agencies; implemented within the context of a coordinated school health program, and include the following provisions:

1. Asthma awareness education for students is integrated within health education, science, and physical education curricula at appropriate levels and is taught by well-prepared and well-supported teachers.

2. All school personnel are required to participate in professional development programs that include basic information about asthma, asthma management practices, and emergency response procedures.

3. Procedures are established to identify students with significant asthma morbidity, that is, students whose health, education, or quality of life are negatively impacted by their asthma.
4. The prevention, health care, and emergency needs for each student with asthma are documented in individualized asthma action plans, which are developed in consultation with the students’ parents/guardians, the students’ primary health care provider(s), and school health personnel.

5. Appropriate health services are provided to students with asthma action plans by qualified personnel.

6. Students’ prescribed medications are securely stored and correctly administered by adequately prepared and supported school personnel, in accordance with District of Columbia law and the written approvals of a parent or guardian and the prescribing health care provider(s).

7. Per the District of Columbia’s Student Access to Treatment Emergency Act of 2007 (enacted July 26, 2007), a student may possess and self-administer medication to treat asthma and/or anaphylaxis at the public, private, or parochial school in which the student is currently enrolled, at school-sponsored activities, and while on school-sponsored transportation provided that the parent or guardian (or student if age 18 years or older) consents, waives liability, and submits a valid medication plan signed by the healthcare provider to the school. [Note: The new DC Asthma Action Plan approved by the District of Columbia Department of Health meets the above criteria.]

8. Tobacco smoke is eliminated from all school buildings, grounds, vehicles, and school-sponsored events at all times.

9. Procedures are established to systematically identify and minimize other asthma triggers (respiratory allergens and irritants) in school buildings and on school grounds.

10. Each component of the plan is evaluated in an ongoing manner so as to improve policies, procedures, and services.

Program Administration

School administrators shall designate a staff person or school health team to:

- Implement the school asthma plan;
- Facilitate communication among school health program staff and collaborating agencies;
- Periodically provide program improvement information to personnel implementing the school asthma plan;
- Conduct evaluation activities; and
- Submit annual progress reports and recommendations for program improvement as directed.

A safe and healthy school environment is essential for the education and development of students. As educators know, children are not “little adults.” Environmental hazards affect children differently than adults, in part because their nervous system, lungs, immune system, and organs are still maturing. Furthermore, children absorb, metabolize, and excrete compounds differently than adults. Relative to their size, children breathe more air, drink more water, and consume more food than adults. For students with asthma or anaphylaxis, exposure to certain elements in their environment can trigger a reaction that can range from mild to immediately life threatening.

School environmental conditions also are of great concern to school personnel. In a 2002 survey of DC and Chicago school teachers commissioned by the 21st Century School Fund and funded by the Ford Foundation, researcher Mark Schneider, PhD reported that fully two-thirds of the DC teachers rated the school air quality as fair or poor and more than 40% of the DC teachers reported that their rooms were uncomfortable. More than one-third of the DC teachers also reported that they suffered adverse health effects because of problems related to the school facility. About one-third of the DC teachers reported lost teaching time because of health problems caused by facilities.

Sound school environmental practices minimize human exposure to indoor and outdoor hazardous chemicals, allergens, irritants, and pollutants. Use the following Sample Healthy Learning Environment Plan from the National Association of State Boards of Education as you create your Asthma-Friendly Schools Plan. Look for additional information and tips throughout the guide for engaging school staff, students, and parents/guardians in maintaining a safe and healthy school environment. Additional resources, such as the Indoor Air Quality Tools for Schools Program and Healthy School Environments Assessment Tool (HealthySEAT) from the U.S. Environmental Protection Agency, as well as a sample integrated pest management policy, are highlighted in the guidance for facilities staff.
Each district/school shall develop, implement, and monitor a healthy learning environment plan designed to optimize conditions for learning and minimize human exposure to indoor and outdoor hazardous chemicals, allergens, irritants, and pollutants. The plan shall address the following elements:

- an assessment of environmental factors that can enhance or detract from student learning and comfort, including lighting, ventilation, temperature, noise, availability of drinking water, and sanitation facilities;

- an assessment of environmental factors that are potentially harmful to human health, including tobacco smoke, pests, mold, pollen, dust mites, animal dander, chalk dust, cleaning agents, scented and unscented personal care products, volatile organic chemicals (VOCs), laboratory chemicals, unvented fumes, vehicle exhaust, asbestos, lead and other substances in drinking water, arsenic-treated lumber, radon, and excessive exposure to the sun;

- a plan for the physically isolated storage, safe usage, and proper disposal of cleaning agents and other hazardous chemicals that cannot be eliminated from school buildings and grounds;

- procedures to ensure the schools’ ongoing compliance with maintenance schedules for the clean and efficient operation of heating, ventilation, and plumbing systems;

- procedures for minimizing human exposure to the exhaust of school buses and other vehicles;

- procedures for daily monitoring of outdoor air quality and for providing indoor alternatives for student physical activity on days with poor air quality;

- mechanisms for resolving cases of hazardous chemical exposure and air and water quality problems as they occur; and

- specific action steps, strategies, and long-term goals to address identified issues of concern.

### Healthy Learning Environments in Newly Constructed or Renovated Buildings

All school construction or renovation projects shall optimize student learning by providing adequate heat, ventilation, lighting, safe drinking water, sanitation, and noise control, and minimizing human exposure to indoor and outdoor allergens, irritants, hazardous chemicals, pollutants, and ultraviolet radiation.

### Tobacco Use Prohibited

No student, staff member, or school visitor is permitted to smoke, inhale, dip, or chew tobacco at any time, including non-school hours:

- in any building, facility, or vehicle owned, leased, rented, or chartered by the state/district/school;

- on any school grounds, including athletic fields and parking lots; or

- at any off-campus school-sponsored event.
In addition, no student shall be permitted to possess a tobacco product while on school property. The provisions of existing policies that address the use and possession of drugs shall apply to all tobacco products.

No student may leave the school campus during breaks in the school day to use a tobacco product. Signs to this effect will be posted at appropriate locations. School authorities shall consult with local law enforcement agencies to enforce laws that prohibit the possession of tobacco by minors within the immediate proximity of school grounds.

Tobacco promotional items, including clothing, bags, lighters, and other personal articles, shall not be permitted on school grounds, in school vehicles, or at school-sponsored events. Tobacco advertising shall be prohibited in all school-sponsored publications and at all school-sponsored events.

The chancellor/superintendent/principal/other shall notify students, families, education personnel, and school visitors of the tobacco-free policy in handbooks and newsletters, on posted notices or signs at every school entrance and other appropriate locations, and by other efficient means. To the extent possible, schools and districts will make use of local media to publicize the policies and help influence community norms about tobacco use.

It is the responsibility of all students, employees, and visitors to enforce this policy through verbal admonition. Any tobacco product found in the possession of a minor student shall be confiscated by staff and discarded. Students and employees who violate a school’s tobacco-free policies also may be subject to disciplinary actions as determined by written school policy. All school staff shall participate in training on the correct and fair enforcement of tobacco-free policies.

**Animals and Birds**

Live animals with fur or feathers shall not be kept inside classroom buildings because they are a significant asthma “trigger,” with the exception of assistive animals such as seeing-eye dogs.

**Integrated Pest Management**

Integrated pest management (IPM) and control programs designed to prevent pest infestations and minimize human exposure to pesticides shall be implemented in all school buildings and on all school grounds.
Outdoor Air Pollution

School/district office shall be responsible for daily monitoring of Air Quality Index (AQI) information provided by air pollution control agency/health department/local media outlet, and for promptly alerting each school principal of elevated air quality alerts (i.e., code orange and above). Principals shall make decisions about reducing students’ exposure to air pollution based on individual risk factors and the following guidelines:

- When the AQI is “code orange” (unhealthy for sensitive groups of people), students with a history of reactions to ozone exposure will be permitted to reduce their outdoor exertion level or time spent outdoors, and the school will arrange alternative indoor physical activities. The school nurse/designated health aide will monitor such students for symptoms of respiratory distress.

- When the AQI is “code red” (unhealthy), students with a history of reactions to ozone exposure will remain indoors and participate in indoor physical activities. The school nurse/designated health aide will monitor such students for symptoms of respiratory distress. All other students will not be allowed to engage in more than one hour of heavy exertion (i.e., in activities that involve high-intensity exercise such as basketball, soccer, and running) while outdoors.

- When the AQI is “code purple” (very unhealthy) or “code maroon” (hazardous), all students will be kept indoors and participate in indoor physical activities. The school nurse/designated health aide will monitor all students for symptoms of respiratory distress.

Diesel School Bus Exhaust

To minimize potentially harmful emissions, drivers shall turn off diesel school bus engines as soon as they arrive at a loading or unloading area and not restart until ready to depart. Idling for engine warm-up will be as brief as possible. Diesel school buses must be parked and loaded at a sufficient distance from school buildings to prevent diesel fumes from being drawn into school ventilation systems.

The district/school shall endeavor to retrofit diesel engines with exhaust-reduction equipment or purchase low-emission vehicles to the greatest feasible extent.

How to Become an Asthma-Friendly School

**Step 1: Conduct an Assessment**
- Complete the *How Comprehensive is Your School Asthma Management Program Checklist* (adapted to include anaphylaxis) and the *How Asthma-Friendly Is Your School? Checklist*, both from the National Asthma Education and Prevention Program of the National Institutes of Health, on the next pages to find out how well your school supports and assists children with asthma and anaphylaxis.
- Use the *School Health Index*, an easy, free, and confidential self-assessment and planning tool from the Centers for Disease Control and Prevention. It generates a scorecard that schools can use to improve their health and safety policies and programs ([http://apps.nccd.cdc.gov/shi](http://apps.nccd.cdc.gov/shi)).

**Step 2: Establish a Written Asthma-Friendly Schools Plan**
- Use the ten-step sample policy from the National Association of State Boards of Education and the information and tools in this guide to develop a plan for your school that:
  - Contributes to the development of safer, healthier, and more supportive school environments for students with asthma and anaphylaxis.
  - Meets applicable laws and regulations, including the administration of, and student self-administration of, asthma and anaphylaxis medication.
  - Provides training for school staff to enhance their confidence and capacity to recognize and respond to an asthma or anaphylaxis incident.
  - Enables school staff to provide asthma and anaphylaxis education to students and information to parents/caregivers.
  - Improves self-management skills in students with asthma and anaphylaxis to enable them to participate fully in daily activities including exercise and sports.

**Step 3: Achieve Recognition as a Participating Asthma-Friendly School**
- Visit [www.DCSchoolAsthma.org](http://www.DCSchoolAsthma.org) to find out how your school can qualify for the *DC Asthma-Friendly Schools Award* and sign up for the *Asthma-Friendly Schools* e-newsletter with the latest tips and resources.
### How Comprehensive is Your School Asthma Management Program?

From the list below, check off those basic elements that make up the school asthma and anaphylaxis management program that you already have in place at your school.

- [ ] Identified staff person(s) to coordinate the program.
- [ ] A confidential list of students who have asthma and/or anaphylaxis.
- [ ] School policies and procedures for administering medications, including protocols for emergency response to severe asthma or allergic (anaphylaxis) episode.
- [ ] Specific action items for staff and students about asthma and anaphylaxis.
- [ ] A written action plan on file for every student with asthma and anaphylaxis, including:
  - [ ] A list of medications to be taken.
  - [ ] Steps for school staff to take in case of an asthma or anaphylaxis episode.
  - [ ] Identified triggers that can make asthma or anaphylaxis worse.
  - [ ] Emergency procedures and phone numbers.
- [ ] A strong family-physician-school partnership.

If there are gaps in the basic elements included in your current school asthma and anaphylaxis management program, or if you are looking for resources to enhance your current efforts, use the model policies, sample materials, action checklists, fact sheets, and resources included in this guide to assist you.

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How Asthma-Friendly Is Your School?

Children with asthma need proper support at school to keep their asthma under control and be fully active. Use the questions below to find out how well your school assists children with asthma:

1. Is your school **free of tobacco smoke** at all times, including during school-sponsored events?
   - Yes
   - No

2. Does the school maintain **good indoor air quality**?
   - Yes
   - No
   
   Check if any of the following are present:
   - Cockroaches
   - Conditions and objects conducive to dust mites, including high humidity, carpets, pillows, upholstered furniture and stuffed toys
   - Mold
   - Pets with fur or feathers
   - Strong odors or fumes from art and craft supplies, pesticides, paint, perfumes, air fresheners, and cleaning chemicals

3. Is there a **school nurse** in your school all day, every day? If not, is a nurse regularly available to help the school write plans and give the school guidance on medicines, physical education, and field trips for students with asthma?
   - Yes
   - No

4. Can children take **medicines** at school as recommended by their doctor and parents? May children carry their own asthma medicines?
   - Yes
   - No

5. Does your school have an **emergency plan** for taking care of a child with a severe asthma episode (attack)? Is it made clear what to do? Who to call? When to call?
   - Yes
   - No

6. Does someone **teach school staff** about asthma, asthma management plans, and asthma medicines?
   - Yes
   - No
   Does someone **teach all students** about asthma and how to help a classmate who has it?
   - Yes
   - No

7. Do students have **good options for fully and safely participating in physical education** class and recess? (For example, do students have access to their medicine before exercise? Can they choose modified or alternative activities when medically necessary?)
   - Yes
   - No

If the answer to any question is no, students may be facing obstacles to asthma control. Uncontrolled asthma can hinder a student’s attendance, participation, and progress in school. School staff, health professionals, and parents can work together to remove obstacles and to promote students’ health and education.

Contact professional health organizations for information about asthma and helpful ideas for making school policies and practices more asthma-friendly. Federal and state laws are there to help children with asthma.

Asthma can be controlled; expect nothing less.
The School Health Index (SHI) is a free self-assessment and planning guide from the Centers for Disease Control and Prevention (CDC). A team of parents/guardians, teachers, students, administrators, staff, and community members completes the self-assessment modules. Responses to items are scored to help you identify your school's strengths and weaknesses so that you can develop and carry out an action plan for improving student health.

The SHI is structured around the eight components of CDC's Coordinated School Health Program: health services, counseling, health education, health promotion for staff, healthy school environment, nutrition services, physical education, and family/community involvement. The SHI includes asthma as a health topic that cuts across these eight areas. The other health topics are physical activity/education, tobacco use prevention, nutrition, and unintentional injury and violence prevention.

Use the SHI online or download the printable version (both at http://apps.nccd.cdc.gov/shi), or request it by e-mail (healthyyouth@cdc.gov), telephone (888-231-6405), or fax (888-282-7681). When ordering, please specify either the elementary school version or the middle/high school version.

There is no single way to implement the SHI. Schools have developed many approaches, and you need to find the approach that meets your school's needs. The most essential thing to remember is that completing the SHI should be a group effort. The strength of the process comes from having individuals from different parts of the school community sit down together and plan ways to work toward improving school policies and programs. The connections that develop among SHI participants are among the most important outcomes of the process. Moreover, a small investment of time can pay big dividends in improving students' well-being, readiness to learn, and prospects for a healthy life.

**Step-by-Step SHI Implementation**

1. Review modules
2. Assemble team
3. Identify a team coordinator
4. Meet with team
5. Complete modules
6. Complete overall score card
7. Review score card and improvement plan
Sample SHI Asthma Score Card for Elementary School
Module 5: Health Services

Circle the appropriate score (3–0) for each item and calculate the total.

| CC.1 | Health services provided by a full-time school nurse | 1 | 2 | 3 | 4 |
| CC.2 | Health and safety promotion for students and families | 1 | 2 | 3 | 4 |
| CC.3 | Collaborate with staff | 1 | 2 | 3 | 4 |
| CC.4 | Establish strong links with community resources | 1 | 2 | 3 | 4 |
| CC.5 | Student medical information | 1 | 2 | 3 | 4 |
| CC.6 | Consulting school health physician | 1 | 2 | 3 | 4 |
| S.3/A.1 | Emergency response plans | 1 | 2 | 3 | 4 |
| A.2 | Identify and refer students with asthma | 1 | 2 | 3 | 4 |
| A.3 | Track students with known asthma | 1 | 2 | 3 | 4 |
| A.3 | Provide or facilitate case management for students with poorly controlled asthma | 1 | 2 | 3 | 4 |
| A.4 | Ensure immediate and reliable access to medications for students with asthma | 1 | 2 | 3 | 4 |
| A.5 | Offer asthma management education to all students with asthma | 1 | 2 | 3 | 4 |

For each column, add up the numbers that are circled and enter the sum in this row.

**TOTAL POINTS**
Add the four sums above and enter the total to the right.

**MODULE SCORE**
(Total Points / 36) X 100 %
It starts with awareness. It’s amazing what can happen when people become aware. There are probably so many people who aren’t aware of the magnitude of the problem. Or the fact that a child [with asthma] in DC is more likely to miss days of school or more likely to go to the emergency room. Awareness is the first step to action to make the best of this situation. So there is some consistency between what happens at school and what happens at home in terms of how children are being treated and if asthma attacks are being recognized early on.

— David M. Satcher, MD, PhD, former U.S. Surgeon General
Section 6

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Students 6.65
Schools can play a critical role in helping students with asthma by adopting “asthma-friendly” policies and procedures.

— Susan Wooley, PhD, CHES, FASHA, Executive Director, American School Health Association

Ensure adequate licensed school nurse/health staff time in each school. The National Association of School Nurses recommends a minimum ratio of one school nurse for every 750 students.

Involve your staff in developing a school asthma and anaphylaxis management program as a cooperative effort with students, parents/guardians, and healthcare providers.

Provide and monitor regular (at least annually) training and education for staff regarding asthma and anaphylaxis, including risk reduction and emergency procedures.

Work with school nurses, other medical professionals, and parents/guardians to develop and implement policies that ensure a healthy environment for students with asthma and anaphylaxis. Be aware of legal issues and specific legislation regarding asthma. Every school should have policies in place for the following areas:

- Medication administration
- School bus idling
- Animals in school
- Indoor air quality
- Smoke-free environment
- Pesticide use

Encourage regular communication with parents/guardians and healthcare providers to improve school health services. Obtain written permission for school health staff and healthcare providers to share student health information.

Designate one person, preferably the school nurse, to be responsible for maintaining students’ asthma and anaphylaxis action plans and for educating appropriate staff members about each student’s individual action plans. Have a backup plan for emergencies in case the designee is not immediately available.

Evaluate your schools’ asthma and anaphylaxis strategies and activities regularly to ensure that the students needs are met.

Be able to recognize and respond to signs of an asthma or anaphylaxis episode.

Allocate sufficient resources to manage students with asthma and anaphylaxis. This includes having additional life-saving medications available at school in case of emergencies.

Work with local communities and community organizations to educate families about asthma and anaphylaxis symptoms.

Provide health alerts and guidelines for outside play to protect students from extreme temperatures, high pollen counts, air pollutants, insect stings, and other conditions that may affect students with asthma or anaphylaxis.

Provide opportunities for safe, enjoyable physical activity. Encourage full participation in physical activities when students are well. Provide modified activities as indicated by the Asthma Action Plan or Allergy/Anaphylaxis Action Plan, Individual Health Plan, 504 Plan or Individualized Education Plan, as appropriate, and ensure that students have access to medications before activity.
Sample Letter to Parents/Guardians

Date __________________________

Dear Parent /Guardian of __________________________:

Our school encourages students who have asthma or significant allergies to learn how to manage their condition so that they can fully participate in school and physical activities and live a healthy, active life. If your child has asthma, please make an appointment with your child’s healthcare provider or asthma/allergy specialist for a Well-Asthma Check-up. Your child should have this type of asthma check up at least twice a year. Children with allergies also should be seen regularly by their healthcare provider.

In addition, please let us know if your child has asthma, is at risk for anaphylaxis (a life-threatening severe allergic reaction to certain foods or other triggers), or has any other condition so we can help your child and be prepared in case of emergency.

It also is important for you to know that:

- Your child may be administered medications by a school nurse or trained staff member, and
- Your child may carry and self-administer his/her inhaler (for asthma) or epinephrine auto-injector (for anaphylaxis) in school.

You must provide written consent every year in the form of:

- For DC Public Schools, a Student Health Authorization Form filled out and signed both by you and your child’s healthcare provider is required to allow the school nurse or authorized staff member to administer a medication to your child (available at www.k12.dc.us and as part of the preferred Asthma Action Plan form).

Please ask your child’s healthcare provider to fill out the appropriate forms and send or bring them to the school health office at your child’s school.

We encourage you and your child to meet with the school nurse to review your child’s needs and any concerns that you might have.

Thank you!

Principal ________________________________  Phone __________________ Fax __________________

School Nurse ____________________________
Dear Parent/Guardian:

_________________________ is proud to be involved in the DC Asthma-Friendly Schools Program and is working towards adopting strategies which actively support the whole school community in the management of asthma, allergies, and anaphylaxis (a severe allergic reaction).

Accurate and up-to-date medical records for students with asthma, allergies, and anaphylaxis are an essential component of becoming “Asthma Friendly,” and we seek your assistance in updating our records. Your child needs to have a plan in place for managing asthma or anaphylaxis while at school, at school-sponsored activities, and on school-sponsored transportation.

To support our school in this initiative, we ask that you and your child’s doctor complete the attached _____________ and return it to the School Nurse by _____________.

Asthma affects more than one in ten DC students. It is a common cause of school absenteeism and a major cause of childhood emergency room visits. If you wish to learn more about this condition at a Parent Information Session, please complete the form below and return it together with the _____________.

Please contact the School Nurse at _______________ if you have any questions related to this form or to the Parent Information Session.

Yours sincerely,

School Nurse ______________________________________________________________________

I am interested in attending a Parent Asthma Information Session.

Name __________________________________________________________________________

Address ________________________________________________________________________

Work Phone _______________ Home Phone __________________

Cell Phone __________________ Preferred Day/Time ____________________
Sample Awareness Survey to Parents/Guardians

Dear Parent/Guardian:

**Does your child:**

- ☐ Cough during the day or night?
- ☐ Have hard time breathing or get short of breath?
- ☐ Wheeze (a soft whistling sound while breathing)?
- ☐ Complain of a tight chest or feel a heavy pressure against his/her chest?
- ☐ Get out of breath or cough or wheeze after running, playing or exercising?
- ☐ Have coughing or breathing problems that are sometimes worse at night?

**If you answered yes to any of these questions, your child may have asthma.**

**Make an appointment with your child’s health care provider.**

**Asthma can be well controlled!**

Your child can live a healthy, active life with asthma.

**Prevent asthma problems before they start by doing the following things:**

- ☐ Find one main health care provider (doctor or nurse practitioner) and go in for asthma check-ups at every 3-6 months.
- ☐ Ask for an **Asthma Action Plan** and use it to help keep asthma well controlled.
- ☐ Talk to the school health office staff about your child’s asthma and asthma medications.
- ☐ Avoid asthma triggers: things that make asthma worse (smoke, furry animals, dust, mold, chemicals, etc.).
- ☐ Get a flu shot every fall.

**Your school nurse can help you find the answers.**

For more information, call your child’s school at ____________ and ask for the school nurse.

Adapted from letter provided courtesy of the Healthy Learners Asthma Initiative/Minneapolis Public Schools, Health Related Services.
School nursing is a specialized practice of professional nursing that advances the well-being, academic success, and life-long achievement of students. To that end, school nurses facilitate positive student responses to normal development; promote health and safety; intervene with actual and potential health problems; provide case management services; and actively collaborate with others to build student and family capacity for adaptation, self management, self advocacy, and learning.

— National Association of School Nurses
6.8 Managing Asthma and Allergies in DC Schools

Be alert to students who may have symptoms of asthma or anaphylaxis but lack proper diagnosis. Interview them to assess the problem. You also can use the validated Parent or Guardian Questionnaire and Student Questionnaire (ages 7-13) from the American College of Allergy, Asthma & Immunology (ACAAI) (www.acaai.org/Member/Practice_Resources/schoolscreen.htm) and the Asthma Control Test™ from GlaxoSmithKline and QualityMetric Incorporated for ages 4-11 and 12 and over (www.asthmacontrol.com). These tools also are available in Spanish. Refer students to their healthcare provider for further evaluation.

Work to obtain written action plans for students with asthma and anaphylaxis in coordination with the student’s parents/guardians and healthcare provider.

Develop emergency care plans for other school staff in coordination with the student’s parents/guardians and healthcare provider.

Share student’s written action plan (or separate emergency plan) with appropriate staff in accordance with the Family Educational Rights and Privacy Act (FERPA) and Health Insurance Portability and Accountability Act of 1996 (HIPAA) guidelines or with parental/guardian permission.

Monitor students for problems with asthma or anaphylaxis.

- Identify students whose asthma is not well-controlled or who are at risk for severe allergic reactions through observation; interviews with students, parents/guardians, and school staff; absenteeism lists; and assessment tools, e.g., peak flow meters, Asthma Control Test™ and the National Heart, Lung, and Blood Institute's Is the Asthma Action Plan Working? – A Tool for School Nurse Assessment (www.nhlbi.nih.gov/health/prof/lung/asthma/asth_act_plan_frm.htm).
Help students to control asthma using best practices.

- Assess symptoms and check peak flow readings on students with asthma, periodically or as symptoms or other issues (e.g., avoidance of exercise) arise.

- Perform physical assessments, including lung auscultation (listening with a stethoscope), with students who have symptoms of asthma.

- Assess the social, emotional and mental health needs of students with asthma.

- Administer medication according to Asthma Action Plan or other medication orders.

Efficiently manage acute episodes. Work with school on protocols for asthma and anaphylaxis management, including emergency response procedures and staff roles.

Ensure that medicines are within-date and readily available if needed.

Establish a back-up plan. Work with your school principal/administrator to identify back-up staff that you can train to administer asthma medications and provide first aid for asthma when a school nurse is not in the school, on school transportation, or at a school-sponsored event. Each building should have more than one individual trained to safely administer medications and provide first aid for asthma and anaphylaxis!

Keep complete records.

- Complete or initiate a record that documents medication administration, asthma assessments (e.g., lung sounds, peak flow readings, symptoms), education provided, correspondence/communication with parents/guardians and healthcare providers, and narrative documentation on all students taking asthma medication and/or students who need documentation of peak flow/symptoms or asthma education.

- Document asthma visit on your daily log or other health office visit log, and if pertinent, in the Student Health Record. Document that a note/form/telephone contact was made with the parents/guardians.

- Review daily log/record of asthma visits and any asthma symptom visits weekly. File copies of notifications to parents/guardians in the Student Health Record.

Notify parents/guardians and healthcare providers as needed and coordinate care.

- Notify parent/guardian as soon as possible when a student is seen in the health office with asthma or anaphylaxis symptoms and/or distress. Use a written note or form to document communication with parents/guardians.

- Contact parents/guardians if a student is seen in the health office two or more times a week with asthma symptoms, as this may indicate poor control.
• Use the appropriate referral process to notify the healthcare provider when a student is seen in the health office two or more times a week with asthma symptoms or if there are additional asthma control or other health management concerns. The Student Referral Form that follows is used in DC public and public charter schools.

• Participate in planning and placement teams and 504 meetings for students who have asthma and anaphylaxis.

☐ **Identify and document whether students and/or their families use tobacco and advise them and assist them to quit.** *Treating Tobacco Use and Dependence. Quick Reference Guide for Clinicians,* issued by the Agency for Healthcare Research and Quality in June 2000, summarizes evidence-based guideline strategies for helping patients to quit (www.ahcpr.gov/path/tobacco.htm). DC also has a tobacco cessation helpline at 1-800-QUIT-NOW.

☐ **Spread the word.** Advocate for a healthy and asthma-friendly environment in your school.

☐ **Provide asthma education to students, staff, and families**
  
  • Communicate brief key asthma education messages to students, parents/guardians, administrators, and staff on the telephone, in one-on-one encounters, and at staff or parent/teacher association meetings. Use programs available through the American Lung Association of the District of Columbia (e.g., *Open Airways for Schools*), the Allergy and Asthma Foundation of America (e.g., *Meeting-in-a-Box Presentation Series: Box #4: Asthma Management at School*), and others and collaborate with outside agencies that provide asthma education in home and community settings.
School Health Program  Student Referral Form

Directions: Please complete this student referral form for all referrals made for care and services. Upon completion, please fax the referral to the Referral Coordinator at (202) 675-5718. Should you not have access to a fax machine, please call the Referral Coordinator at (202) 675-5702 to make a verbal referral and follow-up with a hard copy of the referral as soon as possible. The Referral Coordinator will log in each verbal referral and assist with monitoring referral outcomes.

Date ____________________________
Student’s Last Name ______________________________ First Name ______________________________
Sex  □ Male  □ Female  DOB ______________________________ Grade ______________________________
Address ______________________________________________________________________________
Parent/Guardian Name ____________________________________________________________________
Contact Number   (H) ______________________________ (W) ______________________________

To be completed by the School Nurse - Referral

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Referral Source: CNMC  Principal/TANF  Partner Clinic: (identify)
Private MD  Principal/TAPP  Other: __________

Reason for Referral  (Include results of screening tests, assessment findings and/or concerns) ______________________________

Reason for referral has been explained to student/parent (required) ______________________________

Expected Outcome of Referral  (What service(s) do you recommend?) ______________________________

Referral completed by ______________________________ Title ______________________________ Date __________
Phone Number ______________________________ Location ______________________________ School ______________________________
Consent for Referral (TAPP only) ______________________________ Parent/Student Signature ______________________________ Date __________

To be completed by the Referral Coordinator - Referral

□ Services obtained  □ Services were not obtained  Explain ______________________________

Additional Comments ______________________________

Completed by ______________________________ Referral Coordinator ______________________________ Date __________

Source: Children's National Medical Center, Washington, DC
CSS 812A  Revised 3/07
It’s important for parents of children with asthma to communicate with the school. If I know what sets off a student’s asthma, I can plan ahead to prevent problems. Most teachers are willing to do anything they can to help students stay healthy and safe so they can come to school and learn.

I know that students with asthma have an increased struggle when they catch a common cold. Parents should remind their children to wash their hands regularly and to dress in layers because the temperature fluctuates in buildings and outside and students should be prepared to go out.

— Christine Whitley, special education teacher, “Advice from a Teacher,” excerpted from the Allergy & Asthma Network Mothers of Asthmatic’s Indoor AllRepair™ at School: Helping Parents, Students and Teachers Breathe Easier. Available at www.aanma.org/schoolhouse.
Teachers are usually the first adults to notice when a student’s asthma is flaring up or a student is having a potentially life-threatening systemic allergic reaction (anaphylaxis). A teacher who knows these signs and who makes an effort to work with the school nurse, student, and parent/guardian will find the student to be more cooperative, less likely to be fearful of having an asthma episode, and more likely to achieve his/her own peak academic performance.

☐ Know which students in your class have asthma and anaphylaxis. A conference with the parent/guardian, student, and school nurse may be needed. Discuss the student’s management and medication needs and what environmental triggers must be avoided.

☐ Know what to do in an emergency.

- Have an asthma and anaphylaxis emergency care plan in the classroom.
- Know the early warning signs of an asthma episode and anaphylaxis reaction. Provide prompt care for students who are having breathing difficulty.

☐ Know which students have exercise-induced asthma and follow instructions before physical activity, including warm-up period before exercise and pre-treatment with quick-relief (rescue) inhaler as directed by healthcare provider. Allow student to engage in quiet activity if recovery from an acute asthma episode (or viral infection) precludes full participation.

☐ Watch out for signs that asthma is out of control.

- Consult with the school nurse and the student’s parents/guardians if you notice a student chronically coughing in class or having difficulty participating in physical activities. The student may need to be assessed by a healthcare provider.
- Advise the school nurse and the student’s parents/guardians if a student seems unusually tired, inattentive, or hyperactive.
Monitor the student who is using his/her inhaler and ask if the inhaler relieved the student’s symptoms. Inform the school nurse if a student is using his/her inhaler more than twice a week, or if the student’s technique needs improvement (e.g., using a spacer or holding chamber with the inhaler is preferred method). Always keep the student in the communication loop.

Know the possible side effects of asthma medications. Refer any problem to the school nurse and parent/guardian.

Reduce triggers in the classroom. Explain that this is a school policy and avoid singling out a student who has asthma or anaphylaxis as the reason for the restriction.

- Prohibit students from bringing in their cats, dogs, birds or other furry, feathered pets for show and tell. This is a great opportunity to teach classmates about asthma and anaphylaxis and what triggers episodes.

- Avoid strong odors in class (e.g., dry erase markers, paints, magic markers, perfume, hairspray, glue/paste, or chemicals) that might cause an allergic or asthmatic reaction and remind students, parents, visitors and volunteers to do the same.

Educate classmates about asthma and anaphylaxis so they will be more understanding of students with these conditions and know when to get help from an adult.

Work closely with the school nurse to support policies and procedures that help a child with asthma participate fully in school each and every day. Be proactive!
A student may exhibit or report one or more of these signs and symptoms during an episode of asthma or anaphylaxis (a severe systemic allergic reaction). Take action RIGHT AWAY to avoid a more serious medical emergency.

1. Have the student STOP whatever activity he or she is doing.

2. Call or send someone else to get help. DO NOT leave the student alone!

3. Follow the student’s Asthma Action Plan, Anaphylaxis Action Plan, or emergency plan.

**Changes in Breathing**
- Coughing
- Wheezing (whistling sound while breathing)
- Mouth breathing
- Shortness of breath
- Rapid breathing

**Other Signs and Symptoms**
- Itchy neck, chin, or other body part
- Clipped speech, short choppy sentences
- Blue or gray skin, lips, or nail beds
- Difficulty swallowing
- Nausea/vomiting
- Hives/skin rash

**Verbal Complaints**
- Chest tightness
- Chest discomfort (hurts)
- Cannot catch breath
- Dry mouth
- Neck ‘feels’ funny
- Doesn’t feel well
Common Asthma and Anaphylaxis Triggers

A trigger is anything which brings on asthma or anaphylaxis symptoms or makes them worse. Get to know the individual’s unique set of personal triggers so precautions can be taken to avoid them where possible or to be prepared to respond quickly when signs or symptoms appear (rescue inhalers for asthma, epinephrine auto-injectors for anaphylaxis). Below are common triggers.

**Allergens**

**Pollens** – from trees, ragweed, flowers, grasses, including freshly cut grass

**Molds** – mold spores travel through air and grow on moist surfaces

**Animals with Fur or Feathers** – from skin flakes, urine, and saliva

**Dust Mites** – high humidity, carpets, pillows, upholstery, stuffed toys

**Pests** – cockroaches and rodents (droppings, saliva, body parts)

**Food** – e.g., dairy, eggs, seafood, peanuts, other nuts, wheat, soy, sulfites

**Irritants**

**Cigarette Smoke** – even smoke on clothing can trigger symptoms

**Strong Odors and Fumes** – perfume, hairspray, air fresheners, cleaning products, pesticides, magic markers, science and art supplies, paint, etc.

**Airborne Particles** – chalk dust, talcum powder, etc.

**Ground-Level Ozone** – ozone levels peak in May-September

**Pollutants** – emissions from idling buses, cars, and trucks, industrial plants

**Other Triggers**

**Viral Respiratory Infections** – colds, bronchitis, influenza (“flu”), viral pneumonia, sinus infections; annual flu shot generally recommended

**Exercise** – running or playing hard, especially in cold weather; warm-up/cool-down periods recommended; can be pre-treated with medication

**Medication** – aspirin and other non-steroidal anti-inflammatory drugs (NSAIDs), beta blockers (used for migraine headaches, etc.)

**Weather Changes** – temperature changes, humidity, very cold or very hot

**Intense Emotions** – laughing or crying hard, anxiety, fear, etc.

**Insect/Bee/Wasp Stings** – avoid contact, restrict eating areas to inside

**Gastroesophageal Reflux Disease** – reflux treatment can help asthma
Tips For Teachers: Promoting Healthy Schools

There are some things that teachers can do to help improve the indoor air quality in their classrooms and school. Recognizing that proper building maintenance is a school department function, there are some suggestions that we’d like to offer teachers that will help enhance those efforts:

**Locate** your ventilation unit. Find out if it is working and bringing fresh air into your classroom. Don’t obstruct your vent with books, supplies, furniture or dust. Try not to turn it off, even if it’s a bit noisy. If it’s not working, ask your custodian to fix it and also inquire when the filters were last changed.

**Avoid** bringing pets, plants, rugs and furry objects into the classroom. Pets have dander. Plants have spores and their soil breeds mold. Rugs and furry objects retain dust mites, molds and odors. These are allergens and asthma triggers.

**Avoid** using chemicals. Please don’t bring in your own cleaning products, especially sprays and air fresheners. Ask your facilities manager to look into buying environmentally preferable cleaning products. Use odorless markers and art supplies. Staff and students should also refrain from wearing fragrances. These can be respiratory irritants.

**Report** hazards and water leaks as soon as they appear. Make sure they get fixed. Dampness leads to mold problems.

**Clean** up food and drinks well. Crumbs and liquids attract pests. Keep food in closed containers if they must be stored. Use covered garbage cans. Encourage the practice of children cleaning out desks and getting rid of any food-related garbage. Better yet, have them eat in the cafeteria. Don’t spray pesticides. They’re unhealthy.

**Refrain** from storing materials in cardboard containers. Paper products get moldy and dusty. Use plastic or metal ones instead.

**Consider establishing an Environmental Health and Safety Committee in your school. Use EPA’s Tools for Schools as your guide: [www.epa.gov/iaq/schools](http://www.epa.gov/iaq/schools).**
Clean Classroom Checklist: For an Asthma-Friendly Environment

☐ Mop and damp dust regularly.

☐ Vacuum carpets and upholstered furniture regularly (wood, tile, or vinyl floor coverings are preferable).

☐ Wash stuffed toys regularly.

☐ Keep food stored in air tight containers.

☐ Report immediately signs of “pests” such as cockroaches and rodents.

☐ Take home clothing for washing regularly.

☐ Use heating and ventilation to maintain a comfortable room temperature.

☐ Report unusual odors immediately.

☐ Have in place an effective procedure for reporting maintenance concerns.

☐ Report mold and moisture problems immediately, and clean them up within 24 hours. (i.e., condensation, discoloration, or bubbling or peeling of the paint.)
Pets in the Classroom

The dander, saliva, and waste from furry and feathered animals are allergens and can trigger an asthma episode or severe allergic reaction.

If pets are in the classroom, there must be clear and understandable rules about their management.

- Students must wash hands after handling a pet.
- Disposable gloves should be available for use.
- Faces should not go next to an animal nor should animals be kissed.
- Pets should remain in cages whenever possible, not roam freely about the room.
- Cages need to be located away from ventilation systems and off carpets.
- Cages must be cleaned regularly. (Remember the gloves!)
- Animal waste must be disposed of properly.

* Adapted from The Pediatric/Adult Asthma Coalition of New Jersey. www.pacnj.org. Source: Managing Asthma Triggers Training Manual: Keeping Students Healthy: Air Quality Issues from the National Association of School Nurses, Written by Dorothy Reilly, MSN, BSN, CSN and funded through a grant from the U.S. Environmental Protection Agency, 2000, Page 3-c.
Physical Education Instructors, Coaches, and Athletic Trainers

The role of physical education teachers is in some ways probably the first line of recognition of children who have problems with their asthma...They can really help these children.

— David Evans, PhD, Columbia University, a pioneer in effective methods for teaching patients and healthcare professionals about asthma.
Encourage exercise and full participation in sports for students with asthma and anaphylaxis. When asthma is well controlled and care is taken to avoid anaphylaxis triggers, most students with these conditions can participate in physical activity. But it is also important to recognize and respect their limits. Plan to adjust the type, pace, or intensity of activities during extreme weather, the pollen season, poor air quality, or when a student has allergy symptoms or a recent illness. Make sure the student’s medication is easily accessible and know what to do in the event of an asthma attack or severe allergic reaction.

☐ Identify those students who have a diagnosis of asthma or anaphylaxis or a history of asthma symptoms with physical activity or of allergic reactions. Ask your school nurse or use student health information.

☐ Check the student’s Asthma Action Plan, Anaphylaxis Action Plan, or emergency care plan and follow it. Consult with the school nurse to learn more about these plans and which students have them.

☐ Communicate with the school nurse and the student’s parents/guardians about asthma and anaphylaxis management. Take appropriate steps to inform a student’s parents/guardians if the student frequently experiences asthma symptoms with physical activity, because a re-evaluation by the student’s healthcare provider may be necessary.

☐ Keep student’s rescue medications readily available (typically an inhaler for asthma and an EpiPen® or Twinject® auto-injector for anaphylaxis). Even with precautions, breathing problems may occur. Providing medicine quickly can stop an episode or prevent it from getting worse.

☐ Encourage students to prepare for physical exercise:
  • Ensure that students with asthma have taken their pre-exercise medication if prescribed (usually using a rescue inhaler, preferably with a spacer) 15 minutes prior to exercise.
• Encourage a period of warm up activity before exertion (e.g., walking, flexibility exercises, or other low-intensity activities).

• Check the student’s action plan or emergency care plan for information about his or her asthma or anaphylaxis triggers, and help the student to avoid them when possible.

**Consider modified exercise as needed:**

• When a student is having mild symptoms or when triggers are present, consider modifying the intensity, location, or duration of physical activity. Very intense, continuous activity is more likely to cause asthma symptoms than intermittent or very light or non-aerobic exercise (e.g., walking, some field events, or weight training). There is no perfect physical activity for people with exercise-induced asthma. All sports are tolerated well when a student's asthma is under control.

• When environmental conditions are bad (e.g., ozone alerts, high pollen counts, freshly cut or sprayed fields) students with asthma may need to avoid being physically active outdoors.

• If a student is unable to fully participate, help him/her find ways to participate in a less strenuous manner such as being the scorekeeper, equipment handler, etc. until ready to participate fully.

**Never encourage a student or student athlete with asthma to “tough it out” and don’t allow other children to tease or encourage a child who is wheezing to continue the activity.**

**Respect the student’s right to confidentiality and privacy.** Discussion and questions about how he/she feels (in detail) should be asked quietly and with discretion.
Athlete Data and Emergency Treatment Information

Name (Last, First MI) ___________________________ Athlete ID # (Enter DCPS Student # or last 4 digits of SS#) ________

Street ___________________________ City ___________ Zip ___________

Gender ☐ Male ☐ Female Date of Birth ___________________________ Grade __________________

School __________________________________________ SY ___________________________

Sports
☐ Baseball – JV ☐ Crew ☐ Lacrosse ☐ Soccer – Varsity
☐ Baseball – Varsity ☐ Cross Country ☐ Indoor Track ☐ Swimming
☐ Basketball – JV ☐ Football – JV ☐ Outdoor Track ☐ Tennis
☐ Basketball – Varsity ☐ Football – Varsity ☐ Softball ☐ Volleyball
☐ Cheerleading ☐ Golf ☐ Soccer – JV ☐ Wrestling

Emergency Contact

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Insurance & Billing

Insurance Co. & Policy # ___________________________ Insurance Co. Phone __________________

Policy Holder’s Name ___________________________ Effective Date __________________

Do you have any of the following conditions (check all that apply)?

☐ Anemia ☐ Asthma ☐ Allergies ☐ Diabetes
☐ Epilepsy ☐ High Blood Pressure ☐ Other ___________________________

Do you wear contacts or glasses? ☐ Contacts ☐ Glasses

When was your last tetanus booster? Month/Year ___________________________

List all other conditions and all medications currently taken ___________________________

_________________________________________________________________

Should it become necessary for this student to require medical treatment while participating in an interscholastic athletic event/trip of practice session, I hereby authorize the District of Columbia Public School’s health care providers (athletic trainers, team/game physicians and emergency medical technicians (EMTs) to provide athletic medical care to my child and/or obtain appropriate medical services. Furthermore, if DCPS personnel are unable to reach those designated above, I give my consent to the DCPS athletic health care providers to take my child to a hospital, emergency care center or available physician.

Signature ___________________________ Date __________________
What to do for Exercise-Induced Asthma?

What can a coach, referee or PE teacher do to assist athletes with EIA?

- Ensure athletes with asthma take their rescue (quick-relief) inhaler before starting aerobic activity (as directed by their healthcare provider) and again if they start to experience asthma symptoms during the athletic event.

- If an athlete begins to experience an asthma or anaphylaxis attack, follow the “Asthma & Anaphylaxis First Aid in the School Setting” guidelines.

- Have athletes warm up for 15-20 minutes (generally) doing light, intermittent exercises.

Winter or cold-weather sports, follow these additional guidelines:

- Have athletes with asthma warm up longer, for 30-60 minutes.

- Wear a mask or scarf to warm cold air before breathing it.

- Take asthma medications 15-30 minutes before skiing, snowboarding, ice skating, etc.
Recognition, Prevention and Management of Asthma in Athletics

The National Athletic Trainers’ Association’s (NATA) position statement on management of asthma in athletes appeared in its entirety in the September 2005 issue of the Journal of Athletic Training. NATA offers the following recommendations for certified athletic trainers (ATCs) and other health care professionals to follow:

I. Be aware of the major asthma signs and symptoms:
   - Coughing
   - Wheezing
   - Tightness in the chest (or chest pain in children)
   - Shortness of breath (dyspnea)
   - Breathing difficulty at night
   - Breathing difficulty upon awakening in the morning
   - Breathing difficulty when exposed to certain allergens or irritants
   - Exercise-induced symptoms such as coughing or wheezing
   - An athlete who is well conditioned but does not seem to be able to perform at a level comparable with other athletes who do not have asthma
   - Family history of asthma
   - Personal history of atopy (where the reaction or allergy can be found in other areas of the body, e.g. ingesting something and then breaking out in a rash) including atopic dermatitis/eczema or hay fever (allergic rhinitis)

II. Provide guidelines for referral so athletes with asthma, and/or those suspected of having it, can receive a thorough evaluation. Athletic trainers and other health care professionals should:
   - Incorporate an asthma action plan for managing and referring athletes who may experience significant or life-threatening attacks, or breathing difficulties, into their existing emergency action plans.
   - Have pulmonary function measuring devices, such as peak expiratory flow meters (PFMs), at all athletic venues, and be familiar with how to use them.
   - Encourage well-controlled asthmatics to engage in exercise to strengthen muscles, improve respiratory health and enhance endurance and overall well being.
   - Refer athletes with atypical symptoms; symptoms that occur despite proper therapy; or other complications that can exacerbate asthma (e.g., sinusitis, nasal polyps, severe rhinitis, gastroesophageal reflux disease [GERD] or vocal cord dysfunction), to a physician with expertise in sports medicine. Such doctors include allergists, ears, nose and throat physicians, cardiologists and pulmonologists trained in providing care for athletes.
III. Describe management plans to prevent and control asthma attacks when they occur. ATCs and coaches should:

- Consider providing alternative practice sites for athletes with asthma. Indoor practice facilities that offer good ventilation and air conditioning should be taken into account for at least part of the practice.

- Schedule practices during times at which pollen counts are lowest (e.g., in the evening during the peak of ragweed pollen season).

- Encourage players with asthma to have follow-up examinations at regular intervals with their primary care physician or specialist. These evaluations should be scheduled at least every six to 12 months.

IV. Educate ATCs and athletes about pharmacological and non-pharmacological therapies and techniques to help control asthma:

- Athletes with exercise-induced asthma (EIA) may benefit from use of short- and long-acting $\beta_2$-agonists. These agents can be used for prophylaxis during practice and game participation.

- When used to prevent EIA, a short-acting $\beta_2$-agonist, such as albuterol, should be inhaled 10 to 15 minutes prior to exercise.

- The excessive need for short-acting $\beta_2$-agonists therapy during practice or an athletic event should cause concern. A physician should evaluate the athlete before returning to participation.

- Long-acting $\beta_2$-agonists should, in general, only be used for asthma prophylaxis and control. Usually, the long-acting agents are combined with an inhaled steroid. Athletes with past allergic reactions or intolerance to aspirin or non-steroidal anti-inflammatory drugs (NSAIDs) should be identified and provided with alternative medicines, such as acetaminophen.

About the NATA: Certified athletic trainers (ATCs) are unique health care providers who specialize in the prevention, assessment, treatment and rehabilitation of injuries and illnesses that occur to athletes and the physically active. The National Athletic Trainers’ Association represents and supports 30,000 members of the athletic training profession through education and research. www.nata.org. NATA, 2952 Stemmons Freeway, Ste. 200, Dallas, TX 75247, 214-637-6282; 214-637-2206 (fax).


Photo: Monaghan Medical Corporation
What is the Air Quality Index (AQI)?

The AQI tells us how polluted the local air is and when it is unhealthy to breathe. Children and adolescents are at greater risk from poor air quality because they are more active outdoors and their lungs are still developing. Poor air quality also particularly affects individuals with heart and lung conditions (including asthma) and older adults. Even healthy people can experience problems associated with high levels of air pollution.

The AQI, like an air quality “thermometer,” translates daily air pollution concentrations into a number on a scale between 0 and 500. An AQI of 101 to 150 is “unhealthy for sensitive groups,” including children with asthma. The U.S. Environmental Protection Agency (EPA) calculates the AQI for five major air pollutants regulated by the Clean Air Act: ground-level ozone, particulate matter, carbon monoxide, sulfur dioxide, and nitrogen dioxide. Each of the five pollutants has a separate AQI scale.

The Washington region is a non-attainment area for ground-level ozone and fine particles (PM$_{2.5}$) according to federal health standards.

- **Ozone**, a gas formed when the sun heats polluted air, generally peaks in DC between May and September. Ozone levels also tend to peak from mid-afternoon to mid-evening. If ozone levels are high, that’s the time to reduce physical exertion (see AQI Activity Chart on following page).

- **Carbon monoxide** may be high in winter because the cold weather makes it difficult for car emission control systems to operate effectively.

- **Fine particles (soot)**, from vehicles and industries, can be high anytime.

How do I know when to take action?

The Metropolitan Washington Council of Governments provides daily reports and forecasts of air quality at www.mwcog.org/environment/air/forecast. Sign up for alerts via e-mail or text messaging or check the news for bad air days.

### The AQI Air Quality Scale

<table>
<thead>
<tr>
<th>GREEN</th>
<th>YELLOW</th>
<th>ORANGE</th>
<th>RED</th>
<th>PURPLE</th>
<th>MAROON</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td>Moderate</td>
<td>Unhealthy</td>
<td>Unhealthy</td>
<td>Very Unhealthy</td>
<td>Hazardous</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>0</th>
<th>51</th>
<th>101</th>
<th>151</th>
<th>201</th>
<th>301+</th>
</tr>
</thead>
</table>
### Recommendations for Schools and Others on Poor Air Quality Days*

**Air Quality Index (AQI) Chart for Ozone (8-hour standard)**

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>GREEN 0 – 50 Good</th>
<th>YELLOW 51 – 100 Moderate</th>
<th>ORANGE 101 – 150 Unhealthy for sensitive groups</th>
<th>RED 151 – 200 Unhealthy</th>
<th>PURPLE 201 – 300 Very Unhealthy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recess (15 minutes)</td>
<td>No Restrictions</td>
<td>No Restrictions</td>
<td>Make indoor space available for children with asthma or other respiratory problems</td>
<td>Any child who complains of difficulty breathing, or who has asthma or other respiratory problems, should be allowed to play indoors.</td>
<td>Restrict outdoor activities to light to moderate exercise.</td>
</tr>
<tr>
<td>Physical Education (1 hour)</td>
<td>No Restrictions</td>
<td>No Restrictions</td>
<td>Make indoor space available for children with asthma or other respiratory problems.</td>
<td>Any child who complains of difficulty breathing, or who has asthma or other respiratory problems, should be allowed to play indoors.</td>
<td>Restrict outdoor activities to light to moderate exercise not to exceed one hour.</td>
</tr>
<tr>
<td>Scheduled Sporting Events</td>
<td>No Restrictions</td>
<td>Exceptionally sensitive individuals should limit intense activities.</td>
<td>Individuals with asthma or other respiratory/cardiovascular illness should be medically managing their condition. Increase rest periods and substitutions to lower breathing rates.</td>
<td>Consideration should be given to rescheduling or relocating event.</td>
<td>Event should be rescheduled or relocated.</td>
</tr>
<tr>
<td>Athletic Practice and Training (2 - 4 hrs)</td>
<td>No Restrictions</td>
<td>Exceptionally sensitive individuals should limit intense activities.</td>
<td>Individuals with asthma or other respiratory/cardiovascular illness should be medically managing their condition. Increase rest periods and substitutions to lower breathing rates.</td>
<td>Activities over 2 hours should decrease intensity and duration. Add rest breaks or substitutions to lower breathing rates.</td>
<td>Sustained rigorous exercise for more than one hour must be rescheduled, moved indoors or discontinued.</td>
</tr>
</tbody>
</table>

* These recommendations assume that most of a child's outdoor exposure occurs while at school or going to and from school. Some children engage in after-school activities (work and/or play) that can increase their daily exposures beyond four hours and should follow the guidance and advice offered by U.S. EPA in their cautionary health statements for ozone exposures. These recommendations apply only to ozone exposures and may require modification when exposed to significant levels of multiple pollutants that affect the respiratory system…should they occur.

At age 12, our son, Christopher, was running in the school playground and suddenly could not breathe. Other students saw his distress but laughed and taunted him, believing he was just acting silly. One girl, however, knew that our son was in serious trouble because she also had asthma. Her emergency inhaler was used to rescue our son, and we believe it saved his life.

— Dolores and Roger Blegen, foster care parents
Be aware of which students you are supervising have asthma and/or anaphylaxis. Consult with the school nurse or health staff and request an emergency plan for the student based on the student’s Asthma Action Plan or Anaphylaxis Action Plan.

- Learn the signs of a developing asthma episode and allergic reactions.
- Do not delay getting medical help for a child with any breathing difficulties.
- Do not leave a student having an asthma or anaphylaxis episode alone!

Keep student’s rescue medications readily available (typically an inhaler for asthma and an EpiPen® or Twinject® auto-injector for anaphylaxis). Even with precautions, breathing problems may occur. Learn how to assist students with rescue medication if needed. Providing medicine quickly can stop an attack or prevent it from getting worse.

Check to see if exercise is an issue for the student. If so, the student should use his/her reliever medication as directed 15 minutes prior to strenuous activity. A student who does not carry an inhaler but has authorization to be administered medication will need to receive the medication from the school nurse or other trained staff member.

Know what else may trigger an asthma attack or anaphylaxis reaction. For example, if the student is allergic to bee, wasp or other insect stings, make sure to remove all insect nests on or near school property, store garbage properly in covered containers, restrict eating areas to inside, and do not permit open soft drink cans outside. Keep students away from idling buses, trucks, and cars that can irritate their airways.

Encourage students with asthma or anaphylaxis to engage in sports, but recognize and respect their limits. Allow the student to adjust the type, pace, or intensity of activities during extreme weather, the pollen season, poor air quality, or when the student has asthma or allergy symptoms or recent illness.

Provide longer warm-up and cool-down activities for vigorous activity, especially in cold weather. Ask student to wear a mask or scarf to warm cold air before breathing it.

Check ozone/air quality levels prior to outside activity. High pollen or high ozone levels can cause exercise-induced asthma symptoms in most students with asthma.

Never encourage a child or athlete with asthma to “tough it out” and don’t allow other children to tease or encourage another who is wheezing to continue the activity.

Respect the student’s right to confidentiality and privacy. Discussion and questions about how the student feels (in detail) should be asked quietly and with discretion.
At work, you come into contact with students who have asthma and/or anaphylaxis. Thus, it is essential for you to understand how certain common foods, like peanuts, eggs and milk; pests like cockroaches and rodents; and even latex gloves can start a severe asthma episode or allergic reaction. Learn what you can do to help protect students with asthma and anaphylaxis and to be prepared in case of an emergency.
Work with the school nurse to set up an emergency plan for caring for a student who has asthma and/or anaphylaxis.

Recognize the symptoms of asthma, food allergies, and anaphylaxis and seek medical attention immediately. Acting quickly can save lives!

Familiarize yourself with school district and FDA requirements for food preparation, maintenance, and integrated pest management policies.

Control pests (cockroaches, mice, rats, ants, etc.) Pests in schools are a concern because they may spread disease, their droppings can trigger asthma, and they cause damage to school buildings and property.

- To discourage pests, store food in sealed containers; sweep and wet mop floors daily to remove food; clean stoves and ovens after every use; wipe counters clean with soap and water or a disinfectant; remove trash daily; fix moisture problems; dispose of food, contaminated paper and plastic products in covered containers; place dumpsters away from the building; and remove clutter.

- Work with the school maintenance staff to evaluate and repair/clean up areas that may allow pest infiltration. Cleaning supplies should be evaluated for potential allergen-causing chemical substances and to make sure they meet FDA requirements for use in schools.

Carefully read labels for hidden ingredients that may appear harmless. Nutrition services staff should be aware of FDA requirements for additive and ingredient labeling. Note that some spices and colorings may not actually be labeled yet still be present in a food product. These types of omissions could potentially expose a student to a product or additive to which they may be allergic. Read labels carefully and if you are unsure what a product actually contains, seek clarification of information.

Talk with teachers about students who need to avoid certain foods and plan (when possible) healthy alternatives for those students.

Respect confidentiality and privacy when students who have asthma and allergies are identified.
This is a health issue, a safety issue and an educational issue. In the world’s richest nation, every child is entitled to learn in clean, well-maintained classrooms. As we try to build young minds, we also have to mind school buildings.

— Antonia Cortese, Executive Vice President, American Federation of Teachers

America’s students spend the majority of their waking hours in school buildings, so we must ensure that these facilities are conducive to good teaching and learning.

— Reg Weaver, President, National Education Association
Maintaining healthy school environments requires coordinated facility management to ensure routine inspection and maintenance policies. A healthy school environment leads to healthier, more productive students and staff. On the other hand, poor air quality (IAQ) – either indoors or outdoors – can negatively affect the health, concentration, attendance, and performance of students and staff. Preventing unhealthy exposure to allergens from dust mites, pest droppings (rats, mice, cockroaches), molds, bacteria, and pollen as well as irritants such as chemical fumes, tobacco smoke, vehicle emissions, and other pollutants, is critical for the management of asthma and allergies. Temperature and relative humidity also affect health and performance, both directly and by influencing the airborne level of molds and bacteria.

Follow practices that will create and maintain a healthy indoor environment and you will contribute substantially to the health, comfort, and performance of the entire school. Enlist a team of administrators, teachers, nurses, and students to be the school’s “eyes, ears, and nose.” They can use the walkthrough checklist from EPA’s Indoor Air Quality Tools for Schools Kit (www.epa.gov/iaq/schools/toolkit.html) to help spot and remedy problems (e.g., clean up clutter, remove furry pets, report leaks promptly).

- Use Integrated Pest Management practices to prevent and manage pest problems as safely as possible:
  - Do not leave food, water, or garbage exposed.
  - Look for signs of pests (e.g., cockroaches, mice, rats)
  - Remove pest pathways and shelters.
  - Use poison baits, boric acid (for cockroaches), or traps first. If the use of pesticides is necessary, use spot treatments instead of area-wide applications.

- Enforce smoking bans to eliminate environmental tobacco smoke.

- Be aware of places where smoking may still be taking place (e.g., bathrooms, outdoor areas near ventilation systems, building entrances) where the smoke can reach students and trigger an asthma attack.

- Reduce dust mite exposure, a major cause of allergies and asthma.
  - Maintain indoor humidity levels between 30% and 60% to reduce problems with dust mites, mold, and bacteria.
  - Remove dust from hard surfaces often with a damp cloth or damp mop. Dry thoroughly.
  - Vacuum carpet and upholstered furniture regularly to reduce dust accumulation and use a vacuum with a high-efficiency particulate air (HEPA) filter.
• Clean classrooms during non-school hours to avoid releasing dust around individuals with allergies and asthma.

☐ **Use appropriate cleaning products to minimize air pollutants.**

• Avoid products that contain strong fragrances or odors, irritants or chemicals that may affect sensitive students and staff.

• Use only as much cleaning product as is needed.

• Use natural cleaning agents when appropriate. White or apple cider vinegar removes mineral deposits and crayon marks. Baking soda is a good general cleaner and deodorizer.

• Store products in areas inaccessible to children.

• Do not mix cleaning products.

☐ **Clean up mold and control moisture which can both worsen asthma symptoms.**

• Clean and dry any damp or wet building materials and furnishings within 24-48 hours to prevent mold growth. Absorbent materials such as ceiling tiles that are moldy may need to be replaced.

• Fix the source of the water problem or leak to prevent mold growth.

• Check the mechanical room and roof for unsanitary conditions, leaks, or spills.

• Reduce the potential for condensation on cold surfaces (i.e., windows, piping, exterior walls, roof, or floors) by adding insulation.

• Do not install carpeting in areas where there is a regular moisture problem, such as drinking fountains and classroom sinks, or on concrete floors with leaks or frequent condensation.

• Vent showers and other moisture sources within the school to reduce indoor humidity.

☐ **Ensure adequate ventilation.**

• Monitor and maintain school ventilation systems, which lower pollutant concentrations by using cleaner (outdoor) air to dilute polluted (indoor) air.

• Make sure indoor and outdoor vents are not blocked.

• Be careful if using air cleaners as a pollution control device. Review information on the selected air cleaner to make sure it is suitably sized and has high particle removal efficiency. Some devices advertised as air purifiers produce ozone, which may be harmful to individuals with asthma.
1. Implement a comprehensive, district-wide indoor air quality maintenance program consistent with the U.S. EPA’s Indoor Air Quality Tools for Schools Program.

2. Conduct regular building walkthrough inspections, and measure temperature, relative humidity, carbon monoxide, and carbon dioxide. Following the school walkthrough, identify and prioritize indoor air quality problems in the school.

3. Ensure that all HVAC system air supply diffusers, return registers, and outside air intakes are clean and unobstructed. Regularly change filters and ensure condensate (or drip) pans are draining properly.

4. In order to flush polluted air out of the school, bring adequate outdoor air into the building using the school ventilation system. Maintain minimum outdoor air ventilation rates consistent with the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) standard 62.1, which for classrooms is about 15 cubic feet per minute (cfm) of outdoor air per person.

5. Maintain indoor humidity levels between 30 percent and 60 percent to ensure comfort and reduce problems with mold and bacteria.

6. Regularly clean and remove dust from hard surfaces with a damp cloth, and vacuum using high-efficiency filters.

7. Follow the U.S. EPA’s guidelines for the prevention and remediation of mold.

8. Promptly fix moisture problems, including those from roof, window, and plumbing leaks. Thoroughly dry wet areas within 24-48 hours to prevent mold growth.

9. Employ integrated pest management (IPM) methods in your school instead of traditional pesticide-based methods.

10. Use low volatile organic compound (VOC) paints, adhesives, and cleaning products that emit lower levels of gases into the air.


Managing Asthma and Allergies in DC Schools
# Indoor Air Quality Chart

<table>
<thead>
<tr>
<th>POLLUTANT</th>
<th>SOURCES</th>
<th>HEALTH EFFECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon Monoxide (CO)</td>
<td>Furnaces, vehicle exhaust, tobacco smoke, and other combustion processes</td>
<td>Causes angina, impaired vision, and reduced brain function; High concentrations can be fatal.</td>
</tr>
<tr>
<td>Carbon Dioxide (CO2)</td>
<td>Human respiration and all combustion processes</td>
<td>Only at high levels, (&gt;1.5% of air or 15,000 ppm), loss of mental acuity noted</td>
</tr>
<tr>
<td>Ozone (O3)</td>
<td>Copy areas and other electrical equipment; Outside air</td>
<td>Aggravation of asthma, chest pain, and inflammation of lung tissue; Decrease in lung function</td>
</tr>
<tr>
<td>Mercury</td>
<td>Medical equipment, electrical switches, some light bulbs, thermostats, and batteries</td>
<td>Cough, chest pain, nausea, diarrhea, long-term weight loss, irritability, and memory loss</td>
</tr>
<tr>
<td>Pesticides</td>
<td>Used in food preparation areas, on indoor plants, wood and other products; Can be tracked in from outside</td>
<td>Depends on active and inert ingredients in the pesticide and the dose received</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>Volatilization from building furnishings, certain types of plywood, glues, adhesives, and tobacco smoke</td>
<td>Causes burning in eyes; Irritates mucous membranes and respiratory tract; Probable human carcinogen</td>
</tr>
<tr>
<td>Asbestos</td>
<td>Deteriorating, damaged, or disturbed insulation, fireproofing, acoustical material, and tiles</td>
<td>Causes asbestosis (lung disease), lung, chest, and abdominal cancer; Known human carcinogen</td>
</tr>
<tr>
<td>Volatile Organic Compounds (VOCs)</td>
<td>Paints, cleaners, copiers, tobacco smoke, insecticides, personal care products, and combustion vapors</td>
<td>Some lead to nausea, dizziness, eye, respiratory, and mucous membrane irritation; Some linked to cancer</td>
</tr>
<tr>
<td>Environmental Tobacco Smoke</td>
<td>Tobacco combustion: cigarettes, cigars, pipes</td>
<td>Known human carcinogen; Aggravates asthma</td>
</tr>
<tr>
<td>Nitrogen Oxides</td>
<td>Combustion processes</td>
<td>Eye, respiratory, and mucous membrane irritation; Exacerbates asthma, bronchitis, and emphysema</td>
</tr>
<tr>
<td>Dust</td>
<td>Multiple sources, including soil, fleecy material, pollen, combustion processes, and renovations</td>
<td>Particles may contain lead, pesticide residues, toxic materials, irritants, and/or carcinogens.</td>
</tr>
<tr>
<td>Lead</td>
<td>Lead-based paint, drinking water, food, and contaminated soil or air</td>
<td>Damage to brain, kidneys, nervous system, and red blood cells; Children are especially susceptible.</td>
</tr>
<tr>
<td>Allergens and Pathogens</td>
<td>Areas of high humidity or significant amounts of moisture; Entrance growth of biological material</td>
<td>Several diseases such as tuberculosis, measles, infections, influenza, Legionnaires disease transmitted by air; Molds and pollen contribute to allergies.</td>
</tr>
<tr>
<td>Radon</td>
<td>Naturally occurring radioactive gas found in earth, ground, buildings, well-water, and some materials</td>
<td>Known lung carcinogen</td>
</tr>
<tr>
<td>Polychlorinated Biphenyls</td>
<td>Transformers, capacitors, circuit boards, oils, and other electrical devices</td>
<td>Acute effects unknown; Chronic effects include respiratory, dermal, gastro-intestinal, and reproductive problems. Probable human carcinogen.</td>
</tr>
</tbody>
</table>

Source: U.S. Environmental Protection Agency. [www.epa.gov/region1/enforcement/fedfac/iaqchart.html](http://www.epa.gov/region1/enforcement/fedfac/iaqchart.html).
A Low-Cost, Easy-to-Use Approach

The Indoor Air Quality (IAQ) Tools for Schools Action Kit (“Kit”), free from the U.S. Environmental Protect Agency (www.epa.gov/iaq/schools), shows schools how to carry out a practical plan to improve indoor air problems at little- or no-cost using straightforward activities and in-house staff. The Kit provides best practices, industry guidelines, sample policies, and a sample IAQ management plan. The voluntary guidance can save schools time and money so that resources can be directed toward educating children.

Following the simple suggestions provided throughout the Kit will help facility staff immediately identify potential improvements. By getting everyone in your school to understand that facility management processes can influence building occupant health, safety, and performance, you can build support for your efforts among school officials, teachers, and students.

Make it a Team Effort

Form a team with school administrators, school nurses, teachers and other staff, students, and parent/guardians with clear support from senior management. Use the walkthrough checklist in the Kit to identify and report potential trouble spots (e.g., idling vehicles near ventilation system intakes or disconnected vent hoses on combustion appliances). Prioritize findings into short- and long-term projects. Many IAQ hazards can be fixed by simply educating the school staff and changing the current habits of the school occupants (i.e., explaining to the teachers that placing posters or books on unit-ventilators reduces fresh air circulation.)

Facilities staff can use the Kit’s checklists to inventory ventilation systems, chemical use and storage, waste management, and renovation and repairs to minimize student and staff exposure to chemicals, fumes, mold, and other factors that can negatively impact health and learning. Other checklists in the Kit include: Teacher’s Classroom Checklist, Administrative Staff Checklist, Health Officer/School Nurse Checklist, Food Service Checklist, and the Integrated Pest Management Checklist.
What is Integrated Pest Management?

Integrated Pest Management (IPM) is a comprehensive approach to eliminating and preventing pest problems with an emphasis on reducing pest habitat and food sources. IPM is a safer and usually less costly option for effective pest management in the school community. Schools should tailor IPM programs to meet their specific needs and set appropriate objectives and thresholds to help them implement a successful pest management program.

A well-designed integrated pest management program is both effective and environmentally sensitive. IPM relies on a combination of:

1. Low-impact pesticides;
2. Comprehensive information about pests;
3. Available and economical pest control methods; and
4. Safety considerations for people, property, and the environment.

Although they can help control pests, pesticides need to be used carefully. Since they are still developing, children are much more vulnerable than adults to health risks associated with pesticides. Public concern about health and environmental risks associated with pesticides and other chemicals also is increasing, particularly when children are involved. School administrators and others responsible for decisions about school-based pest control need to be aware of these risks and knowledgeable about safe alternatives.

Establish an IPM Program for Your School

An efficient IPM program can and should be integrated with other school management activities, such as preventive maintenance, janitorial practices, landscaping, occupant education, and staff training. Begin by establishing an official IPM Policy Statement (see Sample School IPM Policy from California’s Healthy Schools Campaign) that shows your support for IPM, establishes an IPM Coordinator and Committee, and outlines methods to educate and train staff, select and store pesticides, notify parents and school occupants of pesticide applications, and keep accurate records.

**Sample School IPM Policy**

This model policy was derived from existing elements of policies currently being implemented in the San Francisco Unified, Los Angeles Unified, Oakland Unified, Ventura Unified and Kentfield school districts.

**(School Name) School District Least-Toxic Integrated Pest Management Policy (adopted __/__/__)**

The __________ School District ("District") recognizes that the maintenance of a safe, clean and healthy environment for students and staff is essential to learning. It is the goal of the District to provide for the safest and lowest risk approach to control pest problems, while protecting students, staff, the environment, and District property.

The District recognizes that pesticides pose risks to human health and the environment, with special risks to children. It is recognized that pesticides cause adverse human health effects such as cancer, neurological disruption, birth defects, genetic alteration, reproductive harm, immune system dysfunction, endocrine disruption and acute poisoning.

The District hereby adopts the Precautionary Principle as the basis for this Least-Toxic Integrated Pest Management (IPM) policy. The Precautionary Principle states that "When an activity raises threats of harm to the environment or human health, precautionary measures should be taken, even if some cause-and-effect relationships are not fully established."

The District hereby adopts a Least-Toxic IPM Policy. This policy shall focus on long-term pest prevention and give non-chemical methods first consideration when selecting appropriate control techniques. The full range of alternatives, including taking no action, will be considered first, with chemical controls used as a last resort, giving preference to chemicals that pose the least hazard to people and the environment and excluding use of the most hazardous pesticides. The District's long-term goal is the eventual elimination of all chemical pest control methods.

### A. Elements of the Least-Toxic IPM Policy

1. Establishing pest management area objectives, e.g., kitchens, playgrounds, classrooms.

2. Monitoring to determine pest population levels and identify decisions and practices that could affect pest populations.

3. Setting of injury and action levels to determine when vegetation or a pest population at a specific site cause(s) unacceptable economic or medical damage wherein corrective action should be taken.

4. Eliminating pest habitats to deter pest populations and minimize pest infestations.

5. Utilizing pest prevention methods, such as structural modification, and/or employing progressive non-chemical methods.

6. Employing as a last resort pesticides from the approved list, and, if demonstrated to be necessary, pesticides from the limited use list.

### B. Decision-making Process

**IPM Committee**

An IPM Committee shall be established within 45 days of the passage of this policy to develop implementation guidelines and oversee implementation of this IPM policy. The IPM Committee will be responsible for identifying an approved list of pest control products that may be used in the District, ensuring that banned chemicals (see section C below) are not on the approved list. The Committee will also develop a plan for training (see section D below). The Committee will include at least one representative of each of the following groups: district parents, district students, district teachers, school administrators, district principal, public health representative, environmental representative, building and grounds or maintenance staff, and the IPM Coordinator.
**IPM Coordinator**

The District shall designate an IPM Coordinator. This person shall be responsible for coordinating school district efforts to adopt IPM techniques, communicating goals and guidelines of the IPM Program to staff and students, providing proper training, tracking pesticide use and ensuring that related information is available to the public, and presenting an annual report to the school board evaluating the progress of the IPM Program. The IPM Coordinator is responsible for all purchasing of pesticides to be used on District sites. Only persons specifically authorized by the IPM Coordinator are permitted to bring or apply pesticides on district sites or property; other site employees and non-employees are not permitted to bring or apply pesticides on district property.

**C. Product Selection and Use Approval**

Products selection will be based on IPM Committee review of the product's contents, precautions, and adverse health effects. The IPM Committee will make product recommendations to the board for final approval. Products will be divided into three classifications: Approved Use List, Limited Use List and Banned Use List. If the use of a material not on either the Approved List or the Limited Use List is deemed necessary, the IPM Coordinator may apply for an emergency exemption. (See section 4 below.)

**1. Approved Use Products List**

The IPM Coordinator shall maintain a list of all pesticides that the board has approved for use in the schools, along with any restrictions for such use. This list shall be referred to as the Approved Use Products List. The Approved List shall include, but not be limited to:

- Insecticide or rodenticide baits and traps;
- Caulking agents and crack sealants;
- Borates, silicates and diatomaceous earth;
- Soap-based products;
- Natural products on the FIFRA's 25(b) list (40 CFR part 152.24(g)(1));
- Natural products on the California Certified Organic Farmers organic list;
- EPA “Generally Recognized as Safe” (GRAS) products pursuant to federal EPA;
- Cyrogenics, electronic products, heat and lights;
- Biological controls, such as parasites and predators;
- Microbial pesticides;
- Insect growth regulators; and
- Physical barriers.

**2. Limited Use Products**

A pesticide applicator or district staff may submit a written request to the IPM Committee that a particular pesticide not on the Approved List be approved for use for a specific and limited purpose. Limited Use Products may not be pesticides on the Banned Use List. The request must be reviewed by the IPM Committee, signed by the IPM Coordinator, and approved by the board. The IPM Committee may grant a limited use exemption, not to exceed three months, upon finding that the pesticide applicator has:

- Identified a compelling need to use the pesticide;
- Made a good-faith effort to find alternatives to the particular pesticide;
- Demonstrated that effective, economic alternatives to the particular pesticide do not exist for the particular use; and
- Developed a reasonable plan for investigating alternatives to the pesticide in question during the exemption period.

**3. Banned Use Products List**

The following high health risk pest management products will not be allowed on the Approved List:

- Pesticides linked to cancer, (US EPA Class A, B and C carcinogens and chemicals known to the state of California to cause cancer under Proposition 65);
- Pesticides that cause birth defects or reproductive or developmental harm (identified by the US EPA or known to the State of California under Proposition 65 as reproductive or developmental toxins);
- Pesticides that interfere with human hormones;
Sample School IPM Policy (continued)

- Pesticides classified as Toxicity Categories I and II by US EPA;
- Carbamate or organophosphate pesticides; and
- Foggers, bombs, fumigants or sprays that contain pesticides identified by the state of California as potentially hazardous to human health (CFR 6198.5).

4. Emergency Exemptions

The IPM Committee may allow trained district staff or a company contracted to provide pest control to the district to apply a pesticide not on the approved or limited use lists if necessary for the protection of public health. Such exemptions shall be granted on a case-by-case basis and shall apply to a specific pest problem for a limited time. The IPM Coordinator may grant emergency exemption only if action is required before the next meeting of the IPM Committee. The Coordinator shall report all such emergency exemptions to the Committee.

D. Training

Training of personnel is critical to the success of an IPM program. Staff, students, pest managers and the public shall be educated about potential school pest problems, the Least-Toxic IPM Policy, and procedures that will be used to achieve the desired pest management objectives. Within five months of district adoption of this policy, the IPM Committee will agree on a plan to educate and train these constituencies.

E. Contractors

All pest control companies contracted by the District shall follow all provisions of the policy.

F. Notice, Recordkeeping and Reporting

In compliance with and in addition to the notification, posting and recordkeeping requirements mandated by the Healthy Schools Act, the District will notify parents, employees and students of all pesticide applications using the following guidelines:

1. The district will provide annual notification to parents or guardians in the Registration Packet distributed at the beginning of each school year or upon enrollment. Notification will include:
   a. The IPM Policy statement;
   b. The Approved list of pesticide products;
   c. The availability of IPM activity records in the main office of each school; and
   d. A request that parents or guardians notify the school principal if they believe that their child's health and/ or behavior would be influenced by exposure to pesticide products.

2. The Approved List and Banned List will be conspicuously posted annually in the main office of each site and remain posted throughout the year.

3. Applications of products not on the approved list will be preceded by a 72-hour notification of parents or guardians and school staff, except for emergencies as determined by the IPM coordinator under section C(4) above. The IPM committee may require notification of Approved List Products.

4. Notification will include:
   a. The product name and active ingredient;
   b. Target pest;
   c. Date of pesticide use;
   d. Signal word on the label indicating the toxicity category of the pesticide;
   e. Contact for more information; and
   f. Availability of further information at the school's main office.
5. Records of each pest management action shall be available upon request to the public and kept at the school site for a period of at least four years. As required by the Healthy Schools Act, each record shall include the following information:

a. Name and address of the school site;
b. Location of the pesticide application;
c. Target pest;
d. Date and time the pesticide or management action was completed;
e. Pesticide product name/manufacturer;
f. EPA/California registration number from product label;
g. Total quantity of pesticide product used (in lbs., oz., pt., qt., gals.);
h. Rate of use per acre;
i. Dilution;
j. Size of the area treated;
k. Application method (i.e., ground, air or other);
l. Application equipment used;
m. Reentry period if applicable; and
n. Name of the pesticide applicator.

6. Signs shall be conspicuously posted around any area where pesticides not on the Approved List are to be applied in a non-emergency situation at least 72 hours before and 72 hours after application. In the event of an emergency as determined above, posting will go up at the time of the application. Signs shall include the information listed in section 3. (Banned Use Products) above.

For more information on school pest control that protects children’s health, contact the Healthy Schools Campaign at 888-CPR-4880 or http://www.calhealthyschools.org.
The U.S. Environmental Protection Agency (EPA) has developed a unique software tool to help school districts evaluate and manage their school facilities for key environmental, safety and health issues. The Healthy School Environments Assessment Tool (HealthySEAT) is designed to be customized and used by district-level staff members (school district health or safety officer, facility manager, or administrator) to conduct completely voluntary self-assessments of their school (and other) facilities and to track and manage facility conditions, including safety, security, and occupational health requirements from other federal agencies. Download your free copy of HealthySEAT today at www.epa.gov/schools.

HealthySEAT has three primary components:

1. **Customization** – Allows districts to add their names, logos, facilities, assessors, and contacts, as well as district policies, programs and priorities.

2. **School-Specific Assessment Information** – Allows the district to enter and store information about every assessment conducted at individual schools, track status, and generate reports to schools pre-and post-visits.

3. **Reports/Output Menu** – Users can select report options that will organize and extract information from the database such as Assessment Findings by School, Recommendations by Topic/Subtopic, and so on.

**Primary environmental topics** in HealthySEAT include: chemical management, energy efficiency, hazardous materials, hazardous waste, indoor air quality, moisture/mold control, non-hazardous waste, outdoor air pollution, pest control/integrated pest management, ultra-violet radiation, water (drinking-, waste-, storm-, and -efficiency), portable/relocatable classrooms, and construction and renovation.

HealthySEAT also includes health, safety and injury prevention elements from the National Institute for Occupational Safety and Health (Safety Checklist Program for Schools), Centers for Disease Control and Prevention (CDC/DASH School Health Index), Department of Education Safe and Drug Free Schools Program Crisis Planning and Management, Department of Transportation Pedestrian Safety recommendations; and Consumer Product Safety Commission recommendations on playground and other products.
Just by turning off the school bus engine when you arrive at the loading and unloading area at schools, you can decrease the amount of diesel emissions to which children, as well as you, are exposed. By reducing the idling time of a school bus, you can help save fuel and money, reduce pollution, and, most importantly, protect children from harmful pollutants contained in diesel exhaust.

— U.S. Environmental Protection Agency. Clean School Bus USA Idle-Reduction Brochure: There are 25 Million Reasons Why it is Important to Reduce Idling. www.epa.gov/cleanschoolbus
You can promote the health of students under your care by turning off your engine whenever you can. Diesel exhaust from idling school buses poses a health risk to both drivers and children. Idling buses emit exhaust fumes which concentrate at ground level and enter into the bus where students are seated. The fumes also enter classrooms through ventilation systems. Children are more susceptible to these fumes because their respiratory systems are not fully developed.

- Be prepared for an asthma or anaphylaxis emergency.
  - Know the early warning signs of an asthma episode or anaphylaxis (severe systemic allergic reaction).
  - Be aware of which students you are supervising have asthma and/or anaphylaxis. Consult with the school nurse or health staff and request an emergency plan for the student.
  - Call 911 and the dispatcher immediately for help. DO NOT leave the student alone!
  - Give medication if ordered and available (some students carry asthma rescue inhalers or epinephrine auto-injectors with them). Providing medicine quickly can stop an attack or prevent it from getting worse.

- Limit idling time to reduce harmful emissions that trigger asthma.
  - Turn off engine as soon as possible after arriving to drop off or pick up students. Do not restart the bus until you are ready to depart.
  - Limit the idling time during early morning warm-up to what is recommended by the manufacturer (generally 3 to 5 minutes). In colder climates, block heaters can help warm the engine to avoid starting difficulties and shorten warm-up time.

- Consider changing circuit configurations so that the battery can power the buses’ flashing lights without the engine running.
- Wait inside the school if you arrive early in cold weather. Always maintain a safe temperature for students.
- Make sure buses receive proper and regular maintenance.
Clean School Bus USA Sample Idling Policy

School District Name _________________________
Policy Number # ______________________________
Effective Date ________________________________

Applicability
This policy applies to the operation of every district-owned and/or contracted school bus.

Rationale
Diesel exhaust from idling school buses can accumulate in and around the bus and pose a health risk to children, drivers and the community at large. Exposure to diesel exhaust can cause lung damage and respiratory problems. Diesel exhaust also exacerbates asthma and existing allergies, and long-term exposure is thought to increase the risk of lung cancer. Idling buses also waste fuel and financial resources.

Purpose
Eliminate all unnecessary idling by [district] school buses such that idling time is minimized in all aspects of school bus operation.

Guidance
1. When school bus drivers arrive at loading or unloading areas to drop off or pick up passengers, they should turn off their buses as soon as possible to eliminate idling time and reduce harmful emissions. The school bus should not be restarted until it is ready to depart and there is a clear path to exit the pick-up area. Exceptions include conditions that would compromise passenger safety, such as:
   A. Extreme weather conditions
   B. Idling in traffic
2. At school bus depots, limit the idling time during early morning warm-up to what is recommended by the manufacturer (generally 3-5 minutes) in all but the coldest weather.
3. Buses should not idle while waiting for students during field trips, extracurricular activities or other events where students are transported off school grounds.
4. In colder weather, schools are directed to provide a space inside the school where bus drivers who arrive early can wait.
5. In colder weather, if the warmth of the bus is an issue, idling is to be at a very minimum and occur outside the school zone. The “warmed” bus is to enter the school zone as close to pick-up time as possible to maintain warmth and then shut down.
6. All service delivery vehicles shall turn off the engines while making deliveries to school buildings.
7. Transportation Operations staff are directed to revise bus schedules so that school bus caravanning can be avoided and the cleanest buses assigned to the longest routes.
8. All drivers shall receive a copy of this bulletin at the beginning of every school year.

For more information about Clean School Bus USA program, including its Idle-Reduction Campaign Do-it-Yourself Kit, visit the U.S. Environmental Protection Agency website at www.epa.gov/cleanschoolbus.
Physical health, psychological well-being and school performance are all connected. An analysis of the first National Survey of Children’s Health published in the April 2007 *Journal of Developmental & Behavioral Pediatrics* concluded that children with asthma, especially severe asthma, have higher rates of attention-deficit/hyperactivity disorder; diagnoses of depression, behavioral disorders, and learning disabilities; and missed school days. Counselors, social workers, psychologists, and other human services providers serve as an important resource to help students with asthma and their families to identify and address psychosocial stressors that impede the student’s asthma therapy and success in school.
Counselors, psychologists, social workers, and human service providers serve an important function in facilitating communication among parents/guardians, students, school staff, and healthcare providers that enables them to focus together on the student’s health, mental health, and social service needs. While asthma is a physical condition, psychological factors such as stress, anxiety and strong emotional reactions can bring on asthma symptoms. Additionally, students with asthma may feel tired, drowsy, irritable, or depressed due to sleep interruption or jittery or nervous if overmedicated, impeding their ability to concentrate and learn. They also may be embarrassed or angry about their asthma or fear they will die. Further, they may have low self-esteem and withdraw from friends and activities. Similarly, students with anaphylaxis may be disbelieved or teased by peers who do not face the same risk of a life-threatening systemic allergic reaction from certain foods (e.g., peanuts) or other items.

Parent/guardians, teachers, coaches, and other adults also face a host of challenges. While some parents/guardians may be concerned, anxious, or angry about their child’s asthma or anaphylaxis, others may be dismissive or skeptical about the serious nature of the disease. They may be resentful or weary of being called away from work each time their child has an asthma episode. Teachers and coaches also may feel unprepared to cope with the student’s needs or concerned about taking the student on a field trip where a school nurse will not be available.

Counselors help manage asthma and anaphylaxis in the school when they:

- Encourage parents/guardians, students, healthcare providers, and school nurses to participate in the development of Asthma Action Plans, Anaphylaxis Action Plans, and emergency care plans.
- Assist students to overcome any discomfort, embarrassment, or other challenges which make it difficult for them to take their prescribed medications or other helpful actions.
- Work closely with the school nurse, teachers, and staff members to support policies and procedures that help students with asthma and anaphylaxis participate fully in school each and every day. Be proactive.
- Help students and parents/guardians access community resources to obtain healthcare services, medications and supplies.
- Work with students and parents/guardians to help reduce or eliminate asthma and anaphylaxis triggers in the home and school environments.
- Refer children and their parents to outside counseling and support services when appropriate.
- Advocate for a comprehensive approach to treatment.
Many asthma attacks could be avoided — and much suffering prevented and many medical costs saved — if more children received good-quality, ongoing asthma care and if their communities were more asthma-friendly. We have the means to treat and manage this disease, yet we are failing to get the job done.

— Noreen M. Clark, PhD, Director, Center for Managing Chronic Disease, Myron E. Wegman Distinguished University Professor of Public Health, University of Michigan and former panel member, National Expert Committee, Improving Childhood Asthma Outcomes in the United States: A Blueprint for Policy Action. RAND Health. 2002.
As the American Academy of Allergy, Asthma, and Immunology affirms in its revised Pediatric Asthma: Promoting Best Practice – Guide for Managing Asthma in Children, “The physician should work closely with school personnel to help them understand asthma, its impact, and how to meet the special needs of children with asthma.... Teamwork is required to create a positive and healthy school environment for the child with asthma. Parents, the clinician, teachers, coaches, school nurse, school principal, and the child are part of the team.”

To aid you in your practice, the National Heart, Lung, and Blood Institute issued on August 29, 2007 updated guidelines for the diagnosis and management of asthma in a publication titled, Expert Panel Report 3 (EPR-3): Guidelines for the Diagnosis and Management of Asthma – Full Report, 2007 (www.nhlbi.nih.gov/guidelines/asthma). The report confirms the importance of teaching patients skills to self-monitor and manage asthma and to use a written asthma action plan, which should include instructions for daily treatment and ways to recognize and handle worsening asthma. Separately, guidance on managing patients with a history of anaphylaxis is available from the American Academy of Allergy, Asthma, and Immunology; American Academy of Family Physicians; American Academy of Pediatrics; Food Allergy & Anaphylaxis Network; and American Latex Allergy Association, among other sources.

To meet the needs of students with asthma and anaphylaxis, healthcare providers should:

- Develop the student’s Asthma Action Plan, Anaphylaxis Action Plan, and/or emergency care plan in partnership with the student and student’s parents/guardians as well as with the school nurse and other key school personnel as warranted. With the parent/guardian’s permission, provide copies to appropriate school personnel.
- Instruct patients with a history of anaphylaxis on when and how to initiate treatment for future episodes using auto-injectable epinephrine (pre-loaded epinephrine syringes) according to the written action plan.
- Identify and document whether students and/or their families use tobacco and advise them and assist them to quit. Treating Tobacco Use and Dependence. Quick Reference Guide for Clinicians, issued by the Agency for Healthcare Research and Quality in June 2000, summarizes evidence-based guideline strategies for helping patients to quit (www.ahcpr.gov/path/tobacco.htm).
- Provide ongoing asthma and/or anaphylaxis education to parents/guardians and the student during office visits.

- Prescribe medications and devices (e.g., peak flow meters), teach and review skills and technique, and provide instructions on environmental management and other actions to prevent and control asthma and anaphylaxis.
- Encourage open communication with the student, parents/guardians, and school staff to elicit the reporting of any concerns or changes.

- Report the student’s asthma and/or anaphylaxis diagnosis on student health forms and provide instructions for managing the student’s condition.

- Complete school medication administration forms for medications to be administered in school and/or for students to carry and self-administer life-saving asthma and/or anaphylaxis medications in school.

- Assist the parents/guardians to provide a spare quick-relief inhaler (for asthma) or auto-injectable epinephrine (for anaphylaxis) to the school with the required forms – even if the student is authorized to self-carry medication.

- Consider signing an exchange of information form to promote communication between the healthcare provider and school nurse and/or school staff. The American Academy of Pediatrics has a sample HIPAA/FERPA Authorization Form to be given to the parent for signature at the office visit or by a member of the school staff (www.aap.org/schooledinasthma).

- Promote the student’s full participation in school physical activities. Provide physical education teachers, coaches, playground supervisors, nutrition services staff, and other appropriate personnel with education and instructions for managing the student’s asthma and/or anaphylaxis.

- Schedule clinical assessments to review the effectiveness of the student’s asthma management on a regular basis (minimum two well-visits per year) consistent with the degree of symptom control and the severity of the condition.

- Consider the inactivated influenza vaccination (“flu shot”) for patients who have asthma. It is approved to administer in children over 6 months and adults who have asthma, and the Advisory Committee on Immunization Practices of the CDC recommends the vaccine for persons who have asthma because they may be at increased risk for complications from the flu. However, the vaccine should not be given with the expectation that it will reduce either the frequency or severity of asthma exacerbations during flu season.

- Do not hesitate to refer patients with asthma and/or anaphylaxis to an allergist for consultation when the condition is severe or not well controlled, the patient requires testing, and/or the patient needs more education. For anaphylaxis, for example, consultation with an allergist can help (1) confirm the diagnosis of anaphylaxis; (2) identify the anaphylactic trigger through history, skin testing, and radioallergosorbent testing (RAST); (3) educate the patient in the prevention and initial treatment of future episodes; and (4) aid in desensitization and pretreatment when indicated.

- Arrange for case management as needed. The 2007 updated national asthma guidelines conclude that case (or care) management can be effective in improving asthma control in selected populations of individuals who have poorly controlled asthma.

- Support school asthma and anaphylaxis training programs by advising on content and participating in training as requested by the school.
Challenges

Good communication among the student and his/her family, the student’s healthcare provider, and school personnel is vital for the successful management of asthma and anaphylaxis, but it remains a challenge to achieve. As observed by the American Academy of Pediatrics (AAP) in its January 2006 issue of AAP News, schools and doctors rarely communicate unless there is an urgent situation. Moreover, few pediatricians know when their patients cite asthma as the reason for missing school or physical education classes, despite the fact that asthma is the leading cause of school absences due to chronic illness.

At the same time, schools often lack information from the healthcare provider and family about which students have asthma and/or anaphylaxis and about the individualized instructions the healthcare provider has provided for the student’s care, both in and out of the school setting. Just as important, many parents/guardians and students need to be more vigilant about the student’s asthma, making sure to meet with the healthcare provider regularly for routine asthma visits, to inform the healthcare provider of changes in asthma control, and to follow the treatment plan prescribed by the healthcare provider.

Inadequate asthma therapy remains a significant issue, and the problem is even more pronounced among inner-city and minority children. Physicians have been found to under-prescribe long-term control medications to minority inner-city children, while poor adherence to medications among this population also seems to be common.\(^1\) For example, while regular use of long-term control medications reduces the subsequent risk of needing emergency care, a study of low-income, inner-city African-American children in Baltimore, Maryland, and Washington, DC found that only 12% had used inhaled anti-inflammatory medications for their asthma in the past 6 months.\(^2\) A separate study in Little Rock, Arkansas concluded that asthma is uncontrolled in 85% of inner-city children who have asthma.\(^3\)

Health Behavior Models

Just as schools must recognize asthma and anaphylaxis as serious issues deserving of attention and be willing to take action to address them, the beliefs that students and their families hold about these conditions will influence their willingness to
follow preventive or therapeutic recommendations. According to the Health Belief Model, developed in the 1950s, an individual is more likely to take the recommended action if he or she concludes that:

1. I am susceptible to this health problem.
2. The threat to my health is serious.
3. The benefits of the recommended action outweigh the costs.
4. The barriers are surmountable.
5. I am confident that I can carry out the recommended actions successfully.

The later Stages of Change or Transtheoretical Model, developed by James O. Prochaska, PhD of the University of Rhode Island, provides another framework for explaining how behavior change occurs. The five stages represent a continuum of motivational readiness to change, and individuals can enter and exit these five stages at any point. Asthma and anaphylaxis education programs and other interventions, whether directed at individuals or groups, should be tailored to the current stage of readiness to change.

1. **Pre-contemplation** – not thinking about changing behavior
2. **Contemplation** – thinking about changing behavior in the near future
3. **Decision** – making a plan to change behavior
4. **Action** – implementing the plan to change behavior
5. **Maintenance** – continuation of behavior change

### Communication Strategies

Positive communication strategies are associated with more positive patient outcomes. The updated national guidelines for the diagnosis and treatment of asthma emphasize the importance of maintaining a partnership with the child and family and to involving the child as much as possible in managing his or her care. For healthcare providers, school nurses, and others who interact with students and their parents/guardians, use the following strategies for more effective communication from the *Physician Asthma Care Education* (PACE) Program of the University of Michigan Center for Managing Chronic Disease, developed with support from the Robert Wood Johnson Foundation (www.asthma.umich.edu/Products_and_Resources/PACE.html).

1. **Show non-verbal attentiveness.** Make eye contact; sit at same level as patient and family; avoid having a barrier, such as a desk, between you; and lean forward slightly.

2. **Give non-verbal encouragement.** Increases the family’s confidence that they can manage asthma successfully following your plan.

3. **Give verbal praise for things well done.** Reinforce positive steps the family has taken to control asthma.

4. **Maintain interactive conversation.** Ask open-ended questions that can’t be answered “yes” or “no” to encourage the family to convey information about beliefs, concerns, and how they manage asthma at home. Use simple, clear language and avoid medical jargon. Use analogies to ensure that the family grasps new ideas.
5. **Find out underlying worries and concerns.** Ask open-ended questions such as: “What is your greatest worry about asthma/anaphylaxis?” “What concerns do you have about the medicine?” “What things would you like to do that your asthma/anaphylaxis makes it hard to do?”

6. **Give reassuring information.** Fears about asthma or anaphylaxis medications, allowing the child to be active, and so on, can block adherence. By conveying accurate information about risks and stressing that following your recommendations will increase the child’s safety, the family will be reassured and more likely to follow your advice.

7. **Tailor medication schedule to family’s routine.** Assess daily routines of the family to learn the best times and places for giving medicines during the day. Reach agreement with the family on a daily plan for taking the medicine, making sure they are willing and able to follow it.

8. **Reach agreement on short-term goal.** Should be decided with the family, and tied to the patient’s own goals, e.g., to stay awake in class, to be able to engage in physical activity without shortness of breath, to increase motivation to follow the treatment plan. Provides a benchmark for the family to judge progress.

9. **Review the long-term therapeutic plan.** Having a long-term treatment plan helps the family know what to expect and what they may be able to achieve through preventive care. For example, it may take 4-6 months of asthma therapy with a daily controller medication to yield maximum benefit.

10. **Help patient to use criteria for making decisions about asthma and/or anaphylaxis management.** Help family members plan for decision-making by encouraging them to develop strategies for handling potential problems, such as emergencies at school, or choices, such as participation in sports at school or summer camp. Reviewing the written treatment plan with the family helps them know how to decide when medicines should be adjusted to control symptoms, and when the child needs immediate medical attention.

### Exchanging Information

A written action plan or emergency care plan for asthma and/or anaphylaxis is one of the best ways of sharing information among the student and student’s family, healthcare provider, and school staff. Use the plan to coordinate the student’s asthma and/or anaphylaxis care. To create a supportive school environment that increases communication about asthma and anaphylaxis and lessens the stigma that students with asthma and/or anaphylaxis sometimes feel, make sure that asthma and anaphylaxis...
Awareness education for students is integrated within health education, science, and physical education curricula and that all school personnel participate in professional development programs that include basic information about managing asthma and anaphylaxis and handling emergency situations.

- **Encourage the healthcare provider and/or school nurse to share the action plan or emergency care plan with appropriate staff** in accordance with the Family Educational Rights and Privacy Act (FERPA) and Health Insurance Portability and Accountability Act of 1996 (HIPAA) guidelines or with parental permission.

- **Be proactive.** Schools can call or send letters to healthcare providers and parents/guardians requesting written action plans, refills on expired medications, spare medication, and consultations to solve specific problems that arise.

- **Have a meeting at the school with the student, parents/guardians, school nurse, and appropriate staff** (e.g., teacher, athletic trainer) at the beginning of the school year and give a blank action plan form to the family to take to the student’s healthcare provider.

- **Request a consultation by the healthcare provider** when the student needs help with his/her asthma or anaphylaxis.


When her children were young, Sandra Fusco-Walker's life was filled with sleepless nights, ruined vacations, emergency room visits, and her children’s frequent school absences. Two of her three children – all under age 6 at the time – had asthma, “I was always worried about when the next bad thing would happen. But that was before we had a plan.” The “plan” was an asthma action plan that guided her on how to track her children’s symptoms, monitor their breathing, and give them medication. Fusco-Walker says she learned to control asthma after she followed her doctor’s advice and after calling Nancy Sander, founder of the Allergy & Asthma Network Mothers of Asthmatics, an organization that Fusco-Walker joined to advocate for the needs of families like hers.

To keep your child’s asthma or anaphylaxis (a severe allergic reaction) under control at school, you need to prepare yourself, your child and school staff. Here’s what you MUST do before school starts:

1. Make a written Asthma Action Plan, Anaphylaxis Action Plan, and/or emergency care plan with your child’s healthcare provider, and give a copy to your child’s school. If the plan changes during the school year, be sure to give the school staff a new one, and review changes with them.

2. Make sure the school has two emergency numbers to reach you.

3. Schedule a conference with your child’s school nurse, teacher, and other school staff (e.g., physical education teacher, cafeteria staff) to talk about your child’s asthma and/or anaphylaxis.

By working with school staff, you can help make sure your child has a healthy school year. Here is a checklist to make sure you don’t forget things that can be important:

- Visit your child’s healthcare provider and complete a new Asthma Action Plan, Anaphylaxis Action Plan, and/or emergency care plan. Give a copy to each of the child’s teachers, school nurse, school secretary and after-school activity staff. At your medical visit, be sure to talk about your child’s technique with peak flow meter, inhaler and spacer (for asthma) or with an EpiPen® or Twinject® Auto-Injector (pre-loaded epinephrine syringes for anaphylaxis); asthma and anaphylaxis triggers, especially those that the child might have at school, like exercise, animals, food allergies, or cold weather; medication; and peak flow meter use at school.

- Get all medication and health forms from the school – don't forget the ones for sports or other activities. Fill them out completely and turn them in to the school.
Make sure all medicines, including inhalers, nebulizers, and epinephrine auto-injectors (EpiPen® or Twinject®) are full and in working order. Label all medications and devices with child's name and classroom.

Arrange a meeting with your child's school nurse, teacher and other school staff, including child's after-school teachers and coaches, if needed. Include the child in the meeting if possible. At the meeting with the school staff, discuss:

- Basics of asthma and/or anaphylaxis.
- Your child’s Asthma Action Plan, Anaphylaxis Action Plan, and/or emergency care plan.
- How to make sure school staff know what to do and how to do it.
- Warning signs for your child’s asthma or anaphylaxis.
- Your child’s triggers, such as animals in the classroom, playing hard at gym class, food allergies (e.g., peanuts, shrimp), and bee stings.
- Medications and access to medications. There is a law in the District of Columbia that allows students to carry their inhalers (for asthma) or auto-injectable epinephrine (for anaphylaxis) with them at all times if the required signed forms have been completed and submitted to the school.
- Asthma tools, such as peak flow meters, spacers, and nebulizers.
- Anaphylaxis medications, specifically EpiPen® or Twinject® Auto-Injectors.
- Missing school and making up school work.

Visit the school, and check for your child’s asthma triggers. For example, check to see if the school is free of tobacco smoke at all times, including during school-sponsored events. If you find possible triggers in the school, talk to the school staff about getting the problems fixed before school starts. Federal and state laws are in place to help children with asthma.

Check with the school nurse, teacher, and other staff often during the school year to make sure they are not having problems following the written action plan and your instructions, and that enough medication is on hand for your child.

If it is hard for you to talk about asthma with your child's teachers and other school staff, ask the school nurse or your doctor or asthma counselor for help.

Sources: Asthma Initiative of Michigan. Some parts adapted from “How Asthma-Friendly is Your School?” National Heart, Lung, and Blood Institute, National Asthma Education and Prevention Program School Asthma Education Subcommittee.
Tips for Working with Your Healthcare Provider

☐ Take a list of questions to ask your doctor or other healthcare provider.

☐ Ask the doctor to please tell you exactly what to do.

☐ Ask the doctor to repeat the information or write it down for you.

☐ State what you expect at each visit – tell your doctor or nurse what you want from the visit.

☐ Make a written action plan for asthma or anaphylaxis with your healthcare provider and follow it.

☐ Don’t agree to do something that you do not plan to do.

☐ Ask if another option is available. Unless your doctor is told that a treatment plan is hard for you, he or she will not know to make changes.

☐ Be sure to keep your doctor’s appointments, even if you are feeling fine. If you can’t make an appointment, contact your doctor in advance to set up another time.

Eleven students initially came together with their school nurse to start the Ballou Senior High School Asthma Club in southeast DC. The Asthma Club now has completed its third straight year. In their first meeting, students agreed that the worst thing about having asthma is the feeling of powerlessness that accompanies it. They added that their feelings of powerlessness had turned into feelings of frustration, prompting them to organize the Asthma Club. When asked how the National Capital Asthma Coalition could be of service to their group, they unanimously answered: asthma education.

— Founding student members of the Ballou Senior High School Asthma Club, Washington, DC. October 18, 2004
If you have asthma, like many other children and teens do, you should take as much responsibility as possible for knowing how to manage your condition. If you are at risk for a severe allergic reaction, called anaphylaxis, it is important to know what to avoid (e.g., certain foods, bee stings) and how to use auto-injectable epinephrine (EpiPen® or Twinject® Auto-inhaler) as directed by your doctor. As soon as early elementary school, you can learn to use peak flow meters to see how well you are breathing and to give medication to yourself according to a written action plan. In all public, private, and parochial schools in the District of Columbia, students must have written permission from their parents/guardians and healthcare provider in order to carry and self-administer emergency asthma or anaphylaxis medications in school or to be administered medication by a school nurse or authorized trained staff member.

To manage your symptoms of asthma and/or anaphylaxis, you can:

- **Learn as much as you can about asthma and anaphylaxis.** In addition to your doctor and school nurse, use the Internet or school library to get more information. Ask your teacher or school nurse to teach everyone in your class about asthma and anaphylaxis.

- **Report any problems or symptoms right away** to your parents/guardians, school nurse, or teacher.

- **Know what medications to take** for asthma or anaphylaxis and when to take them.

- **Work with your doctor and parents/guardians to create written instructions to help you manage your asthma or anaphylaxis.** These instructions are often called an Asthma Action Plan, Anaphylaxis Action Plan, or emergency care plan.

- **Carry a copy of your Asthma Action Plan, Anaphylaxis Plan, or emergency care plan.** Small, wallet-size cards can be ordered from the American Academy of Allergy, Asthma and Immunology (www.aaaai.org/members/resources/anaphylaxis_toolkit) or from the Asthma and Allergy Foundation of America (www.aafa.org/display.cfm?id=4&sub=81&cont=392).
☐ Manage your asthma and allergies so you can participate in sports and other activities. Take time to warm up before exercise and cool down afterwards.

☐ Recognize the warning signs of an asthma or anaphylaxis attack and take your rescue medication as soon as possible. Stop what you are doing and get help! Do not ignore your symptoms since they can get worse very quickly.

☐ Learn how to use your medications the right way. For example, when you use an asthma inhaler, you should use a holding chamber or spacer (a device that looks like a tube and comes in various shapes and sizes) to slow down the medication so it can be inhaled deeply into your lungs. Rinse out your mouth afterwards.

☐ Know when to take your rescue or emergency medication and always carry your medication with you if you have permission to do so.

☐ Be responsible for carrying and using your medications at the proper time (such as pre-medicating for asthma before sports activities), self-administering them correctly and not sharing medications with others.

☐ Never stop taking your medications without talking with your doctor first.

☐ Let your parents/guardians, school nurse, or doctor know if you are still having symptoms due to asthma or allergies and if you are not getting better. Your doctor may need to change your treatment plan.

☐ Learn how to use tools to manage your condition. If you have asthma, for example, learn how to use a peak flow meter and what to do when readings are in the green, yellow, or red zones.

☐ Keep your medications and devices (e.g., peak flow meter and spacer) clean.

☐ Tell your friends that you have asthma or anaphylaxis so they can help you in an emergency.

☐ Never smoke and avoid being around second-hand smoke. Ask for help to quit if you do smoke. Talk to your doctor or school nurse. You also can start by calling 1-800-QUIT-NOW.
his disease has cost us a lot... in terms of stress, money and pain. I had to have the strength of Samson when my son, Kelton, died of asthma... for my other children especially. We usually went to the emergency room when we had a real problem. They would put [my son] on a machine, give him a shot of steroids and keep him on treatments until he wasn’t wheezing any more, and then they would let us go. We would follow-up with our doctor, but I didn’t have a maintenance plan, and I still don’t understand the different levels of asthma.

— Ms. Juanita Campbell, parent and founding National Capital Asthma Coalition member
## Section 7
Training and Education

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Professional development of school administrators and of school and after-school staff should include ongoing education on how to recognize the early and late-phase warning signs of asthma and anaphylaxis episodes, how to help the student follow his or her management plan, and how to assist the student in the case of a life-threatening episode. The National Heart, Lung, and Blood Institute's National Asthma Education and Prevention Program; the Centers for Disease Control and Prevention; the National Association of School Nurses (NASN); and the National Association of State Boards of Education, among other national organizations, recommend that all school personnel participate in professional development programs that include basic information about asthma, asthma management practices, and emergency response procedures. Training in anaphylaxis management should be included as well.

This guide is designed to support the training of all school personnel including, but not limited to, administrators, principals, school nurses, teachers, coaches, playground supervisors, nutrition services staff, facilities staff, bus drivers, and counselors. Start with the Check Your Asthma I.Q. Quiz on the next pages as an ice-breaker exercise. Use additional pages from the guide as handouts at a staff development program or brown bag luncheon. Supplement these materials with other existing training programs and resources (e.g., tool kits, slide sets, video, professional guidelines) available for your use at little to no cost. Visit the Resources Section of this guide for more information.

Some professional organizations also have speaker's bureaus and would be delighted to share their expertise with you. Similarly, you can approach asthma and allergy organizations, local insurers, managed care organizations, medical associations, hospitals, community health centers, and individual pediatricians and asthma specialists for assistance.

Be sure to train staff in additional lifesaving procedures that may be needed during an asthma or anaphylaxis attack or other emergency situation. NASN’s issue brief on the School Nurse Role in Education notes that:

*Managing emergencies is an area in which the majority of teaching staff lack educational preparation. Yet, the literature recommends staff working with children have a basic knowledge of first aid and CPR certification. In addition, teaching staff need to be able to provide critical data to emergency personnel responding to a call. The most common medical emergencies occurring in school programs are breathing difficulty from obstructed airway or asthma, seizure, and choking. Both staff and students participating in before and after school programs will benefit from asthma education. This will empower students to help control their asthma and program personnel to better assist students with asthma and allergies.*

Certification courses in first aid, cardiopulmonary resuscitation (CPR), and automated external defibrillators (AED) are available through local chapters of the American Heart Association, American Red Cross, and other organizations. Practice your skills through emergency drills and role play.
As NASN adds, other resource information of value to school staff should be included in trainings. Some of the areas include confidentiality, disease prevention strategies such as hand washing, medication administration, children’s health insurance programs such as Medicaid and the state SCHIP program, safe food practices, nutrition information, recognizing depression, referral sources, and playground safety.

And do not overlook the expertise within your own school walls. School nurses, athletic trainers, administrators, and other school personnel have received additional training on health issues such as asthma and anaphylaxis and on relevant policy and legislation. Form a school asthma/anaphylaxis team to plan and implement staff trainings.

As you formulate your strategy for professional training, please keep in mind the following recommendations from Managing Asthma: A Guide for Schools from the U.S. Department of Health and Human Services and the U.S. Department of Education:

- **Educate all staff members about asthma and anaphylaxis** and potential impacts on students’ health, safety, and school performance. Within confidentiality guidelines, talk to school staff about students with asthma and/or anaphylaxis and their special needs.

- **Encourage staff to refer students to the school nurse** (if available) or other designated trained individual when symptoms or side effects are interfering with breathing or school activities.

- **Make sure that staff members understand the school’s responsibilities** under the Individuals with Disabilities Education Act (IDEA), Section 504 of the Rehabilitation Act of 1973, Title II of the Americans with Disabilities Act (ADA), and, where applicable, Title III of the ADA, which applies to nonreligious private schools. In addition, staff should be familiar with any applicable state and local legal requirements.

- **Train health aides or designated staff on proper techniques for the delivery of medication** for asthma (metered-dose inhaler, dry powder inhaler, inhaler with spacer, nebulizer machine) and anaphylaxis (auto-injectable epinephrine in pre-loaded syringes). Include instruction on using peak flow meters and on recognizing the signs and symptoms of asthma and anaphylaxis, especially the warning signs of an acute episode which may be reversed with prompt treatment.

- **Support and encourage communication with parents or guardians and healthcare providers** to improve school health services. In coordination with the school nurse, communicate with the
parents/guardians and healthcare provider(s) (with parental permission) about acute episodes, if any, and about changes in a student’s health status, and to track asthma control.

- **Develop an asthma/anaphylaxis resource file** for school personnel, parents/guardians, and students.

- **Encourage all school staff to take steps to maintain a healthy school environment** and to report potential problems (e.g., leaks and spills, hornets’ nest on playground, pest infestation, poor indoor air quality) to designated staff so prompt action may be taken.

- **Ensure that the school has an emergency backup plan** for all students who do not have a written action plan or medications, or for when the school nurse is not readily available, and that school staff members receive training on how to follow the plan.
Check Your Asthma I.Q.

The following true-or-false statements test what you know about asthma. Be sure to read the correct answers and explanations below.

1. Asthma is a common disease among children and adults in the United States.
   - True  □  False  □

2. Asthma is an emotional or psychological illness.
   - True  □  False  □

3. The way parents raise their children can cause asthma.
   - True  □  False  □

4. Asthma episodes may cause breathing problems, but these episodes are not really harmful or dangerous.
   - True  □  False  □

5. Asthma episodes usually occur suddenly without warning.
   - True  □  False  □

6. Many different things can bring on an asthma episode.
   - True  □  False  □

7. Asthma cannot be cured, but it can be controlled.
   - True  □  False  □

8. There are different types of medicine to control asthma.
   - True  □  False  □

9. People with asthma have no way to monitor how well their lungs are functioning.
   - True  □  False  □

10. Both children and adults can have asthma.
    - True  □  False  □

11. Tobacco smoke can make an asthma episode worse.
    - True  □  False  □

12. People with asthma should not exercise.
    - True  □  False  □

Your score – How many answers did you get correct?

11-12 correct = Congratulations! You know a lot about asthma. Share this information with your family and friends.
10-11 correct = Very good.
Fewer than 10 correct = Go over the answers and try to learn more about asthma.

From Asthma “I.Q.” Quiz prepared by the National Heart, Lung, and Blood Institute

7.4 Managing Asthma and Allergies in DC Schools
### Answers to the Asthma “I.Q.” Quiz

1. **TRUE.** Asthma is a common disease among children and adults in the United States, and it is increasing. About 22 million people have asthma, of whom 6.5 million are under 18 years of age.

2. **FALSE.** Asthma is not an emotional or psychological disease, although strong emotions can sometimes make asthma worse. People with asthma have sensitive lungs that react to certain things, causing the airways to tighten, swell, and fill with mucus. The person then has trouble breathing and may cough and wheeze.

3. **FALSE.** The way parents raise their children does not cause asthma. It is not caused by a poor parent-child relationship or by being overprotective.

4. **FALSE.** Asthma episodes can be harmful. People can get very sick and need hospitalization. Some people have died from asthma episodes. Frequent asthma episodes, even if they are mild, may cause people to stop being active and living normal lives.

5. **FALSE.** Sometimes an asthma episode may come on quite quickly. However, before a person has any wheezing or shortness of breath there are usually symptoms such as a cough, scratchy throat, or tightness in the chest. Most patients can learn to recognize these early symptoms and can take medicine to prevent a serious episode.

6. **TRUE.** For most people with asthma, an episode can start from many different “triggers.” Some of these things are pollen from trees or grasses; molds or house dust; weather changes; strong odors; cigarette smoke and certain foods. Other triggers include being upset; laughing or crying hard; having a cold or the flu; or being near furry or feathered animals. Each person with asthma has an individual set of asthma “triggers.”

7. **TRUE.** There is no cure yet for asthma. However, asthma patients can control it to a large degree by:
   - Getting advice from a doctor who treats asthma patients.
   - Learning to notice early signs of an asthma episode and to start treatment.
   - Avoiding things that can cause asthma episodes.
   - Taking medicine just as the doctor says.
   - Knowing when to get medical help with a severe episode.

8. **TRUE.** Several types of medicines are available to control asthma. Some people with mild asthma need to take medication only when they have symptoms. But most people need to take medicine every day to prevent symptoms and also to take medicine when symptoms do occur. A doctor needs to decide the best type of medicine for each patient and how often it should be taken. Asthma patients and their doctors need to work together to manage the disease.
9. **FALSE.** People with asthma can monitor how well their lungs are functioning with a peak flow meter. This small device can be used at home, work or school. The peak flow meter may show that the asthma is getting worse before the usual symptoms appear.

10. **TRUE.** Both children and adults can have asthma. Sometimes, but not always, symptoms will go away as children get older. However, many children continue to have asthma symptoms throughout adulthood.

   In some cases, symptoms of asthma are not recognized until a person is an adult.

11. **TRUE.** Smoke from cigarettes, cigars and pipes can bring on an asthma attack. Indoor smoky air from fireplaces and outdoor smog can make asthma worse. Some can also “set off” other triggers. Smokers should be asked not to smoke near someone with asthma. Moving to another room may help, but smoke travels from room to room. No smoking is best for everyone!

12. **FALSE.** Exercise is good for most people—with or without asthma. When asthma is under good control, people with asthma are able to play most sports. For people whose asthma is brought on by exercise, medicines can be taken before exercising to help avoid an episode. A number of Olympic medalists have asthma.
School-Based Programs

Asthma and anaphylaxis education delivered in the schools can help students and their parents/guardians to prevent and control symptoms, and also lessen the burden on the school community caused when students with uncontrolled asthma or anaphylaxis episodes experience reduced health and mental health, miss school due to symptoms, disrupt class time during acute episodes, or cannot fully participate in physical activity and extracurricular activities. Students who do not have asthma or anaphylaxis also should receive instruction, to promote greater awareness of these conditions and support for their classmates. They also may find themselves in an emergency situation and be more likely to take action as a result of their training (e.g., to alert a staff member) that could help save a student’s life.

According to the Expert Panel Report 3 (EPR-3): Guidelines for the Diagnosis and Management of Asthma, some, but not all, school-based asthma programs have demonstrated success in reducing symptoms and urgent health care use and in improving school attendance and performance. EPR-3 concludes that proven school-based programs should be considered for implementation because of their potential to reach large numbers of children with asthma and to provide an “asthma-friendly” learning environment for students with asthma.

Furthermore, teacher-led asthma education interventions have been successful in improving asthma outcomes in secondary schools and in improving school policies. In a very large trial, teachers were trained to deliver asthma education to students who had and did not have asthma. This study revealed positive changes in students’ knowledge of asthma, their perception that asthma could be controlled, and their tolerance of asthma in others. Five-year follow-up showed that this program was still being taught by 71% of the teachers who had been trained.

The Resources Section of this guide will point you toward a number of validated programs, curricula, and lessons plans for students of all ages. Most are available for free or low cost. Some of the programs are aligned to updated national health education standards. Asthma, anaphylaxis, and environmental awareness education for students can be integrated within health education, science, and physical education curricula. Students also can be taught first aid, CPR, and other lifesaving strategies.

Educating Students and Families

Successful management of asthma and anaphylaxis requires that the student and his or her parents/guardians have a fundamental understanding of, and skills for following, the therapeutic
recommendations, including medications and preventive measures to avoid or control factors that contribute to symptoms. Initial assessment, therefore, should include an evaluation of the student's self-management skills. A number of assessment instruments and reinforcement tools are included in this guide or referenced in the Resources Section (e.g., Asthma Symptoms and Peak Flow Diary, Parent or Guardian Questionnaire, Is Your Asthma Under Control? Questionnaire, Asthma Control Test”). Understand and address the individual needs of the student and family. In addition, take every opportunity to reinforce the key knowledge and skills needed to keep the student’s asthma and/or anaphylaxis under control.

Managing Asthma: A Guide for Schools from the U.S. Department of Health and Human Services and the U.S. Department of Education recommends the following overall approaches to educating students and families, adapted here to include anaphylaxis:

- Provide asthma and anaphylaxis education for the general student body to encourage students to be supportive of classmates who have these conditions.

- Provide education for students with asthma and anaphylaxis to help them improve their self-management skills.

- Collaborate with parent-teacher organizations to offer family asthma and anaphylaxis education programs in schools.

“The Expert Panel recommends that implementation of school-based asthma education programs proven to be effective be considered to provide to as many children who have asthma as possible the opportunity to learn asthma self-management skills and to help provide an “asthma-friendly” learning environment for students who have asthma.”


7.8 Managing Asthma and Allergies in DC Schools
Resources, including Web sites, are mentioned in this guide as suggestions and examples from the many resource materials available. Listings of materials and resources in this guide should not be construed or interpreted as an endorsement by the sponsors or authors of this publication or of any private organization or business listed herein.
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DC Programs and Resources

**American Lung Association of the District of Columbia.** Offers Open Air Ways for Schools, Camp Happy Lungs, and other lung health programs. For more information, call (202) 546-5864. [www.aladc.org](http://www.aladc.org)

**Asthma Swim (Project HEALTH DC).** Project HealthDC’s Asthma Swim program empowers children with asthma ages 6 to 12 years to reduce their symptoms and advocate for their own health. Volunteers lead program sessions that help participants increase their adherence to their personal asthma management plans and teach them to communicate effectively about their asthma with their doctors, teachers, friends, and families. Volunteers also lead participants in swim workouts; an activity that is known to decrease the frequency and severity of asthma attacks and improve lung capacity as well as children’s self-confidence. The program is held at the Turkey Thicket Recreation Center, 1100 Michigan Ave., NE, Washington, DC 20017. To register, call 202-476-5780. [www.projecthealth.org](http://www.projecthealth.org)

**DC Control Asthma Now (DC CAN), Asthma Control Program.** A program of the District of Columbia Department of Health under a cooperative agreement with the Centers for Disease Control and Prevention, DC CAN works with the community to address five areas outlined in DC’s Strategic Asthma Plan: surveillance, environmental and occupational health, health education, health services and quality assurance, and policy. In August 2007, DC CAN received a two-year renewal of its CDC funding. For more information or to request the following materials developed by DC CAN, call (202) 442-8113. [http://dchealth.dc.gov/doh/cwp/view,a,1374,q,601366.asp](http://dchealth.dc.gov/doh/cwp/view,a,1374,q,601366.asp)

- **Asma en nuestra Comunidad** Spanish-language video (15 minutes), produced by Small House Productions, 2005
- **Asthma and the Elderly Video** (17 minutes), produced by WHUT-TV, December 2004
- **Childhood Asthma Video** (11 minutes), produced by WHUT-TV, October 2004
- **Empowered for Success: A Senior’s Guide to Asthma Control Brochure**

**DC Healthy Families Insurance Program.** DC Healthy Families provides free health insurance to uninsured children under age 19 and their parents/guardians who meet eligibility criteria. It funded by the District of Columbia and federal government and is administered by the Department of Health. Call 1-888-557-1116 (TDD/TTY 1-877-6-PARENT) for information or pick up an application at the local library, Giant, Safeway, CVS, and Rite Aid. [http://doh.dc.gov/doh/cwp/view,a,1371,q,575879,dohNav_GID,1807.asp](http://doh.dc.gov/doh/cwp/view,a,1371,q,575879,dohNav_GID,1807.asp)

**DC Tobacco Free Families Campaign.** DC Tobacco Free Families Campaign, a partnership of the American Cancer Society, the American Lung Association of the District of Columbia, and the DC Department of Health, funded by tobacco settlement funds, is implementing a comprehensive tobacco cessation and prevention program for DC residents. [www.tff.org](http://www.tff.org)

**DC Quitline® at 1-800 QUIT-NOW (TTY 1-800-332-8615).** If you are a DC resident interested in speaking with someone about quitting smoking, or want to receive information to help a friend or family member, call the DC Quitline® at 1-800 QUIT-NOW anytime 24x7. [www.tff.org](http://www.tff.org)

**DC Rx Prescription Drug Discount Card.** The DC Rx Prescription Drug Discount Card can help DC residents save money on prescription medications. The card is free and available to all District residents regardless of age, income or existing health insurance. The card is accepted at over 98% of all District pharmacies. Call the DC Pharmaceutical Resource Center at (202) 481-1430 to receive a card in the mail or visit one of the distribution sites. On the Web, click on “DC Rx Discount Card.” [www.doh.dc.gov/doh](http://www.doh.dc.gov/doh)

**DC HealthCheck Program.** The Early and Periodic Screening, Diagnosis, and Treatment Program (EPSDT) Program (known as the “HealthCheck Program” in DC) provides free check-ups and treatment to children eligible for Medicaid and/or DC Healthy Families children under age 21. The EPSDT program consists of two mutually supportive, operational components: (1) assuring the availability and accessibility of required health care resources; and (2) helping Medicaid recipients and their parents or guardians effectively use these resources. To learn more about DC’s HealthCheck, call (202) 442-5988.
DC Public Schools (DCPS). Visit the DCPS Web site for information about student health requirements and download the Student Health Packet, DC Child Health Certificate Assessment Form, and Oral Health Assessment Form, all available in a number of languages. For additional information, contact the DC Department of Health Hotline at (202) 671-5000. www.k12.dc.us/schools/immunization.htm

DC Schools. DC.Gov’s Education Center is an online gateway connecting you to information, publications, documents, and online services relating to public, private, and parochial education in DC from pre-K to college. http://educationcenter.dc.gov


The HSC Foundation Community Services Resource Directory. This comprehensive online resource, available in English and in Spanish, is designed to help families - especially those who have children and adults with disabilities and chronic illness - find community services throughout the Washington DC metropolitan area. Search on “asthma,” “environmental resources” or other key words, or browse the directory in English or Spanish for local health and human service providers. www.hscpediatriccenter.org

Mid-Atlantic Center for Children’s Health and the Environment (MACCHE). MACCHE is a joint effort between the George Washington University Medical Center and the Children’s National Medical Center that provides information and consultation to parents, teachers, physicians and others about children’s environmental health. It is a regional Pediatric Environmental Health Specialty Unit funded by the Association of Occupational and Environmental Clinics through a cooperative agreement with the Agency for Toxic Substances and Disease Registry and the U.S. Environmental Protection Agency. Call 202-994-1166 or 1-866-MACCHE1 (622-2431) or go online for fact sheets on mold, lead in the water, and other environmental health issues. www.health-e-kids.org

National Capital Asthma Coalition (NCAC). NCAC is a 501(c)(3) nonprofit alliance of more than 70 diverse organizations and 300 individuals that serves as a major resource for asthma education and a model for institutional collaboration in DC. In addition to its Asthma-Friendly Schools Training and Awards Program (www.dcschoolasthma.org), NCAC conducts a professional asthma management training seminar and an asthma home visiting program. NCAC also spearheaded a collaborative process with the DC Department of Health, DC Public Schools, and the medical community that resulted in the development of the DC Asthma Action Plan and the passage of the Student Access to Treatment Emergency Act of 2007. www.dcasthma.org

The Student Support Center. The Student Support Center serves as a one-stop capacity building center for DC Charter Schools. It provides assistance and resources for administrators, staff, teachers, parents, and youth advocates. www.studentsupportcenter.org

Rx4DC.org. Rx4DC.org is a program of the Pharmaceutical Research and Manufacturers of America in partnership with national and local organizations that helps low-income, uninsured District of Columbia residents get free or discounted brand-name medicines. It provides a single point of access to nearly 475 public, private, and local patient assistance programs. Rx4DC also can provide trainings on how to use the Rx4DC program to help patients in need. Call 888-477-2669 for assistance. www.Rx4DC.org
MANAGING ASTHMA IN SCHOOLS

Addressing Asthma in School Fact Sheet. This fact sheet provides information on children with asthma, asthma prevalence data, and a summary of CDC’s six strategies for addressing asthma within a coordinated school health program. www.cdc.gov/HealthyYouth/asthma/pdf/asthma.pdf

Asthma Fact Sheets. These fact sheets on asthma in adult and child populations include information on morbidity, healthcare use, mortality, and other summary data. www.cdc.gov/nchs/fastats/asthma.htm

Asthma in Schools 101. This information packet, created by the National School Boards Association’s School Health Program, contains facts and articles about best practices, and sample policies related to asthma management within the school system. www.nsba.org/site/doc_schoolhealth_abstract.asp?TrackID=&SID=1&DID=31300&CID=1116&VID=53

Asthma Management: A Resource for Schools. This publication was compiled by The Illinois Department of Human Services School Health Program to provide basic information about asthma and to provide asthma resources for school health personnel. The unique needs of each individual child with asthma must be evaluated by a physician and an Asthma Action Plan should be developed to address those needs. January 2001. www.dhs.state.il.us/chp/ojh/SchoolHealth/pdf/Asthma.PDF

Basic Facts about Asthma. This fact sheet contains information on what asthma is, its effects, how asthma is diagnosed, what an asthma attack is, causes of an asthma attack, how asthma is treated, and important asthma triggers. Also available in Spanish. www.cdc.gov/asthma/faqs.htm; www.cdc.gov/asthma/spanish/sp_faqs.htm

Boston Public Schools – Superintendent’s Circulars. The Boston Public Schools Superintendent has issued circulars outlining policies, procedures, and administrative controls for Integrated Pest Management, Green Cleaners (vendors must provide proof that their environmentally friendly cleaning products meet the criteria for Green Seal), Medical Emergencies, Field Trips and Athletic Trips (including medication administration), and Smoking Policy prohibiting tobacco use, among other issue areas. http://boston.k12.ma.us/dept/bps_memo.asp

Children and Asthma in America. This landmark survey is one of the largest and most comprehensive surveys of knowledge, attitudes, and behavior toward asthma in children in the United States. A survey of a national probability sample of 801 respondents regarding children, four to 18 years of age with current asthma, was conducted by telephone interview February to May 2004. It includes a survey slide set. www.asthmainamerica.org

Fit, Healthy, and Ready to Learn: A School Health Policy Guide. Part III: Policies Related to Asthma, School Health Services, and Healthy Environment. This publication of the National Association of State Boards of Education provides suggestions for education decision makers about policies and programs related to asthma and other chronic health conditions. It provides sample policies that states, school districts, and public and private schools can adapt or revise to fit their local needs and governance frameworks. www.nasbe.org/HealthySchools/fithhealthy.html

Health in Action: Asthma in the School Community. The November/December 2003 issue of the American School Health Association's publication includes articles written by school asthma experts on topics such as growing up with asthma and school policies and plans related to asthma. www.ashaweb.org/healthinaction.html

Healthy School Environments Assessment Tool (HealthySEAT). The U.S. Environmental Protection Agency (EPA) has developed a software tool to help school districts evaluate and manage their school facilities for key environmental, safety and health issues. HealthySEAT can be customized and used by district-level staff to conduct voluntary self-assessments of school facilities and to track and manage information on environmental conditions school by school. EPA has included critical elements of all of its regulatory and voluntary programs for schools, as well as web links to more detailed information. www.epa.gov/schools/healthyseat/index.html

Healthy School Environment Resources. The U.S. Environmental Protection Agency’s gateway to online resources to assist facility managers, school administrators, architects, design engineers, school nurses, parents, teachers, and staff in addressing environmental health issues in schools. Topics include design, construction, and renovation; energy efficiency;
environmental education; facility operations and maintenance; indoor environmental quality; legislation and regulation; outdoor air pollution; portable classrooms; safety/preparedness; waste; waste reduction; and water. http://cfpub.epa.gov/schools

How Asthma-Friendly Is Your School? This questionnaire and checklist developed by the National Asthma Education and Prevention Program features seven items that can be used by parents, teachers, and school nurses to help pinpoint specific areas that may cause problems for children with asthma. Materials also are available in Spanish. www.nhlbi.nih.gov/health/public/lung/asthma/friendhi.htm

Knowledge Path: Asthma in Children and Adolescents. This knowledge path, compiled by the Maternal and Child Health Library at Georgetown University, offers a selection of recent, high-quality resources about asthma in children and adolescents, its management, and its impact on homes, schools, and communities. The path also identifies tools for staying abreast of new developments in asthma care and conducting further research. It is aimed at health professionals, program administrators, policy makers, educators, and families, and will be updated regularly. The path includes Web sites and electronic publications, journal articles, print publications, databases, and online discussion groups and electronic newsletters. http://mchlibrary.info/KnowledgePaths/kp_asthma.html

Living Well With Asthma: Canadian Asthma Society. This Canadian-based site provides information for the community and school staff. Includes physical education suggestions, tips for working with kids with asthma and printable tips for managing asthma. http://www.asthma.ca/adults/community/asthmaatschool.php

Managing Asthma: A Guide for Schools. This easy-to-use booklet was developed by the National Heart, Lung, and Blood Institute's National Asthma Education and Prevention Program to provide school personnel with practical ways to help students with asthma. www.nhlbi.nih.gov/health/prof/lung/asthma/asth_sch.htm

Managing Asthma in Schools – What Have We Learned? This special issue of the Journal of School Health provides updated information on developing, implementing, and evaluating school-based asthma programs. It features more than 25 research articles, brief reports, and case studies that cover a range of activities, such as asthma education programs for students and staff members, asthma-related health services, and policy changes. www.cdc.gov/healthyYouth/asthma/JOSH/index.htm

National Association of Education (NEA) Health Information Network. The NEA's Health Information Network consolidates information about asthma, environmental health, and other health-related resources for school personnel working with grades K-12. It provides a searchable database that links to educational materials, medical information, Web sites, and other resources useful for working with schools, children, and youth. www.neahealthinfo.org

Powerful Practices: A Checklist for School Districts Addressing the Needs of Students with Asthma. This document, developed by the American Association of School Administrators and partner school districts, helps school administrators identify areas of asthma management their district is already doing well, as well as areas in which they may want to focus more energy. http://aasa.files.cmsplus.com/PDFs/Focus/AASA%20Powerful%20Practices%20in%20Asthma%20Management.pdf

Questions School Leaders Frequently Ask About Asthma. Produced by the American Association of School Administrators, the document responds to school administrators' comments and requests for information on asthma. www.aasa.org/focus/content.cfm?ItemNumber=1953

QuickReport Card – Schools. Is your school's environment safe for students with asthma and allergies? The new QuickReport Card – Schools from the Asthma and Allergy Foundation of America is a handy resource for health care professionals, parents and school staff. This heavy-duty, 5”x7” card provides a quick and comprehensive check-list to help ensure a healthy school year. Available to download or to order. http://www.aafa.org/display.cfm?id=4&sub=81&cont=392
School Governance and Leadership Issue on Asthma Management. This publication of the American Association of School Administrators includes articles on childhood asthma, asthma management, school policies and procedures, indoor air quality, and liability and litigation. www.aasa.org/files/PDFs/Publications/Spring_20031.pdf

School Health Index: A Self-Assessment and Planning Guide. This tool from the CDC helps local schools understand their strengths and weaknesses and develop an action plan for improving their health policies and programs related to asthma and/or other health topics. www.cdc.gov/healthyyouth/shi

School House: Breatherville, USA. The Allergy & Asthma Network Mothers of Asthmatics (AANMA) created this site where parents, teachers, and school administrators can find extensive information and tools for keeping kids with asthma and allergies safe at school. www.aanma.org/schoolhouse


Strategies for Addressing Asthma Within a Coordinated School Health Program. This 12-page document offers concrete suggestions for schools and school districts working to improve the health and school attendance of children with asthma. The six strategies identified by the CDC can be effective whether your program is for the entire school district or just one school. www.cdc.gov/HealthyYouth/asthma/pdf/strategies.pdf

Tracking Childhood Asthma with School Data in Three States. This publication from the Association of State and Territorial Health Officials’ (ASTHO) Environmental Health program is a case study on using educational data for asthma surveillance. It features asthma surveillance programs that have incorporated school-based data into their work. States included in the case study are Connecticut, Maine, and Massachusetts. http://www.astho.org/pubs/TrackingChildhoodAsthmawithSchoolDataFeb.2006-final.pdf

MANAGING ANAPHYLAXIS IN SCHOOLS

AAAAI Anaphylaxis Education Tool Kit. This kit, from the American Academy of Allergy, Asthma and Immunology, contains examples of materials to assist healthcare professionals in training those at risk for anaphylaxis in the community, and their caregivers, to recognize anaphylaxis and treat it promptly. Resources in the kit include: Anaphylaxis = Killer Allergy (laminated information page), What is Anaphylaxis? brochure, Insect Allergy brochure, Food Allergy brochure, Latex Allergy brochure, Anaphylaxis Emergency Action Plan (also can be downloaded), Anaphylaxis Wallet Cards (also can be ordered separately), Allergy chart stickers, Food Allergy & Anaphylaxis Network (FAAN) brochure and DVD, EpiPen trainer and DVD, Twinject trainer and DVD, Anaphylaxis Killer Allergy reprint from JACI (2006), Anaphylaxis NIH FAAN Symposium reprint from JACI (2006). www.aaaai.org/members/resources/anaphylaxis_toolkit

AAAAI Anaphylaxis Wallet Cards. Wallet cards developed by the American Academy of Allergy, Asthma and Immunology allow individuals with anaphylaxis and those around them to respond quickly and accurately during an anaphylaxis attack. Can be ordered at: www.aaaai.org/members/resources/anaphylaxis_toolkit

Administration of Epinephrine for Life-Threatening Allergic Reactions in School Settings. The authors of this study, published in the November 2005 issue of the Journal of Pediatrics, conclude that anaphylactic reactions in schools, although not frequent, are not uncommon events. Of the 115 administrations of epinephrine reported between September 2001 to August 2003 in Massachusetts schools, 24% of the cases
occurred in individuals not known to have a life-threatening allergy and 19% of the cases occurred outside the school building on the playground, traveling to and from school, or on field trips. The administration of epinephrine most often occurred in the health office by a registered nurse. The average time from onset of symptoms to administration of epinephrine was 10 minutes. In 92% of the cases, the student was transported to a medical facility via the emergency medical system. http://pediatrics.aappublications.org/cgi/content/full/116/5/1134

Anaphylaxis: A Handbook for School Boards. The number of life-threatening allergies, especially to peanut products, is increasing. Anaphylaxis, the medical term for “allergic shock” or “generalized allergic reaction,” can be rapid and deadly. The Canadian School Boards Association and Health Canada published this comprehensive handbook for school boards to help them prepare for the possibility of an anaphylactic emergency, understand the applicable legislation and case law relating to providing emergency treatment, adapt the school environment for anaphylactic students, obtain valid consents and waivers, provide medical training to educators, and ensure student privacy is respected. www.safe4kids.ca/content/schools/anaphylaxis_eng.pdf

Be S.A.F.E. The American College of Allergy, Asthma & Immunology and the American College of Emergency Physicians launched this joint campaign to increase awareness of anaphylaxis, widely believed to be an under-recognized and under-treated medical emergency. The S.A.F.E. system, developed by an expert panel of allergists and emergency room physicians, is a mnemonic device with four action steps: Seek Support, Allergen Identification and Avoidance, Follow up for Specialty Care, and Epinephrine for Emergencies. Downloadable information includes Facts About Anaphylaxis, Quick Reference Card, and Patient Brochure. www.acaai.org/Member/Be_SAFE_Physician_Home.htm


Food Allergies: What You Need to Know. The U.S. Food and Drug Administration, Center for Food Safety & Applied Nutrition prepared this colorful two-page fact sheet (available in English and Spanish) to help Americans avoid the health risks posed by food allergens. Each year, millions of Americans have allergic reactions to food. Although most food allergies cause relatively mild and minor symptoms, some food allergies can cause severe reactions, and may even be life-threatening. There is no cure for food allergies. Strict avoidance of food allergens – and early recognition and management of allergic reactions to food – are important measures to prevent serious health consequences. http://www.cfsan.fda.gov/~dms/ffalrgn.html

Guidelines for Managing Life-Threatening Food Allergies in Connecticut Schools. The Connecticut State Department of Education in collaboration with the State Department of Public Health developed this publication to assist Connecticut public school districts and nonpublic schools in effectively managing the health and safety needs of children with life-threatening allergic conditions. It includes an overview; state and federal legislation; district-wide food allergy management plan; individualized health care plans; suggested roles of school personnel; sample policies, forms, letters, and care plans; and additional resources and references. http://www.sde.ct.gov/sde/lib/sde/PDF/deps/student/health/Food_Allergies.pdf

Information for Consumers: Food Allergen Labeling And Consumer Protection Act of 2004 (FALCPA) Questions and Answers. FALCPA (Title II of Public Law 108-282) is intended to improve food labeling information for the millions of consumers who suffer from food allergies. The Act will be especially helpful to children who must learn to recognize the allergens they must avoid. http://www.cfsan.fda.gov/~dms/alrgqa.html

Managing Life-Threatening Food Allergies in the Schools. A task force led by the Massachusetts Department of Education developed these guidelines to assist Massachusetts school districts and nonpublic schools to develop and implement policies and comprehensive protocols for the care of students with life-threatening allergic conditions. This resource guide
includes detailed policies and protocols that should be in place in every school to help prevent allergic reaction emergencies and deaths from anaphylaxis, the systematic planning and multi-disciplinary team approach needed prior to school entry by the student with life-threatening food allergies, the school’s role in preventing exposure to specific allergens, emergency management should a life-threatening allergic event occur, and the roles of specific staff members in the care of the student with a life-threatening allergic condition. While this document focuses on food allergies, treatment of anaphylaxis (a life-threatening allergic reaction) is the same whether caused by: insect sting; latex; or exercise induced. www.doe.mass.edu/cnp/allergy.pdf

**Self-injectable Epinephrine for First-Aid Management of Anaphylaxis.** This clinical report of the American Academy of Pediatrics, authored by Scott H. Sicherer, MD, F. Estelle R. Simons, MD and the Section on Allergy and Immunology and published in March 2007, focuses on practical issues concerning the administration of self-injectable epinephrine for first-aid treatment of anaphylaxis in the community. It concludes that epinephrine is the medication of choice for first-aid treatment of an episode of anaphylaxis. Moreover, prompt injection of epinephrine is nearly always effective in the treatment of anaphylaxis, and delayed injection of epinephrine is associated with poor outcomes including fatality. The recommended epinephrine dose for anaphylaxis in children, based primarily on anecdotal evidence, is 0.01 mg/kg, up to 0.30 mg. Intramuscular injection of epinephrine into the lateral thigh (vastus lateralis) is the preferred route for therapy in first-aid treatment. Epinephrine autoinjectors are currently available in only 2 fixed doses: 0.15 and 0.30 mg. On the basis of current, albeit limited, data, it seems reasonable to recommend autoinjectors with 0.15 mg of epinephrine for otherwise healthy young children who weigh 10 to 25 kg (22–55 lb) and autoinjectors with 0.30 mg of epinephrine for those who weigh approximately 25 kg (55 lb) or more; however, specific clinical circumstances must be considered in these decisions. This report also describes several quandaries in regard to management, including the selection of dose, indications for prescribing an autoinjector, and decisions regarding when to inject epinephrine. Effective care for individuals at risk of anaphylaxis requires a comprehensive management approach involving families, allergic children, schools, camps, and other youth organizations. Risk reduction entails confirmation of the trigger, discussion of avoidance of the relevant allergen, a written individualized emergency anaphylaxis action plan, and education of supervising adults with regard to recognition and treatment of anaphylaxis. http://aappolicy.aappublications.org/cgi/reprint/pediatrics;119/3/638.pdf

**School Safety Guidelines for Latex-Allergic Students.** The nonprofit American Latex Allergy Association developed this 84-page resource manual to educate and assist school personnel as they strive to create a latex-safe learning environment. It includes sample school policies and procedures; sample individualized student health plans; position statements from the National Association of School Nurses and the American Academy of Allergy, Asthma and Immunology; helpful articles about other schools that have banned latex; a template for a balloon ban sign; and physician forms to be completed by the child’s allergist and kept on file at the school. https://secure.latexallergyresources.org/store

**When Anaphylaxis Looks Like Asthma.** This four-page article from the Allergy & Asthma Network Mothers of Asthmatics highlights how early food allergy symptoms can be mistaken for asthma symptoms and using epinephrine early can save lives. www.aanma.org/medicalcenter

**GUIDELINES, POSITION STATEMENTS, AND RESOLUTIONS**

**Anaphylaxis in Schools and Other Child-Care Settings: Position Statement of the American Academy of Allergy, Asthma and Immunology (AAAAI) Board of Directors.** Among AAAAI’s recommendations: avoidance of a specific allergen is the cornerstone of management in preventing anaphylaxis; epinephrine is the first drug that should be used in the emergency management of a child having a potentially life-threatening allergic reaction (there are no contraindications to the use of epinephrine for a life-threatening allergic reaction); school personnel should develop a system of identifying children with life-threatening allergies to prevent anaphylactic reactions, and they should also be prepared to deal with those that occur despite precautions; and all individuals receiving emergency epinephrine should immediately be transported to a hospital even if symptoms appear to have resolved. http://www.aaaai.org/media/resources/academy_statements/position_statements/ps34.asp
Emergency Care Plans for Students with Special Health Care Needs. It is the position of the National Association of School Nurses (NASN) that students who have special health care needs that place them at greater risk for a medical emergency should have an individualized Emergency Care Plan. NASN also believes that the registered school nurse, the student (if appropriate and he/she is developmentally able), the student's family, and health care providers, should be members of the multidisciplinary team responsible for writing and implementing the ECP. A written Emergency Care Plan, coordinated by the school nurse, ensures a plan of action is in place to maintain the student's health and safety during a life-threatening emergency. www.nasn.org/Default.aspx?tabid=220

Epinephrine Use in Life-Threatening Emergencies. It is the position of the National Association of School Nurses that school nurses create and manage the implementation of emergency care plans for the treatment of life-threatening allergies in the school setting. An individual health care plan that includes periodic monitoring and nursing assessment, emergency plans, and evaluation should be written by the school nurse and maintained for every student with prescribed epinephrine. The school nurse should provide training for school staff in the recognition of life-threatening allergic reactions and the appropriate first aid/emergency measures that should be taken as determined by district policy and state law. www.nasn.org/Default.aspx?tabid=222

Environmental Impact Concerns in the School Setting. It is the position of the National Association of School Nurses that school nurses should be included in assessment, planning, implementation, and evaluation phases of programs designed to address environmental impact concerns. www.nasn.org/Default.aspx?tabid=293

Guidelines for the Diagnosis and Management of Asthma. The National Asthma Education and Prevention Program Expert Panel 3 (EPR-3) presents up-to-date recommendations for clinical practice that emphasize the importance of asthma control and introduce new approaches for monitoring asthma. Released in 2007, the updated recommendations include an expanded section on childhood asthma (with an additional age group), new guidance on medications, new recommendations on patient education in schools and other settings beyond the physician's office, and new advice for controlling environmental factors that can cause asthma symptoms. Written action plans as part of an overall effort to educate patients in self-management also are recommended. www.nhlbi.nih.gov/guidelines/asthma/index.htm

Improving Childhood Asthma Outcomes in the United States: A Blueprint for Policy Action. This RAND Corporation report describes a set of policy recommendations to create and maintain communities in which children with asthma can be swiftly diagnosed, effectively treated, and protected from exposure to harmful environmental factors. Recommendations are as follows: (1) develop and implement primary care performance measures for childhood asthma care; (2) teach children with persistent asthma and their families a specific set of self-management skills; (3) provide case management to high-risk children; (4) extend continuous health care coverage to uninsured children; (5) develop model benefit packages for essential childhood asthma services; (6) educate health care purchasers about asthma benefits; (7) establish public health grants to foster asthma-friendly communities and home environments; (8) provide asthma-friendly schools and school-based asthma programs; (9) launch a national asthma public education campaign; (10) develop a national asthma surveillance system; and (11) develop and implement a national agenda for asthma prevention research. www.rand.org/publications/MR/MR1330/

A Practical Guide to Anaphylaxis. Published in the October 1, 2003 issue of the American Academy of Family Physicians' American Family Physician,™ this article by Angela W. Tang, M.D. discusses the causes, signs, and symptoms of anaphylaxis; emergency management; and management of the patient with a history of anaphylaxis of treatment. www.aafp.org/afp/20031001/1325.html

Resolution on Asthma Management at School. The resolution of the National Heart, Lung, and Blood Association's National Asthma Education and Prevention Program states that schools should adopt policies for managing asthma that encourage the active participation of students in the
self-management of their condition and allow for the most consistent, active participation in all school activities.

www.nhlbi.nih.gov/health/public/lung/asthma/resolut.htm

The Role of School Nurses in Allergy/Anaphylaxis Management. It is the position of the National Association of School Nurses that schools have a basic duty to care for students, utilizing appropriate resources and personnel. Prevention of allergy symptoms involves coordination and cooperation within the entire school team and should include parents, students, school nurses, and appropriate school personnel. Early recognition of symptoms and prompt interventions of appropriate therapy are vital to survival.


School Guidelines for Managing Students with Food Allergies. The risk of accidental exposure to foods can be reduced in the school setting if schools work with students, parents, and physicians to minimize risks and provide a safe educational environment for food-allergic students. Developed by American School Food Service Association, National Association of Elementary School Principals, National Association of School Nurses, National School Boards Association, and The Food Allergy & Anaphylaxis Network. www.foodallergy.org/school/SchoolGuidelines.pdf

Students with Chronic Illnesses: Guidance for Families, Schools and Students. This guidance document describes practical and low-cost actions schools and families can take to address multiple chronic diseases. It has been endorsed by the National Asthma Education and Prevention Program, the American Diabetes Association, the American School Health Association, the Epilepsy Foundation, the Food Allergy & Anaphylaxis Network, and the National School Boards Association. www.nhlbi.nih.gov/health/public/lung/asthma/guidfam.htm

Suggested Emergency Protocol for Students with Asthma Symptoms. This guidance document, developed by the National Heart, Lung, and Blood Association's National Asthma Education and Prevention Program, provides a sample emergency protocol that may be used for students who do not have a personal plan at school. This protocol is intended to be used along with other school asthma management materials. www.nhlbi.nih.gov/health/prof/lung/asthma/sch-emer-protocol.htm

The Use of Asthma Rescue Inhalers in the School Setting. It is the position of the National Association of School Nurses to support students with asthma who actively participate in the self-management of their condition and in the self-administration of prescribed, inhaled asthma medications [rescue inhalers]. The self-administration of rescue inhalers should be evaluated on a case-by-case basis with parent, physician, student, and school nurse involvement. Written permission from the parent should be accompanied by documentation from the healthcare provider confirming that the student has the knowledge and skill to safely possess and use a rescue inhaler in the school setting. The student should have on file a written asthma action plan that includes a plan for monitoring rescue inhaler usage, monitoring of symptoms, and evaluation of the student's self-monitoring skills by the school nurse. When administered safely and properly, self-administration of rescue inhalers can be one important step in a student's overall asthma management.


When Should Students with Asthma or Allergies Carry and Self-Administer Emergency Medications at School? This resource, developed by the National Heart, Lung, and Blood Association's National Asthma Education and Prevention Program, is useful in assessing a student's maturity, disease knowledge and management skills, and appropriateness to carry and self-administer prescribed emergency medications while at school according to his/her personal disease management plan. www.nhlbi.nih.gov/health/prof/lung/asthma/emer_medi.htm

ACTION PLANS FOR ASTHMA, ALLERGY, AND ANAPHYLAXIS

Anaphylaxis Emergency Action Plan. This tool, developed by the American Academy of Allergy, Asthma and Immunology, can be used by parents and physicians of school-age children to communicate the student's anaphylaxis management plan to school personnel. http://www.aaaai.org/members/resources/anaphylaxis_toolkit/action_plan.pdf

Asthma Action Card. This tool, developed by the Asthma and Allergy Foundation of America (AAFA), can be used by parents and physicians of school-age children to communicate the student's asthma management plan to school personnel.
It contains information on asthma triggers, daily medication, and emergency directions to be kept on file at their school and other important locations. Also available to download or to order are AAFA’s Child Care Asthma/Allergy Action Card, QuickAllergy Cards, and QuickAsthma Cards. http://www.aafa.org/display.cfm?id=4&sub=81&cont=392

DC Asthma Action Plan. Approved by the DC Department of Health, adapted from the NAEPP guidelines by Children’s National Medical Center, and coordinated by the National Capital Asthma Coalition, this form can be used by the healthcare provider and parent/guardian to permit the administration of rescue medication by the school nurse and/or authorized school staff and the self-administration of rescue medication by the student. For more information, call (202) 442-5925. Available in English and Spanish at www.dc asthma.org, www.doh.dc.gov, and www.k12.dc.us


ASTHMA AND ANAPHYLAXIS TOOL KITS

Allies Against Asthma Resource Bank. This centralized database enables the sharing of information about resources, tools, and materials for coalitions and community programs addressing asthma. It includes educational materials, resources for implementing asthma intervention programs, evaluation/survey instruments to measure asthma-related activities or outcomes, information about community coalitions, and tools to evaluate asthma educational materials. The site is supported by the Robert Wood Johnson Foundation with direction and technical assistance provided by the School of Public Health at the University of Michigan. http://aaa.sph.umich.edu/index.jsp

Asthma-Friendly Schools Toolkit. This toolkit was produced by the American Lung Association and includes background information and specific materials to assist coalitions and community organizations to work with schools to create an environment that is supportive of students, faculty, and staff with asthma. Sample materials at the end of each section and an asthma-friendly schools case management database are included. www.lungusa.org/afsi

Asthma Initiative of Michigan (AIM). AIM’s new health information kits titled Never Judge a Book by Its Cover, and Other Important Lessons About Asthma are tailored to specific school staff and outline actions principals, administrative assistants, teachers, and custodians can take to help kids with asthma at school, including how to respond to an asthma emergency. Links to sites on work-related asthma, asthma and schools, and reasonable accommodations law are included. http://getasthmahelp.com/intro_schools.asp

Asthma Management in Educational Settings (AMES). AMES is an educational guide developed by members of the Asthma Management in the Schools Task Force, under the direction of the Washington Asthma Initiative through the American Lung Association of Washington. It is divided into four sections: Schools, Clinical Tools, Educational Tools, and Resource Links. The guide offers both generic information of interest to all and role-specific information. The Schools section contains a manual for school nurses and a resource section to provide information for students, parents and school personnel and to collect and disseminate student asthma-related information. This guide also will be helpful for all school personnel. The Clinical Tools section houses the state guidelines for clinical care of asthma as well as recommended asthma management plans, and other recommended national educational materials. The Educational Tools section provides resources for asthma education in the form of PowerPoint presentations, MP3 videos, quizzes, and classroom or health fair activities. www.alaw.org/asthma/ames

FAAN’s School Food Allergy Program. The Food Allergy & Anaphylaxis Network’s School Food Allergy Program offers a comprehensive, multimedia program that includes a video, an EpiPen® trainer, Twinject® trainer, a poster, and a binder filled with more than 100 pages of information and standardized forms. Used by thousands of schools to date, the School Food Allergy Program has been endorsed and/or supported by the Anaphylaxis Committee of the American Academy of Allergy Asthma and Immunology, the National Association of School Nurses, and the Executive Committee of the Section on Allergy and Immunology of the American Academy of Pediatrics. Request a free kit for your school. http://www.foodallergy.org/school.html

Managing Asthma in Connecticut Schools. The Connecticut Department of Health published this state school asthma manual with an emphasis on coordinated school health. This easy-to-read manual not only describes the components of a coordinated school health program but also has sections for school administration, medical advisors, school nurses, all school staff, and family. [www.dph.state.ct.us/bch/new_asthma/asthma_schl_manual_web.pdf](http://www.dph.state.ct.us/bch/new_asthma/asthma_schl_manual_web.pdf).

Managing Asthma in Minnesota Schools. This asthma manual, produced by the Minnesota State Health Department, is divided into sections for different audiences such as teachers, secretaries, health staff, administrators, and many more. There are also sections on training, asthma basics, and resources. [www.health.state.mn.us/divs/hpcd/cdee/asthma/documents/schoolmanual.pdf](http://www.health.state.mn.us/divs/hpcd/cdee/asthma/documents/schoolmanual.pdf).

Missouri School Asthma Manual (2005). This easy-to-use asthma manual and video tutorials, including an excellent 17-minute School Staff In-Service Video, were developed by the Missouri Department of Health and Human Services. [www.dhss.mo.gov/asthma/Publications.html](http://www.dhss.mo.gov/asthma/Publications.html).

PACNJ Asthma Friendly School Award. The Pediatric/Adult Asthma Coalition of New Jersey (PACNJ) publicly recognizes asthma-friendly schools that have met its six criteria for success – nebulizer in every school, school nurse asthma training and on-line quiz, faculty asthma training, EPA’s Indoor Air Quality Tools for Schools training, and No-Idling Pledge. PACNJ’s School Task Force provides additional materials. [www.pacnj.org](http://www.pacnj.org).

**EMERGENCY PREPAREDNESS**

District of Columbia Public Schools Influenza Pandemic Plan. The purpose of this plan is to provide policy direction and procedures that DC Public Schools (DCPS) will use in the event of an influenza pandemic. The plan was modeled after the Centers for Disease Control and Prevention influenza pandemic recommendations for local school districts. The plan adopts the basic commands, system of security, surveillance, and disease management that is covered in the DCPS Emergency Response Plan, the District of Columbia Department of Health Pandemic Influenza Plan and the District of Columbia Emergency Management Agency Response Plan. The plan also provides standard operational procedures that will be used during any pandemic alert level that has been identified by DOH and the World Health Organization. [www.k12.dc.us/dcps/frontpagepdfs/health/Pandemic%20Plan/REV41Fin1%20_4_.pdf](http://www.k12.dc.us/dcps/frontpagepdfs/health/Pandemic%20Plan/REV41Fin1%20_4_.pdf).

Emergency Guidelines for Schools (EGS). EGS includes guidelines for helping an ill or injured student when the school nurse is not available. Colorful flowcharts are included for a number of emergency conditions from allergy and asthma to unconsciousness and vomiting. EGS also includes recommendations for first aid equipment and supplies for schools. The Ohio Department of Health, School and Adolescent Health, in collaboration with the Ohio Department of Public Safety, Emergency Medical Services for Children program, and the Emergency Care Committee of the Ohio Chapter, American Academy of Pediatrics released the third edition of EGS in February 2007. Maine, North Dakota, and Oklahoma each have adopted this guide for their own state. [www.schoolhealth.org/content/Emergency%20Guidelines%20for%20Schools%202007.pdf](http://www.schoolhealth.org/content/Emergency%20Guidelines%20for%20Schools%202007.pdf).

Emergency Response and Crisis Management Technical Assistance Center. This U.S. Department of Education Web site provides access to tools to help school districts develop comprehensive plans for any emergency or crisis, including natural disasters, violent incidents, and terrorist acts. [www.ercm.org](http://www.ercm.org).

First Aid, Cardiopulmonary Resuscitation (CPR), and Automated External Defibrillator (AED) Courses. Find local resources to train school staff and middle and high school students on techniques for AED devices, cardiopulmonary resuscitation, and first aid through your school nurse and through local chapters of the American Heart Association, American Red Cross, and other programs.
Health, Mental Health and Safety Guidelines for Schools. This online guide offered by the American Academy of Pediatrics was developed in collaboration with the National Association of School Nurses and more than 30 national organizations. It covers a range of issues, such as health, safety, and physical education; physical environment and transportation; nutrition and food services; and family and community involvement. Look for “allergy” and “asthma” in the Subject Index. www.nationalguidelines.org

Managing Students with Food Allergy During a Shelter-In-Place Emergency. The Food Allergy & Anaphylaxis Network offers suggestions to those planning for emergency situations to ensure the safety of all food-allergic children during the event of a lockdown situation. www.foodallergy.org/school/EmergencyLockdownGuidelines.pdf

PediatricAsthma.org. This Web site from The Robert Wood Johnson Foundation details the work of 14 asthma research teams across the country, including two from DC – IMPACT DC and the National Capital Asthma Coalition, features successful interventions, and discusses how individual communities, emergency departments and health care systems have put theory into practice. www.pediatricasthma.org

Response to Cardiac Arrest and Selected Life-Threatening Medical Emergencies: The Medical Emergency Response Plan for Schools: A Statement for Healthcare Providers, Policymakers, School Administrators, and Community Leaders. The goal of the Medical Emergency Response Plan for Schools initiative is to encourage every school to develop a program that reduces the incidence of life-threatening emergencies and maximizes the chances of intact survival from an emergency. The medical emergency response plan includes (1) creation of an effective and efficient campus-wide communication system; (2) coordination, practice, and evaluation of a response plan with the school nurse and physician, athletic trainer, and local EMS agency; (3) risk reduction; (4) training in and equipment for cardiopulmonary resuscitation (CPR) and first aid for the school nurse, athletic trainers, and teachers and CPR training for students; and (5) in schools with a documented need, establishment of an automated external defibrillator (AED) program. This statement has been endorsed by the numerous professional organizations such as the American Heart Association, American Academy of Pediatrics, American College of Emergency Physicians, American National Red Cross, National Association of School Nurses, and National Association of State EMS Directors. This statement was also reviewed by the CDC’s Division of School and Adolescent Health. www.nasn.org/Portals/0/statements/jointstatementcardiac.pdf and http://aappolicy.aappublications.org/cgi/reprint/pediatrics;113/1/155.pdf

SCHOOL NURSES AND HEALTH STAFF

Inhaled Medication and Devices CD ROM. Are your patients using their aerosol inhalers properly? Are all the choices and methods confusing to them? This interactive CD-ROM from the American College of Chest Physicians (ACCP) describes and demonstrates the proper techniques with professionally narrated videos and printable text. Includes device usage, cleaning, daily diaries, and peak flow management. Easy to navigate to view only the portions you need. A great learning or review tool for nurses and physicians too. Order from the ACCP Store. www.chest.net

Is the Asthma Action Plan Working? A Tool for School Nurse Assessment. This brief assessment tool, developed by the National Heart, Lung, and Blood Association’s National Asthma Education and Prevention Program, offers guidance to school nurses in determining how well an asthma action plan is working for a student. It includes information about good asthma control and a checklist of assessment items and can also be used by asthma educators, primary care providers, and asthma specialists. www.nhlbi.nih.gov/health/prof/lung/asthma/asth_act_plan_frm.htm

Report on the Results of the Asthma Awareness Survey. According to a national sample of members surveyed from the National Association of School Nurses, asthma is more disruptive of school routines than any other chronic condition, has a significant impact on absenteeism and many school staff may lack awareness of the causes of an asthma attack. http://www.nasn.org/Portals/0/resources/asthma_survey.pdf

School Nurse Asthma Management Program. A continuing asthma management and education training program for school nurses offered by the National Association of School Nurses. www.nasn.org
Managing Asthma and Allergies in DC Schools

School Health Nursing Services Role in Health Care: Asthma Management in the School Setting. This issue brief from the National Association of School Nurses describes the important role school nurses play. The school nurse develops and implements, in coordination with local providers and the coordinated school health team members, the child’s asthma management plan; establishes and monitors compliance with school policy related to the management of children at school and during school-related activities; develops protocols for the care of children with acute respiratory distress at school; provides or supervises proper medication administration; supports education of the child in self-management; monitors the child’s condition; advocates for the child’s inclusion in school-related activities; and works with school staff to assure that accommodations are in place for the child’s well-being.

School Nurse Toolkit. This toolkit, developed by the American Academy of Allergy, Asthma, and Immunology, is designed to help school nurses educate parents, teachers, school personnel, and students about allergies and asthma. The kit is divided into three sections: Education, PowerPoint Presentations, and Handouts. www.aaaai.org/members/allied_health/tool_kit/

SchoolNurse.com. This Web site posts articles from past issues of the monthly subscription newsletter School Health Alert. Publications of interest to school nurses also can be purchased from this Web site, including Clinical Guidelines for School Nurses, Individualized Healthcare Plans for the School Nurse, and Legal Issues in School Health Services. www.schoolnurse.com

PROFESSIONAL TRAINING

AAFA Asthma Management and Education Program. Primarily for registered nurses, nurse practitioners and respiratory therapists, this continuing education program from the Allergy and Asthma Foundation of America provides the latest techniques in asthma care and current and reliable patient education information and materials. Contact Sonia D. Landry, MPH at 202-466-7643, x 227 or at lasonia@aafa.org

An Asthma Speaker’s Kit for Healthcare Professionals. This PowerPoint presentation (also available in Spanish) is divided into seven parts: introduction, epidemiology, risk factors, prevention, clinical management, managing asthma, and the public health response. A resource section also is included. www.cdc.gov/asthma/speakit/default.htm

Head Start Caring for Children with Chronic Conditions: Training Guides for the Head Start Learning Community. This publication, also available online, includes three modules: Module 1: Understanding Chronic Conditions, Module 2: Is This Family Centered?, and Module 3: Putting It All Together: Caring for Children with Asthma. www.headstartinfo.org/publications/children_cc/cccont.htm

National Asthma Educator Certification Board (NAECB). NAECB provides information to those involved in asthma education and interested in becoming an Asthma Educator-Certified. An asthma educator is an expert in counseling individuals with asthma and their families on how to manage asthma and minimize its impact on their quality of life. www.naecb.org

National Asthma Training Curriculum (NATC). The Centers for Disease Control and Prevention produced this CD-ROM as an off-the-shelf resource guide about asthma for the public health workforce. NATC provides a basic overview of asthma outlined in the following six modules: Pathophysiology and Diagnosis, Asthma Management, Epidemiology, Asthma Surveillance, Asthma Education for the Patient, Provider and the Public, and Administration of Asthma within Public Health. Order the CD-ROM from the Public Health Foundation. http://bookstore.phf.org

The National Respiratory Training Center (NRTC). NRTC is an independent, non-profit educational organization committed to improving the health of patients with respiratory and allergic disease by enhancing the knowledge and skills of the health professionals who care for them. Courses are offered in various locations around the country and can be arranged specifically for any group of 20 health professionals. www.nrtc-usa.org

School Asthma Education Slide Sets. The National Heart, Lung, and Blood Association’s National Asthma Education and Prevention Program provides two slide sets. The first set presents background information about the growing problem of asthma
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in the United States and what school staff should know about helping students to manage their asthma, including triggers and warning signs of asthma episodes (attacks). The second set outlines five goals and action steps that are important for successful asthma management in school settings. http://hp2010.nhlbi.nih.gov/naepp_slds/menu.htm

EDUCATING STUDENTS AND FAMILIES

A+ LIFE® (Asthma Learning Is For Everyone®).  
This family centered asthma education program, developed by the National Capital Asthma Coalition; DC’s four Medicaid managed care organizations (AMERIGROUP District of Columbia, DC Chartered Health Plan, Health Right, Inc., and Health Services for Children with Special Needs); the National Capital Area Society for Public Health Education; and the National Children's Museum. Includes fun activities that can be conducted as a workshop or separately at parent-teacher nights, school health fairs, and other gatherings. www.dcasthma.org

Asthma Awareness Curriculum. This curriculum, developed by the National Asthma Education and Prevention Program, is for the elementary classroom (grades K-3 and 4-6) and includes not only objectives and lesson plans but also resources, activity sheets, and pre/post tests. www.nhlbi.nih.gov/health/prof/lung/asthma/school/index.htm

Asthma Camp Toolkit. The Consortium on Children’s Asthma Camps’ Asthma Camp Tool Kit includes curricula, PowerPoint slides, and activities for parents and for children that also can be utilized in school settings. www.asthmacamps.org

Asthma Moms. This New York state nonprofit organization offers an extensive list of resources and links to asthma-related Web site information. www.asthmamoms.com

Asthma Tutorial for Children and Families. The University of Virginia’s Children’s Medical Center offers this interactive tutorial, including basic information about asthma, its symptoms, and its treatment as well as audio of breathing sounds and children describing how they feel during an asthma attack. www.healthsystem.virginia.edu/internet/pediatrics/patients/Tutorials

Celebra la Ciencia. The Self Reliance Foundation created Celebra la Ciencia (Celebrate Science) to increase Hispanic family participation in science and health education programs and raise awareness about educational and career opportunities related to science, technology and biomedical research. Celebra la Ciencia establishes working relationships and collaborations between local museums, community organizations, businesses, schools, colleges and universities, and the media in sites around the country, including Washington, DC. www.celebralaciencia.org

Educational Guide on Lung Health for Elementary School Students. Developed by The Chest Foundation for teachers, school nurses, health professionals, and other adults working with children in grades 3 through 6, the Educational Guide provides lessons, handouts, activities, and resources to educate children about asthma and tobacco prevention. Lessons are designed for half-hour or hour-long sessions, depending on the activities used. They can easily be incorporated into health, science or social science classes, or used in after-school activities. The asthma lessons help students develop a basic understanding of the lungs and asthma and how they can support classmates who have asthma. The tobacco prevention units show students the effects of tobacco use on lungs and teach them ways to resist smoking. The Educational Guide is available online in English and Spanish. http://www.chestfoundation.org/tobaccoPrevention/lungHealth.php

Environmental Kids Club. The Kids Club sponsored by the U.S. Environmental Protection Agency is open to kids in grades PreK-4 and an entire class can join to complete environmental projects and receive recognition. www.epa.gov/kids

Healthfinder. The Healthfinder Web site, maintained by the U.S. Department of Health and Human Services, is a comprehensive collection of links to Web sites and organizations on a wide variety of health related topics. Search on “asthma,” “anaphylaxis,” or any other health-related term to get a comprehensive listing of resources. www.healthfinder.gov

Help Your Child Gain Control Over Asthma. This easy-to-read guide for parents of children with asthma (also available in Spanish) provides parents and caregivers of children with asthma the information they need to improve their children’s quality of life. www.epa.gov/asthma/pdfs/ll_asthma_brochure.pdf
Hooray for Health! PBS’ Hooray for Health! is an early childhood-level health curriculum guide for teachers, after-school care providers, and school nurses that includes a unit on asthma. Family activity sheets are available in English, Spanish, Chinese, Tagalog, and Vietnamese. http://pbskids.org/arthur/parentsteachers/lesson/health

Implementation Guide, Quest for the Code: An Adventure Game about Managing Asthma for Children. The implementation guide helps school nurses, health educators, teachers, and others use the STARBRIGHT Foundation's asthma CD-ROM game Quest for the Code as part of a coordinated school health program. The guide contains helpful strategies on using the game to educate students one-on-one about their own asthma, teach asthma management skills to a group of students or a class, integrate the game into existing classes, and educate parents about their child’s asthma. www.starlight.org/schoolasthma

Kids Health in the Classroom: Health Problems Series (Asthma). KidsHealth in the Classroom from The Nemours Foundation offers free health curriculum materials for all grades and subject areas. Each teacher’s guide includes discussion questions, activities, and reproducible handouts and quizzes - all aligned to recently updated national health education standards. www.kidshealth.org/classroom

Meeting-in-a-Box Presentation Series Box #4: Asthma Management at School. From the Asthma and Allergy Foundation of America, Box #4 includes the basics from the first 3 boxes plus how to identify asthma emergencies at school, exercise-induced asthma, and how to form a school management team. Each English kit has everything you need for a 1-hour presentation (2 hours for Spanish). Kits include: over 50 colorful slides; presenter’s guide and script; meeting coordinator’s guide; reproducible handouts; sample peak flow meter and spacer; meeting sign-in sheet; meeting evaluation form; and information about AAFA. (Also in the English kits: CD-ROM with electronic files of all materials plus a PowerPoint document with recently updated slides, script and handouts.). Click on “Education” then “Programs” then “Adult Programs.” www.aafa.org

National Institute of Environmental Health Sciences (NIEHS). NIEHS has sponsored the development of a wide variety of educational materials for students and teachers at every grade level. Many of the materials on topics such as environmental health hazards and risk management are aligned with state and national science and health education standards. www.niehs.nih.gov/health/scied

Open Airways For Schools® (OAS) (grades 3-5). The American Lung Association's OAS is an asthma management program for schoolchildren aged 8-11 who have been diagnosed with asthma. The OAS classroom kits contain easy-to-use teaching materials including posters and handouts. Each lesson includes materials for the children to take home to their parents. Curriculum materials are available in English and Spanish. Contact your local American Lung Association Chapter. www.lungusa.org

OAS® Comprehensive School-Based Asthma Program (grades 2-5). A program of the University of Michigan Center for Managing Chronic Disease, developed with support from the National Heart, Lung and Blood Institute, the Comprehensive School-Based Asthma Program (OAS®) was designed to improve health outcomes for children with asthma including asthma symptoms, school grades and school absences. The intervention includes six weekly lessons of Open Airways for Schools, a 3-lesson awareness curriculum called Environmental Detectives for all students in grades 2-5, a school environmental action component, an outreach campaign for parents and community, and efforts to reach community physicians. The set of materials includes all of the information needed to implement the program. http://www.asthma.umich.edu/Products_and_Resources/OAS.html

PBS Teacher Source. A lesson plan on environmental health allows high school students to act as “medical scene investigators.” Asthma is among the medical conditions revealed in the program videos. www.pbs.org/pov/pov2002/thesmithfamily/classroom.html

Power Breathing™ Program. The Allergy and Asthma Foundation of America’s interactive program to teach adolescents about asthma. It is the only national asthma education program designed for and pre-tested with teens. Teaches the basics of asthma and helps teens learn skills to manage asthma in social
situations, in school and at work. The full Power Breathing kit includes everything needed to present the program in either three sessions (90 minutes each) or in six sessions (45 minutes each) suitable for school settings. Kit includes: facilitator manual; implementation guide; board game; three videos; reproducible handouts; magnetic clips; “I’ve Got the Power!” buttons; and tote bag. www.aafa.org

SchoolAsthmaAllergy.com. SchoolAsthmaAllergy.com from the Schering-Plough Corporation provides links to useful tools and information to empower all of those caring for school-aged children with asthma and allergies. www.schoolasthmaallergy.com

SNAP: The School Network for Absenteeism Prevention. Coordinated by the Centers for Disease Control and Prevention and The Soap and Detergent Association, SNAP is a hands-on initiative for middle schools designed to improve health by making hand cleaning an integral part of the school day. SNAP is designed to get the entire school community talking about clean hands by providing tools to create a community wide project for incorporating hand hygiene into multiple subject areas and activities. Download or order a free SNAP Toolkit which includes activities based on National Education Standards. www.itsasnap.org

Tar Wars. The American Academy of Family Physicians’ Tar Wars is a tobacco-free education program for fourth- and fifth-grade students. The program is designed to teach students about the short-term, image-based consequences of tobacco use, the cost associated with using tobacco products, and the advertising techniques used by the tobacco industry to market their products to youth. A follow-up poster contest is conducted at the school, state, and national level to reinforce the Tar Wars message. www.tarwars.org

ENVIRONMENTAL MANAGEMENT

Asthma and the Environment: A Strategy to Protect Children. This document, prepared by the Presidential Task Force on Environmental Health and Safety Risks to Children, describes environmental factors associated with the onset of asthma and triggers of asthma attacks. Four recommendations for federal action to address childhood asthma are presented. http://aspe.hhs.gov/sp/asthma/appxd.pdf

Asthma and Outdoor Air Pollution. This fact sheet provides information for people with asthma on understanding and using outdoor air quality warnings. www.epa.gov/airnow/health-prof/Asthma_Flyer_Final.pdf

California School Integrated Pest Management Program. California’s Department of Pesticide Regulation maintains a Web site with a variety of documents, Web links, and other resources related to integrated pest management in schools. www.schoolipm.info

Clean School Bus USA. The goal of the U.S. Environmental Protection Agency’s Clean School Bus USA is to reduce both children’s exposure to diesel exhaust and the amount of air pollution created by diesel school buses. www.epa.gov/cleanschoolbus

Clearing the Air: Asthma and Indoor Air Exposure. This Institute of Medicine book provides information about the role that indoor air pollution plays in asthma causation, prevalence, triggering, and severity. www.nap.edu/books/0309064961/html

Green Flag Schools Program. Coordinated by the Center for Health Environment and Justice, the Green Flag Schools Program focuses on four project areas: Reduce, Reuse, Recycle; Integrated Pest Management; Indoor Air Quality; and Non-Toxic Products. It has a Getting Started Guide for involving elementary and high school students and environmental lesson plans for teachers. www.greenflagschools.org

Green Seal. Green Seal, a 501 (c)(3) nonprofit organization, provides science-based environmental certification standards for various products. Its Green Reports provide shopping checklists on carpets, lighting, flooring, and so on. www.greenseal.org

Green Zone: An Asthma Toolkit. The Green Zone, a tool kit created by the National Assembly on School-Based Health Centers, is a collection of numerous asthma resource materials for elementary school-based health care professionals. It is appropriate for use with teachers, school staff, parents, and students. www.nasbhc.org/TAT/Toolkits.htm

Health Considerations When Choosing School Flooring. Written for the New England Asthma Regional Council by Frances Gilmore, MS, this fact sheet and its companion purchasing menu, provides guidance for those
charged with procuring school flooring, with attention to impacts on health, costs and the environment. www.asthmaregionalcouncil.org/about/focus_schools.html

**Healthier Schools: A Review of State Policies for Improving Indoor Air Quality.** This report, published by the Environmental Law Institute provides detailed information on state policies that aim to prevent school indoor air problems by promoting better maintenance and management of existing facilities, as well as better design and construction practices in new and renovated schools. The report identifies many of the state laws and regulations that have been developed so far, describes their key components, and highlights current implementation efforts. The report can be downloaded for free (go to “Publications,” then click on “Indoor Environments and Green Building”). www.eli.org

**Healthy Schools Network, Inc.** This national not-for-profit organization operates a clearinghouse with numerous guides, materials, and reports on school environmental health issues. www.healthyschools.org

**Indoor AirRepair™ at Home, School and Play.** These three downloadable newsletters, published by the Allergy & Asthma Network Mothers of Asthmatics, explore the connection between indoor air quality and asthma and offer low-and no-cost solutions. www.breatherville.org/schoolhouse.

**Indoor Air Quality (IAQ) Tools for Schools.** This comprehensive resource, developed by the U.S. Environmental Protection Agency, can help schools maintain a healthy environment by using low-cost methods to identify, correct, and prevent poor IAQ. The kit includes easy-to-follow checklists for all school employees, video, sample memos and policies, a recommended management plan, and a unique problem-solving wheel. The kit and video are free. www.epa.gov/iaq/schools/toolkit.html

**Integrated Pest Management (IPM) in Schools.** This Web site, provided by the U.S. Environmental Protection Agency, encourages and assists school officials in examining and improving their pest management practices. It identifies ways to reduce the use of pesticides in school buildings and landscapes, as well as alternative methods of managing pests commonly found in schools. www.epa.gov/pesticides/ipm

**Metropolitan Washington Council of Governments (MCOG).** MCOG provides daily forecasts of air quality. Sign up for alerts via e-mail or text messaging or check the news for bad air days. www.mwcog.org/environment/air/forecast

**Mold and Remediation in School and Commercial Buildings.** This guidance document, published by the U.S. Environmental Protection Agency, contains sections on preventing, investigating, evaluating, and remediating moisture and mold problems; a checklist for mold remediation; and a resource list. www.epa.gov/mold/mold_remediation.html

**National Center for Environmental Health (NCEH).** The Centers for Disease Control and Prevention’s NCEH offers numerous resources, including a list of effective school asthma health interventions. www.cdc.gov/asthma

**National Clearinghouse for Educational Facilities (NCEF).** NCEF provides an exhaustive resource list of links, books, and journal articles on healthy and environmentally safe school facilities. NCEF has additional resource lists for K-12 schools on Indoor Air Quality, Hazardous Materials, Green Cleaning, Pesticides and Integrated, Mold in Schools, and more. www.edfacilities.org/rl/healthy_schools.cfm

**National Education Association Health Information Network (NEA HIN) – Environmental Health.** NEA HIN recognizes the connection between health and learning. A safe and healthy school environment provides a better learning environment. This Web site covers resources including indoor air quality in schools, asthma, anthrax, and statistical information for schools. http://neahin.org/programs/environmental/index.htm

**Reducing Asthma Triggers in Schools: Recommendations for Effective Policies, Regulations, & Legislation.** Written for the New England Asthma Regional Council by Joan N. Parker, MS, CIH, this document provides concise recommendations for state laws and regulations that will help control and, ideally, prevent indoor air quality problems, with the goal of reducing the occurrence and severity of asthma and other respiratory diseases. http://www.asthmaregionalcouncil.org/about/focus_schools.html
Safer Schools: Achieving a Healthy Learning Environment Through Integrated Pest Management. This 2003 report by the School Pesticide Reform Coalition and Beyond Pesticides is a resource for schools, community members, activists, policymakers, and pest management practitioners. It can be downloaded from the Web. [www.beyondpesticides.org/schools/publications/IPMSuccessStories.pdf](http://www.beyondpesticides.org/schools/publications/IPMSuccessStories.pdf)

What You Should Know About Diesel Exhaust and School Bus Idling. This U.S. Environmental Protection Agency fact sheet describes the harmful effects of school bus idling on health, particularly children's health, and includes recommended actions to reduce diesel pollution. [www.epa.gov/region01/eco/diesel/assets/pdfs/Diesel_Factsheet_Schoolbus.pdf](http://www.epa.gov/region01/eco/diesel/assets/pdfs/Diesel_Factsheet_Schoolbus.pdf)

PHYSICAL ACTIVITY AND ATHLETICS

Asthma and Physical Activity in the School. This easy-to-read booklet, designed by the National Heart, Lung, and Blood Association's National Asthma Education and Prevention Program, is for teachers and coaches who want to help students with asthma participate in sports and physical activities. It covers the causes of asthma, symptoms of an asthma attack, how to avoid and control asthma triggers, how to help students who take medications, and how to modify activities to match children's current asthma status. It also includes a reproducible student asthma action card. [www.nhlbi.nih.gov/health/public/lung/asthma/phy_asth.htm](http://www.nhlbi.nih.gov/health/public/lung/asthma/phy_asth.htm)

Breathing Difficulties Related to Physical Activity for Students With Asthma: Exercise-Induced Asthma. This resource, developed by the National Heart, Lung, and Blood Association's National Asthma Education and Prevention Program, offers tips for addressing exercise-induced asthma and is aimed at school personnel who are responsible for physical activity and sports programs for students. This is a handy tool that can be used in conjunction with asthma education programs for school personnel and as a quick reference on coaches’ clipboards. [www.nhlbi.nih.gov/health/prof/lung/asthma/exer_induced.htm](http://www.nhlbi.nih.gov/health/prof/lung/asthma/exer_induced.htm)

National Athletic Trainers’ Association Position Statement: Management of Asthma in Athletes. Published in the Journal of Athletic Training, this position statement presents guidelines for the recognition, prevention, and management of asthma for certified athletic trainers and other health care providers working with athletes with asthma, especially exercise-induced asthma. [www.nata.org/statements/position/asthma.pdf](http://www.nata.org/statements/position/asthma.pdf)

PELINKS4U. PELINKS4U is a Web site for K-12 physical education teachers that devotes a section to adapted physical education. Users can sign up for a monthly e-mail newsletter. [www.pelinks4u.org/sections/adapted/adapted.htm](http://www.pelinks4u.org/sections/adapted/adapted.htm)

Winning with Asthma. A free 30-minute interactive educational tool for coaches from the Minnesota Department of Health Asthma Program and the Utah Department of Health Asthma Program. [www.winningwithasthma.org](http://www.winningwithasthma.org)

FOR CHILDREN

AIRNow’s Kids Air. The U.S. Environmental Protection Agency and other federal, tribal, state, and local agencies developed AIRNow's Kid's Air Web sites (for ages 7-10 and grades K-1) to provide students, teachers, and parents easy access to national air quality information. The Web sites includes games, classroom posters, and other materials. [http://airnow.gov/index.cfm?action=aqikids_new.main](http://airnow.gov/index.cfm?action=aqikids_new.main)

The Allergy Wizard™. The National Jewish Medical and Research Center's Allergy Wizard has child-friendly information and games in English and Spanish. [www.nationaljewish.org/disease-info/diseases/allergy/kids](http://www.nationaljewish.org/disease-info/diseases/allergy/kids)

Arthur: PBS Kids, “All About Asthma.” A multilingual selection of PDF files with asthma teaching tools, coloring pages and more from this award-winning site (scroll down the page to locate asthma resources.) [http://pbskids.org/arthur/parentsteachers/lesson/health#asthma](http://pbskids.org/arthur/parentsteachers/lesson/health#asthma)

The Asthma Wizard™. The National Jewish Medical and Research Center's Asthma Wizard has child-friendly information and games in English and Spanish. [www.nationaljewish.org/disease-info/diseases/asthma/kids/wizard-index.aspx](http://www.nationaljewish.org/disease-info/diseases/asthma/kids/wizard-index.aspx)
**Attack Asthma.** This Web site for kids from the U.S. Environmental Protection Agency features Dusty the Goldfish and games to learn about asthma triggers and how to avoid asthma attacks. www.noattacks.org/forkids.html

**Children's Books (order through bookstores):**

- *The ABC's of Asthma* by Kim Gosselin, JayJo Books (ages 5 – 7)
- *All About Asthma* by William Ostrow and Vivian Ostrow (ages 7 – 11)
- *The Babysitter's Club: Welcome to the BSC, Abby* by Ann M. Martin (ages 11 – 15)
- *I'm Tougher Than Asthma* by Alden R. Carter and Siri M. Carter (ages 5 – 10)
- *Jackie Joyner-Kersee: Champion Athlete* (ages 13 – 17)
- *The Lion Who Had Asthma* by Jonathan London (ages 5 – 7)
- *Once Upon a Breath: the story of a wolf, 3 pigs and asthma* by Aaron Zevy, Tumbleweed Press
- *The Respiratory System* by Darlene Stille, Children's Press
- *SPORTSercise!* By Kim Gosselin (Teachers and Children ages 6 – 9)
- *Taking Asthma to School* by Kim Gosselin, JayJo Books (Teachers and Children ages 6 – 9)
- *ZooAllergy* by Kim Gosselin, JayJo Books (ages 6 – 9)

**Food Allergy Website Just for Kids!** The Food Allergy & Anaphylaxis Network provides information and activities about food allergies for children. www.fankids.org

**Just For Kids: Dispelling the Myths of Exercise-Induced Asthma by Joanna Zeiger.** Joanna Zeiger is a world class triathlete and former Olympian who has exercise-induced asthma. She is living proof that asthma doesn't have to stop you from achieving your goals. She shares her advice on exercise-induced asthma on the American Academy of Allergy, Asthma and Immunology Web site. www.aaaai.org/patients/just4kids/exercise_induced/default.stm

**Just For Kids: Dr. Al Coloring Book Pages.** In this coloring book from the American Academy of Allergy, Asthma and Immunology, you'll find superheroes like Dr. Al Lergist, and his partners, Annie Histamine, Buster Bronchodilasaurus and Duel Action (a.k.a. Double Whammy). Their job is to help kids and grown-ups feel better when their allergies or asthma bother them. The bad guys like Darth Mite, Big Bad Roach, Meeyowa Monstera the Cat Haress, Count Igor von Pollen, and Scuzzbucket, can be big troublemakers. People with allergies and asthma should try to avoid them as much as they can. http://www.aaaai.org/patients/just4kids/coloringbook/default.stm

**Kids Health for Kids.** From the Nemours Foundation, this Web site provides information and activities on asthma, allergy, and other health issues. www.kidshealth.org/kid

**Kids’ Page & Green Squad.** This Web site from the Healthy Schools Network provides interactive games, activities, and posters about the school environment. www.healthyschools.org/kids_page.html

**Meet Disease Detective, Dr. Asthma.** The Centers for Disease Control and Prevention Body and Mind (or BAM!) site written especially for children with asthma emphasizes the importance of asthma-friendly activities such as swimming, bicycling, golf, inline skating, and weightlifting. The authors note that physical activity, which doctors advise, can improve breathing and lead to fewer asthma attacks; they recommend following several tips: ease into it, take a buddy, respect the body’s signals, take breaks, and cross-train. Links to helpful sites are included as well as a disease detection profile. http://www.bam.gov/fit4life/dont.htm

The SDA Kids Corner. From the Soap and Detergent Association Web site for kids provides information on why clean hands are important to health, recycling, and related environmental health topics. [www.cleaning101.com/sdakids](http://www.cleaning101.com/sdakids)

Zoey & the Zones Kids Zone. The company HealthZones created Zoey and the Zones to provide parents and their children with a fun, entertaining, educational tool to help them manage their child's asthma. [www.zoeyzones.com/4kids/activities/4kids.htm](http://www.zoeyzones.com/4kids/activities/4kids.htm)

FOR YOUTH

Kids Health for Teens. From the Nemours Foundation, this Web site provides information and activities on asthma, allergy, and other health issues. [www.kidshealth.org/teen](http://www.kidshealth.org/teen)

EPA Student Center. This Web site from the U.S. Environmental Protection Agency provides fun, educational opportunities for youth to learn about many aspects of the environment. [www.epa.gov/students](http://www.epa.gov/students)

Youth Advocates of the Year Awards. This program, sponsored by the Campaign for Tobacco-Free Kids, honors the outstanding work of young advocates who have taken the lead in holding the tobacco industry accountable for their efforts to market their products to youth. Winners receive scholarships and grants and are expected to work closely with the Campaign throughout the year following their award. [www.tobaccofreekids.org/campaign/yayas](http://www.tobaccofreekids.org/campaign/yayas)

Youth Tobacco Prevention. Educational resources and materials, such as videos, tip sheets, and posters from the Centers for Disease Control and Prevention. [www.cdc.gov/tobacco/youth](http://www.cdc.gov/tobacco/youth)

ANNUAL EVENTS CALENDAR

Food Allergy Awareness Week. Many schools across the country participate in this annual event held during the third week in May. The Food Allergy & Anaphylaxis Network makes available proclamations, examples, and other helpful resources. [www.foodallergy.org/FAAW/index.html](http://www.foodallergy.org/FAAW/index.html)

Kick Butts Day. This annual spring event, sponsored by the Campaign for Tobacco-Free Kids, engages students from throughout the county in awareness-raising events about the dangers of tobacco use. The downloadable Kick Butts Day Guide includes great ideas for events that can be held throughout the year to support action to reduce tobacco use. [www.kickbuttsday.org](http://www.kickbuttsday.org)

National Allergy and Asthma Awareness Month. This commemoration is held every May with activities to increase public understanding of asthma, allergy, and environmental triggers. The Asthma Awareness Month Event Planning Kit from the U.S. Environmental Protection Agency includes a section on how to plan an asthma education event in your school and ten ways to manage asthma in the school environment. [http://www.epa.gov/asthma/awm.html](http://www.epa.gov/asthma/awm.html)

National Healthy Schools Day. Celebrated with events throughout the country each April, the day's main goal is to make people aware of the need to maintain existing and design new school buildings that promote health and learning. National Healthy Schools Day is sponsored by the Healthy Schools Network, Inc. and co-sponsored by other organizations such as the Collaborative for High Performance Schools and the U.S. Environmental Protection Agency. [www.healthyschools.org/nhs_day.html](http://www.healthyschools.org/nhs_day.html)

National Preparedness Month. Sponsored by the U.S. Department of Homeland Security in September, the purpose of this campaign is to encourage businesses, families, and schools to prepare for all types of emergencies. [www.ready.gov/america/npm07](http://www.ready.gov/america/npm07)

Tar Wars Tobacco-Free Program Poster Contest. This annual poster contest, sponsored by the American Academy of Family Physicians, is for fourth and fifth graders. Click on “Poster Contest.” [www.tarwars.org](http://www.tarwars.org)

World Asthma Day. World Asthma Day takes place each year on the first Tuesday in May. It is organized by the Global Initiative for Asthma (GINA) in collaboration with health care groups and asthma educators to raise awareness about asthma and improve asthma care throughout the world. Activity planning kits and examples from past events are available. [www.ginaasthma.com](http://www.ginaasthma.com)

**HEALTHCARE PROVIDERS**

**asthma friendly® Certification Mark.** The asthma friendly® Certification Program was developed and launched in the U.S. by Allergy Standards Limited (ASL) in partnership with the Asthma and Allergy Foundation of America (AAFA) - the first program of its kind in the U.S. to write, publish and apply product standards for a wide variety of “asthma friendly” consumer products. The asthma friendly® Certification Mark will assist consumers in choosing “friendly” products including plush toys, pillows, bedding, bedding barriers, vacuums, paints, flooring and more. [www.asthmafriendly.com](http://www.asthmafriendly.com)

**American Academy of Allergy, Asthma and Immunology (AAAAI).** AAAAI has a patient/public resource center with excellent one- to two-page fact sheets and news releases on topics relating to asthma. It offers extensive information for health care providers and for patients. Information is available on-line in Spanish. [www.aaaaai.org](http://www.aaaaai.org)

**American Academy of Pediatrics’ (AAP) School Health Resources.** AAP has a number of school health resources for pediatricians, including a HIPAA Form for Communicating with Schools and other guidance and tools. [www.schoolhealth.org](http://www.schoolhealth.org)

**Anaphylaxis.com.** Practice tools, such as case studies and questionnaires, current treatment guidelines, and resources related to anaphylaxis, such as a slide presentation and a bibliography, from Dey Pharmaceuticals, the manufacturer of EpiPen®. [www.anaphylaxis.com](http://www.anaphylaxis.com)


**The Healthy House Institute™ (HHI).** HHI provides consumers information to make their homes healthier. HHI strives to be the most comprehensive educational resource available for creating healthier homes. [www.healthyhouseinstitute.com](http://www.healthyhouseinstitute.com)

**Mayo Clinic Allergy and Asthma Center.** The Asthma Center Web site includes interactive quizzes, reference articles appropriate for both parents and medical personnel, and a pertinent section on first aid for allergic and venom reactions. [www.mayohealth.org](http://www.mayohealth.org)

**National Jewish Medical and Research Center.** This is the only medical and research center in the United States entirely devoted to respiratory, allergic, and immune system diseases. Their “Lung Line” page lists several good educational booklets. Single copies are available at no cost. [www.nationaljewish.org](http://www.nationaljewish.org)

**Pediatric Asthma: Promoting Best Practices.** The American Academy of Allergy, Asthma, and Immunology developed this comprehensive medical resource guide for managing asthma in children. It is available online for download. Emphasis is placed on recommendations addressing practical decision-making issues in diagnosis and management. [www.aaaai.org/members/resources/initiatives/pediatricasthmaguidelines/default.stm](http://www.aaaai.org/members/resources/initiatives/pediatricasthmaguidelines/default.stm)

**Schooled in Asthma.** The American Academy of Pediatrics developed this Web site which includes resources to encourage pediatricians to incorporate evidence-based asthma management guidelines with school health concepts and practices. It offers templates for Asthma Action Plans and a variety of additional tools to facilitate communication between school personnel and students’ health care practitioners. [www.aap.org/schooledinasthma](http://www.aap.org/schooledinasthma)

**Taking on Asthma: Communication, Education, and Outreach.** This initiative of America’s Health Insurance Plans and supported through a cooperative agreement with the U.S. Environmental Protection Agency is based on the premise that health insurance plans have a unique opportunity to offer evidence-based asthma management programs that include the management of environmental asthma triggers, including irritants such as secondhand smoke and major indoor allergens such as dust mites, cockroaches, pet dander, and mold. The initiative includes Taking on Asthma: A Resource Guide for Health Insurance Plans. [www.takingonasthma.org](http://www.takingonasthma.org)

Twinject.com. Practice tools, frequently asked questions, current treatment guidelines, and resources related to anaphylaxis, from Versus™ Pharmaceuticals, the manufacturer of Twinject®. www.twinject.com

POLICY AND LEGISLATION

Asthma: A Growing Epidemic (Environmental Health Series, 2000). This 2004 report from the National Conference of State Legislatures discusses the reasons for the escalating rate of asthma in the United States, and Federal/State efforts to address the problem. The authors note that over the past 20 years prevalence of the disease has risen 160 percent in children under 5; the fact that children are spending more time indoors and exercising less could be an explanation for the dramatic increase. The Federal Government has slated $68 million to implement recommendations focusing on school-based asthma programs, disease management strategies to target low-income children, and a national public information campaign. www.ncsl.org/print/environ/envhealth/ehasthma.pdf

Asthmatic Schoolchildren’s Treatment and Health Management Act of 2004 (Public Law 108-377). Signed into law on Oct. 30, 2004, this Act requires the Secretary of the U.S. Department of Health and Human Services, when making grants to states for asthma-related activities, to give preference to states that require schools to allow students to self-administer medication to treat their asthma or anaphylaxis. http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=108_cong_public_laws&docid=f:publ377.108.pdf

Council of School Attorneys (COSA). COSA of the National School Boards Association offers detailed guidance for schools and districts on numerous legal issues, including health records and confidentiality. www.nsba.org/cosa

Food Allergen Labeling and Consumer Protection Act of 2004 (FALCPA) (Title II of Public Law 108-282). FALCPA is intended to improve food labeling information for the millions of consumers who suffer from food allergies. The Act will be especially helpful to children who must learn to recognize the allergens they must avoid. FALCPA: http://www.cfsan.fda.gov/~dms/alrgact.html.

Issue Brief on Asthma. This document, written by NASBE, is a compilation of asthma-related written education policies in all 50 states. The information is organized by type of policy and lists which states have that particular asthma-related policy. http://nasbe.org/HealthySchools/States/Asthma%20brief.pdf

Student Access to Treatment Emergency Act of 2007 (A17-0082). The Council of the District of Columbia passed this emergency legislation on July 10, 2007, “To permit, on an emergency basis, a student with a medication action plan to possess and self-administer asthma or anaphylaxis medications while at the school in which the student is currently enrolled, at school-sponsored activities, and while on school-sponsored transportation, to require schools to maintain student medical records in an easily accessible location, to prohibit the misuse of self-administered medications, to allow schools to store additional medication for self-administering students, and to authorize the Mayor to promulgate rules to implement the provisions of this act.” www.dccouncil.washington.dc.us/images/00001/20070730121312.pdf

U.S. Department of Education – Office for Civil Rights (OCR). OCR provides information, guidance, and enforcement of the federal laws that guarantee the rights of students with disabilities. www.ed.gov/about/offices/list/ocr/index.html?src=oc


ORGANIZATIONS, ASSOCIATIONS, AND GOVERNMENT AGENCIES

Allergy & Asthma Network Mothers of Asthmatics
www.aanma.org

Allies Against Asthma (The Robert Wood Johnson Foundation)
www.asthma.umich.edu

American Academy of Allergy, Asthma and Immunology
www.aaaai.org; 800-822-2762

American College of Chest Physicians
www.chestnet.org

American Academy of Pediatrics
www.aap.org

American College of Allergy, Asthma, and Immunology
www.acaai.org

American College of Chest Physicians
www.chestnet.org

American Lung Association
www.lungusa.org; 800-586-4872

American Medical Association
www.ama-assn.org

Asthma and Allergy Foundation of America
www.aafa.org; 800-7-ASTHMA

Community Action to Fight Asthma
www.calasthma.org

California Department of Health Services
California Asthma Public Health Initiative
www.caasthma.org

Center for Health Care Strategies
www.chcs.org

Centers for Disease Control and Prevention
www.cdc.gov

Global Initiative for Asthma
www.ginasthma.com

National Asthma Educator Certification Board
www.naebc.org

National Association of State Boards of Education
www.nasbe.org

National Conference of State Legislatures
www.ncsl.org

National Heart, Lung, and Blood Institute
National Asthma Education and Prevention Program
www.nhlbi.nih.gov
www.nhlbi.nih.gov/about/naepp/index.htm

The New England Journal of Medicine
www.nejm.org

Regional Asthma Management and Prevention Initiative
www.rampasthma.org

SchoolAsthmaAllergy.com
schoolasthmaallergy.com

U.S. Environmental Protection Agency
www.epa.gov
airways – Common term used to describe the passages in the lungs that move air into and out of the body. Sometimes called bronchial tubes, bronchi or respiratory system.

allergen – A substance which causes an allergic response in sensitive individuals. Allergens can be either natural (e.g., pollen, dust) or man made (e.g., perfume, cleaning agents).

allergy/allergies – An overreaction by the body’s immune system to a specific substance called an allergen. An allergy occurs only in people sensitive to a particular allergen(s).

allergic reaction – Response in children sensitive to specific allergens. An allergic reaction can occur in different parts of the body. Common areas include the skin, the eyes, the respiratory system and the gastrointestinal tract. Symptoms often include itching, sneezing, runny nose, coughing, wheezing or shortness of breath.

anaphylactic shock/anaphylaxis – The most severe or extreme type of allergic reaction, creating a potentially life-threatening medical emergency. Most common cause is reaction to a medication. Other causes include insect stings and foods.

asthma – A chronic lung disease with three key features: swelling of the airways (inflammation), mucous production, and tightening of the muscles around the airways (bronchoconstriction), resulting in increased irritability of the airways and obstruction to air outflow. Symptoms may include wheezing, coughing, feeling of “tightness” in the chest, difficulty breathing, itching neck, throat and ears. Symptoms vary greatly from person to person, and usually, individuals with asthma also experience “ups and downs” with symptoms. No cause or cure is yet known. Symptoms can be well managed and stabilized for most people who have asthma. Certain substances or conditions may trigger asthma symptoms.

asthma action plan – A document which outlines the treatment approach for a child who has asthma; developed in consultation with the health care provider, family members and caregivers. Effective action plans help children control their asthma and live healthy active lives.

asthma episode/attack/exacerbation – A time when asthma symptoms flare up or intensify, requiring immediate adjustments in treatment and medication to get symptoms under control. Asthma episodes may occur suddenly, with few warning signs, or build slowly over a period of hours or even days. Most asthma episodes can be handled by following the child’s asthma action plan. Often called “asthma attacks,” the more appropriate term is “asthma episode.”

asthma management – can be defined as managing, preventing, treating and controlling factors (environmental, medications, etc.) that affect a child’s asthma.

asthma management plan – Detailed guidelines for schools to use in working with all children and staff to manage asthma.

B2-agonist – B2-agonist stands for beta-adrenoceptor agonist. Short-acting B2-agonists (e.g., albuterol) are used for the quick relief of bronchospasm in asthma and are administered by inhaler (preferably with spacer) or by nebulizer. They do not treat the underlying chronic inflammation of asthma. Long-acting B2-agonists (e.g., Serevent®, Foradil®) also are used to relax muscles around the airways but work slower. Long-acting B2-agonists are for use only in combination with inhaled corticosteroids and never should be used alone.

brittle asthma – This is a rare form of asthma where a child gets little or no warning of an asthma episode. They can go from being perfectly well to having a severe life-threatening attack in the space of a few minutes.

bronchial tubes – The major airways of the respiratory system that carry air from the trachea (windpipe) to the microscopic air sacs (alveoli) in the lungs.

bronchitis – An infection or inflammation in the bronchial tubes caused by bacteria, a virus, an allergy or other irritants. Typical symptoms may include coughing, wheezing, shortness of breath, chills, fever, fatigue and excessive phlegm. Underdiagnosis of asthma is a frequent problem, especially in children who wheeze when they have respiratory infections. These children are often labeled as having bronchitis, bronchiolitis, or pneumonia even though the signs and symptoms are most compatible with a diagnosis of asthma. The clinician needs, however, to be aware of other causes of airway obstruction leading to wheezing.
**bronchodilator** – A medication used by many children who have asthma to relax bronchial muscles, and in turn, open up the bronchial tubes.

**bronchospasm; bronchoconstriction** – The tightening in the airways of the respiratory system that occurs with asthma or allergies. Caused when the muscles around the bronchial tubes contract in response to specific triggers.

**Centers for Disease Control and Prevention** – CDC serves as the national focus for developing and applying disease prevention and control, environmental health, and health promotion and education activities designed to improve the health of the people of the United States.

**controller or long-term acting medication** – The standard treatment of asthma for most children who need regular, or ongoing, medicine. These kinds of medications provide “long-term relief” by acting in a preventive way to make airways less sensitive, minimizing or reducing symptoms before they even appear.

**corticosteroid** – Steroidal anti-inflammatory medication useful for children who have asthma. Considered the most effective “controller” medication available today. Is also used for brief periods to manage acute attacks. Delivered as an inhaler (when used as a controller), and in pill or liquid form (when used to treat an acute attack). Not the same as anabolic steroids.

**dander** – Scaly or shredded dry skin that comes from animals or bird feathers. Dander may be a cause of an allergic response in susceptible persons.

**diurnal variation** – In the context of asthma, this is the difference between how wide the airways in the lungs are if measured twelve hours apart. Our airways narrow and open naturally over each 24 hour period even in people who do not have asthma. In children who have asthma, the variation is much greater. Generally, the greater the diurnal variation, the more unstable the child's asthma. Diurnal variation is usually measured in asthma by taking morning and evening peak flow readings. There are a number of ways of calculating diurnal variation.

**eczema** – Changes in the skin that include scalyness and may include redness (inflammation). Eczema is usually dry unless infected. Eczema often is found in the flexion areas of the elbows and behind the knees, but may occur anywhere on the skin. Eczema is sometime due to allergy.

**environmental control measures** – Specific procedures undertaken to remove known allergens or irritants from a designated area.

**EpiPen®** – The trade name, or manufacturer's name, for a device used to self-inject or inject into a patient epinephrine, a medication used to bring quick relief by improving breathing and heart function in life-threatening medical emergencies such as anaphylaxis. (Twinject® is another brand of the same medication in a self-injector device.)

**exercise-induced asthma (EIA)** – Asthma symptoms which appear following strenuous exercise. Symptoms may be minimal or severe enough to require emergency treatment. About one in 10 students experience exercise-induced asthma.

**hidden ingredients** – Some prepared food products contain derivatives or “by products” of other foods. These “hidden ingredients” may or may not be shown on the food label.

**inhaler/metered-dose inhaler (MDI)** – A device used to deliver a variety of commonly prescribed asthma medications which help ease breathing by opening up the airways.

**Integrated Pest Management (IPM)** – Procedures developed by the Environmental Protection Agency to reduce exposure to cockroaches, rats, mice, and other pests that may invade a school setting.

**intrinsic asthma** – Children whose symptoms do not seem to be brought on by anything external are said to have non-allergic or intrinsic asthma. Symptoms are more likely to be triggered by, for example, exercise, emotion or some drugs such as aspirin.

**irritant** – Any substance which causes inflammation or an adverse reaction on the skin or in the body. An irritant may trigger asthma or allergy symptoms, but they may not be considered an allergen. Examples of irritants include tobacco smoke, chemical fumes, insecticides or air pollution.
long-term acting medication or controller medication – The standard treatment of asthma for most children who need regular, or ongoing, medicine. These kinds of medications provide “long-term relief” by acting in a preventive way to make airways less sensitive, minimizing or reducing symptoms before they even appear.

mucus – Often called phlegm or sputum, this slippery fluid is produced by the membranes lining the airways to aid in various body functions. Exposure to certain triggers can increase mucus production for asthma patients. The increased amount of mucus makes breathing more difficult.

National Institutes of Health (NIH) – Founded in 1887, the National Institutes of Health today is one of the world’s foremost medical research centers, and the federal focal point for medical research in the United States. The NIH, comprising 27 separate Institutes and Centers, is one of eight health agencies of the Public Health Service, which, in turn, is part of the U.S. Department of Health and Human Services. NHLBI (National Heart, Lung and Blood Institute) is part of the NIH.

nebulizer – A small, portable machine used to deliver certain asthma medications. The nebulizer is plugged into an electrical outlet. A nebulizer treatment usually takes 10-15 minutes to complete. Children requiring regular nebulizer treatments may need access to a nebulizer at school.

peak flow meter (PFM) – A small, portable hand-held device which measures how well the lungs are able to expel air, allowing children who have asthma to detect airway narrowing and adjust medications accordingly.

quick-relief medication or rescue medication – Medicine taken to relieve asthma symptoms. Called “quick relief” because they can act immediately to reduce symptoms that appear suddenly.

respiratory virus – Illnesses affecting the airways caused by a virus. Symptoms of respiratory virus include those of a “cold;” i.e., runny nose, cough and fever. They may, at times, be confused with asthma symptoms; and children who have asthma may experience increased asthma symptoms for some time following a respiratory virus.

sensitivity/sensitization – Refers to a person’s response when exposed to an allergen. For some people, repeated exposure to certain substances makes them more likely to develop an allergic reaction.

spacer – A short tube device which can be attached to an inhaler to help the child use the inhaler more effectively.

trigger/triggers – A substance or environmental condition that cause asthma or allergy symptoms to appear.

Twinject® – The trade name, or manufacturer’s name, for a device used to deliver epinephrine, a medication used to bring quick relief by improving breathing and heart function in life-threatening medical emergencies. (EpiPen® is another brand of the same medication in a self-injector device.)

wheezing/wheeze – The whistling sound which occurs when air moves though narrowed or tightened airways. May be heard on exhalation. Wheezing is a classic symptom of asthma. Not all wheezing can be heard by the ears; a stethoscope may be needed to detect levels of wheezing within the lungs.