

# Alabama Home \*A\*Syst

Home Assessment System

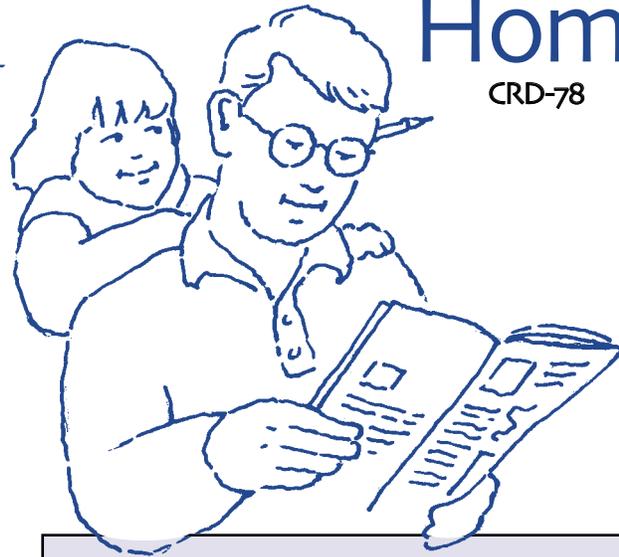
**Why be concerned?** The air we breathe is very important to our health, and it can be especially important for people with asthma and allergies. We need to make sure that the air inside our homes is healthy to breathe because poor air quality and other pollutants in the home can cause asthma and allergy symptoms to be worse. Did you know that the average person spends almost all (90 percent) of their time indoors? And did you know that the U.S.

Environmental Protection Agency (EPA) reports that indoor air may be even more polluted than outdoor air?

Over 17 million Americans have asthma, including about 6 million children. Not only does asthma affect a person's health, it also costs a lot. Count the time spent in hospitals and at doctors' offices, time lost from not being able to do normal activities, missed days at work and school—including missed work for parents who must stay home and care for a sick child. You will find that direct and indirect costs of asthma range over \$8 billion a year. It is the disease that causes the most missed days in schools. Although asthma is a chronic (long-lasting) illness, asthma can be controlled and treated. You can make changes in your home to control asthma triggers (things that can cause or set off asthma). Make sure you also work with your doctor to help treat asthma in you or your child.

# Asthma: Controlling Environmental Triggers in the Home

CRD-78



## How to Use Alabama Home\*A\*Syst

Alabama Home\*A\*Syst is a program you can use to help you protect the health and safety of your home environment. In this series of booklets are do-it-yourself checklists (self-assessments) to help you find out if you have a healthy home. Answer yes or no to the statements on these checklists. After the assessments, there is some information about each statement. Alabama Home\*A\*Syst is a voluntary and confidential program that is designed to help provide you with useful information so you can take the correct actions around your home. If you need more help with any topic, there is a list of phone numbers and Web sites at the end of each publication.

**What is asthma?** Asthma is a lung disease that makes it hard to breathe. You can't catch asthma like you can a cold. However, if you have a family member with asthma, you have a greater chance of having asthma too. With asthma, there is an inflammation or swelling of the bronchioles (the smallest air passages in your lungs). Since asthma is a long-term disease, swelling of the airway lining often happens, even when no symptoms of asthma are present.

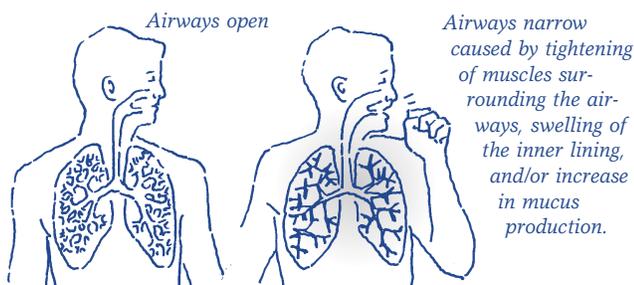
### What are asthma symptoms?

- Coughing (especially at night)
- Wheezing (a whistling sound when you breathe)
- Chest tightness (hard to take a deep breath)
- Shortness of breath

A person with asthma usually has some inflammation (swelling) in their lungs—even if they are not having any asthma symptoms. It is important to be aware of these symptoms and to take your rescue medicine as soon as possible once an asthma episode begins. (More information about types of medicines is at the end of this publication).

**What happens during an asthma episode?** Sometimes asthma symptoms get worse. During an asthma episode (or attack), the following happens:

- The lining of the airways becomes thick or swollen.
- The muscles around the breathing tubes tighten.
- More mucus is produced in the lungs.



All of these things make it hard to breathe because air can't move in and out of the lungs very easily. If severe, the airways can become blocked. Medicine can help. Rescue medicines work by relaxing the muscles around the airways. These medicines are usually inhaled (breathed in through your mouth or nose). They may be taken by metered-dose inhalers or by using a nebulizer to take medicine. It is very important to have the proper medicine on hand during an asthma episode.

### Call 911 and get emergency help if:



- The episode is very bad and does not get better in 15 minutes after taking asthma medicine
- It is hard to walk or talk
- Lips or fingernails are blue
- It is very hard to breathe or sit up

**What are asthma triggers?** Often, asthma is triggered or set off by things in the air. These substances may be allergens or irritants (or both). Certain allergens and irritants affect the lungs of a person with asthma, making it harder to breathe. Different people have different triggers, so it is important to know what triggers your or your child's asthma symptoms.

### Allergens

For a person with allergies, certain things (dust, pollen, pets, bee stings, poison ivy, drugs, or certain foods) can cause an allergic reaction in the body. You may have, or know of someone who has, hay fever. This is one type of health problem triggered by allergens. Hay fever may have symptoms like a runny nose or itchy eyes. Asthma can also be caused by an allergic reaction—only in this case, it only affects the lungs. Allergens that may be found inside homes are dust mites, molds, pet dander, and household pests (like cockroaches). Some people are allergic to pollen from outdoor plants; this too can be an asthma trigger.

## Irritants

Other asthma triggers in the home environment may be irritants—not actually allergens—but substances that irritate the airways and cause symptoms like an allergic reaction. Secondhand smoke is a major asthma trigger due to its irritating effects on the lungs. Other irritants may be strong odors from household products, air fresheners, and perfumes.

## Other Triggers

Many people get asthma after they have a respiratory infection, such as a cold or influenza. Exercise can also trigger asthma. Other things that may trigger asthma are cold air, hormone changes, stress, and strong emotions.

**What to do about your indoor environment.** In this publication we will focus on controlling indoor triggers for asthma. You can make many changes inside your home to reduce asthma triggers. Many of the changes are either free or are very low cost—such as cleaning places where allergens or irritating substances may be found. Asthma triggers are different from person to person. Identifying and avoiding triggers can be part of a plan to help manage (deal with) or avoid asthma.

## Asthma Can Be Controlled!

The most important thing to remember is that asthma can be controlled. You should have a written plan to manage asthma for you or your child. Remember, take control of your asthma instead of letting it take control of you!



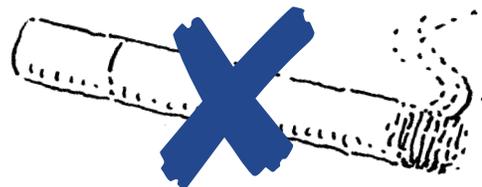
**Common indoor environmental triggers.** Although there are hundreds of different triggers, these are the five main indoor environmental triggers:

- secondhand smoke
- dust mites
- pets
- molds
- pests (cockroaches)



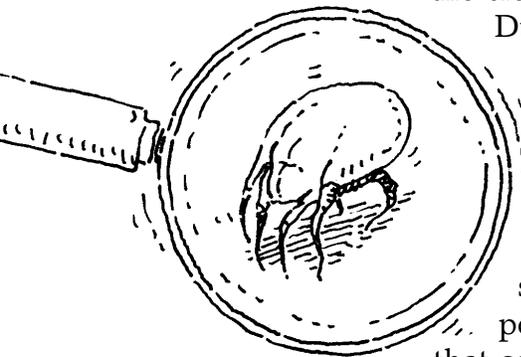
**Secondhand Smoke.** Secondhand smoke is the most common irritant that can trigger asthma. Smoke is very irritating to the airways in the lungs. These airways may already be swollen and inflamed in a person with asthma. Smoke is irritating even to healthy lungs because smoke particles get deep inside the lungs. Smoke can come from burning cigarettes, pipes, or cigars; smoke exhaled by a smoker; wood fires in your fireplace or wood-burning stove; and outdoors. Smoke particles can stick to your clothes and affect a baby or child when held.

Children are especially in danger when exposed to smoke. Their airways are narrower, and they breathe faster. So per pound, more smoke pollutants can get inside their lungs. A child exposed to smoke also has more colds, ear infections, and asthma episodes. Breathing in smoke may actually cause asthma to develop in a young child.



It is important to never smoke in the house or in the car. Smoke travels easily in the air, under doors, and up to the ceiling, so it is hard to keep it in a certain area of the house. Avoiding smoke-filled areas is one way to reduce exposure. It is best not to use a wood-burning fireplace or stove. However, if you do use these, make sure they are in good working order—have your chimney inspected to make sure it is drawing smoke efficiently.

**Dust mites.** Dust is the cause for most asthma triggered by allergens. It is actually the dust mite—a tiny bug—that causes allergic reactions. Although they are too small to be seen, dust mites are everywhere—even in the cleanest homes.



Dust mite droppings are the real allergens. Dust mites especially like warm, humid places. They feed on skin flakes from people and pets that collect in places

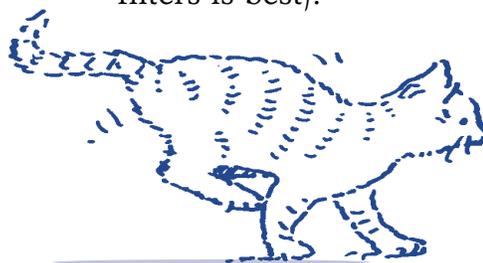
like mattresses, pillows, carpets, stuffed toys, fabric-covered furniture, and in-house dust and especially in old bedding and furniture. Millions of dust mites may be present in your home.

One of the best ways to control dust is by cleaning often. Wash bedding (including blankets, mattress pads, and pillow cases) in very hot water (over 130 degrees F). This hot water can actually kill dust mites. It is one of the best ways to control dust mites. During the day, keep dust off your bed by covering the entire bed with a bedspread.

If you have very old pillows, it's best to replace them. Buy new ones at least once every 5 years. There are zippered dust-proof covers you can put over pillows and mattresses. It's best to have bare floors with washable rugs because dust mites collect in carpets and the padding underneath them. It's much easier to remove dust by damp mopping than by vacuuming.



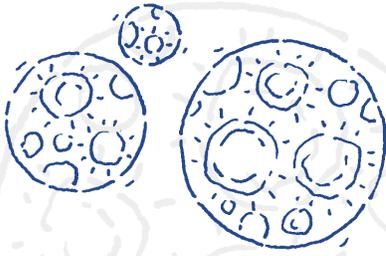
**Pets.** Someone with asthma may be allergic to animals—especially warm-blooded furry animals such as cats, dogs, hamsters, and gerbils. It is the pet's saliva (spit) and skin flakes (dander) that are the actual cause of the allergy. These particles are very sticky and can stay around a long time in a home—for months and even years. They can attach to dust and get into the air. Animal dander can stick to carpet and fabric-covered furniture. Cat allergens seem to cause the most problems. To clean a home after removing animals, you can wash down the walls and other surfaces and vacuum thoroughly (a vacuum with HEPA filters is best).



To control animal asthma triggers, it is best not to have pets inside a home. If you do have pets indoors, try to keep them out of the bedroom and away from fabric-covered furniture. Keep the doors closed to the bedroom. If allergies are very bothersome, try to find another home for your pets or keep them outside. Outdoor pets can pick up pollen (another possible asthma trigger) on their fur; so preventing them from coming indoors is important.

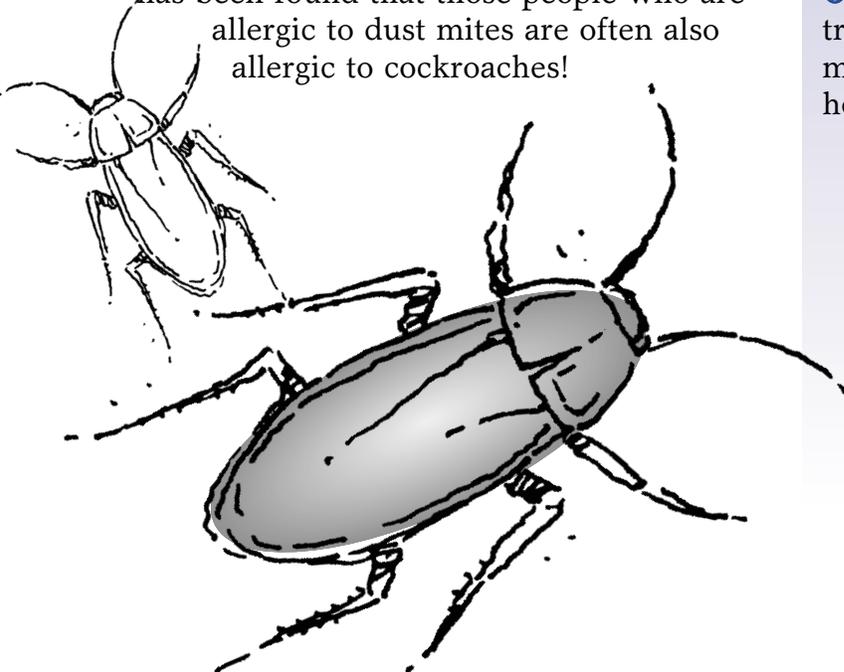
**Molds.** Some asthma sufferers are sensitive to mold. Mold is a member of the fungus family and grows on wet materials, especially in warm places. Usually you can see or smell mold. It may be black, green, or other colors. It may have a musty smell. Mold lives on organic materials like wood, paper, leather, and on surfaces contaminated with grease, soil, and soap scum. Mildew is a type of mold. Since mold needs water to grow, the most important way to control mold is to get rid of the water source.

Carpeting, ceiling tiles, or wallpaper already damaged by water and mold growth probably should be replaced because it is hard to clean these surfaces.

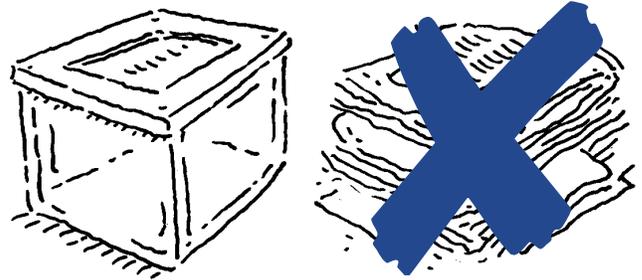


To help keep mold from growing inside your house, keep the humidity (moisture or dampness) level relatively low—it's best around 30 to 50 percent. A small instrument called a hygrometer (or moisture meter) can be used to measure humidity. Good ones usually cost about \$30 to \$50 and can be bought at many hardware stores. Keep drip pans under refrigerators clean and dry, and fix any leaky faucets, especially those under sinks, to get rid of excess water sources. A good way to remove mold is to use a solution of 1 cup bleach and 1 gallon of water (or 4 tablespoons of bleach and 1 quart of water) mixed with a small amount of detergent. Rinse well with clear water.

**Pests.** Allergies to cockroaches and rodents, such as rats, are very common, and an allergic response to these pests can cause asthma symptoms for some people. It has been found that those people who are allergic to dust mites are often also allergic to cockroaches!



Since these pests need food, water, warmth, and safe shelter in order to live, you can control pests by keeping your house clean. Make it hard for these pests to get food, water, and hiding places. Don't leave food uncovered and get rid of empty boxes (especially ones from the grocery—they may have food particles inside). Don't leave dirty dishes in the sink. Seal cracks in floors and the ceiling to prevent roaches and rodents from coming into the house. If you have a large number of these pests already inside, try to kill them with baits, boric acid powder, or traps instead of poisonous chemicals. If you use strong chemicals, be sure to air out the room because these strong odors can be asthma triggers too. Make sure you target hiding places for these pests—behind cabinets, under the refrigerator or stove, etc. Get rid of clutter! Stacks of old newspapers and magazines just give pests more places to hide. Plastic storage boxes are useful. They make it easier to do a good cleaning.



**Other Asthma Triggers.** The asthma triggers mentioned above are some of the major ones that may be found in your home. Some other triggers include:

- Pollen and outdoor mold
- Exercise
- Colds and infections
- Weather (especially cold weather)
- Strong odors (perfume, paint, household cleaning products, etc.)
- Other triggers (foods, hormones, emotional stress, latex, medications, food additives)

# Controlling Asthma Triggers in the Home

## A Self-Assessment

Fill out this self-assessment (a do-it-yourself checklist) to help you find out if the air in your home is healthy. For each statement or question, check **yes** or **no**. If you answer **yes**, you are doing the best actions to keep your home healthy. If you answer **no**, this does not necessarily mean your indoor air is unhealthy, but you may need to make some changes to avoid future problems. For each statement or question, more help is given under "Actions and Recommendations." For even more information, there is a list of helpful phone numbers and Web sites at the end of this chapter under "For More Information."

Write your No answers on the **Action Checklist**. Pay attention to what triggers your or your child's asthma. List any changes you plan to make, and pick a date to keep you on schedule. Try to make at least three changes. Choose those actions that are inexpensive, easy to do, and most helpful to your family.



## Secondhand Smoke

- | Yes | No  |  |
|-----|-----|--|
| ___ | ___ | 1. Smoking is never allowed inside my home.  |
| ___ | ___ | 2. Smoking is never allowed inside my car.   |
| ___ | ___ | 3. I do not smoke around children, especially infants and small children.                                  |
| ___ | ___ | 4. If you smoke away from home and you have small children, do you change your clothes when you come home? |
| ___ | ___ | 5. If you have a wood-burning fireplace or stove, has it been inspected recently?                          |

## Dust

- |     |     |   |
|-----|-----|---|
| ___ | ___ | 6. Do you use zippered allergy-proof or plastic pillow and mattress covers on your bedding?                           |
| ___ | ___ | 7. Do you wash sheets and blankets once a week in very hot water (at least 130 degrees F)?                            |
| ___ | ___ | 8. Do you keep your bed covered with a bedspread during the day?  |
| ___ | ___ | 9. Do you have bare floors or small washable rugs in the bedroom?   |
| ___ | ___ | 10. If you have stuffed toys, do you wash them often?   |
| ___ | ___ | 11. Do you vacuum carpets or damp mop floors at least once per week?  |
| ___ | ___ | 12. Do you dust at least once per week with a rag containing a dusting product or a special cloth that attracts dust? |
| ___ | ___ | 13. Do you use a vacuum with a HEPA filter or a vacuum with a special bag that can trap allergens inside the bag?     |

- \_\_\_ \_\_\_ 14. Do you change air conditioning/heating filters regularly?
- \_\_\_ \_\_\_ 15. Do you keep your home free of clutter and knick-knacks?
- \_\_\_ \_\_\_ 16. If you have curtains, are they light and washable instead of heavy drapes?

### Pets

- \_\_\_ \_\_\_ 17. Do you keep any pets outside the home and not allow them inside?
- \_\_\_ \_\_\_ 18. If you do have pets in the home, do you keep them out of the bedroom?
- \_\_\_ \_\_\_ 19. Do you brush or bathe your pet regularly?
- \_\_\_ \_\_\_ 20. Do you keep the pets off fabric-covered furniture?
- \_\_\_ \_\_\_ 21. Do you keep litter boxes, pet beds, and cages away from sleeping areas?
- \_\_\_ \_\_\_ 22. Do you dust and vacuum often to keep dander and fur under control?
- \_\_\_ \_\_\_ 23. Do you wash your hands after petting an animal?

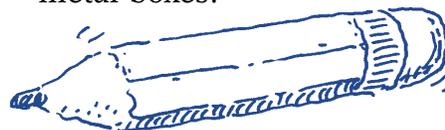
### Mold

- \_\_\_ \_\_\_ 24. Is your home free of any musty smells?
- \_\_\_ \_\_\_ 25. Do you use air conditioning in your home?
- \_\_\_ \_\_\_ 26. Have you fixed any leaky plumbing fixtures?
- \_\_\_ \_\_\_ 27. Do you wipe up water around showers and tubs after bathing to prevent mold?
- \_\_\_ \_\_\_ 28. Do you use exhaust fans or open windows when showering or cooking?

- \_\_\_ \_\_\_ 29. Do you wash or replace moldy shower curtains?
- \_\_\_ \_\_\_ 30. Do you keep drip pans under the refrigerator and humidifiers and air conditioner clean and dry?
- \_\_\_ \_\_\_ 31. Do you vent the clothes dryer to the outside?
- \_\_\_ \_\_\_ 32. Do you wash towels and bath mats weekly?
- \_\_\_ \_\_\_ 33. Do you keep houseplants out of the bedroom?
- \_\_\_ \_\_\_ 34. If you have a bedroom in the basement, does the air smell OK—that is, not musty?
- \_\_\_ \_\_\_ 35. Do you try to keep most books and other papers out of your bedroom?

### Pests

- \_\_\_ \_\_\_ 36. Do you clean up food spills right away?
- \_\_\_ \_\_\_ 37. Do you store food (such as sugar, cereal, and flour) in airtight containers?
- \_\_\_ \_\_\_ 38. Do you keep the cabinet under the kitchen sink dry and free of crumbs?
- \_\_\_ \_\_\_ 39. Do you empty the trash regularly and clean and disinfect garbage cans weekly?
- \_\_\_ \_\_\_ 40. Have you sealed any cracks around the walls or cabinets where cockroaches and other pests might enter?
- \_\_\_ \_\_\_ 41. Have you used any baits, traps, or boric acid to get rid of cockroaches?
- \_\_\_ \_\_\_ 42. Do you store household items like clothing in plastic or metal boxes?



## Actions and Recommendations

### Secondhand Smoke

1. **Never smoke indoors.** Secondhand smoke can be very irritating to people with asthma because their airways often are already irritated and swollen. It is impossible to keep smoke to only certain parts of the house.
2. **Don't smoke in cars.** Inside a small space like a car, smoke particles become very concentrated in the air and on the inside surfaces.
3. **Make sure no one smokes at a child's daycare center.** In addition to triggering asthma, children who breathe in indoor smoke have more lung and ear infections.
4. **Put on fresh, clean clothing after smoking and before holding children and babies.** Smoke particles can stick to clothing for a long time and be an irritant—especially for young children and babies that are held in your arms.
5. **Be sure to regularly clean your chimneys and fireplaces.** Smoke from any source can be an irritant—not just tobacco smoke.

### Dust

6. **Cover bedding.** Millions of dust mites can live in bedding. Special dust-proof covers can be used, especially on pillows where your face is resting. Putting tape over the zipper can help seal the cover even better. A less expensive way to cover mattresses is to use plastic covers with a mattress pad on top—the mattress pad can be washed.

7. **Wash bedding in very hot water.** Washing bedding in very hot water and drying in a hot dryer—at least 130 degrees F for 10 minutes—will kill dust mites. Be careful to turn the thermostat to a lower temperature when finished to prevent burns in young children.

8. **Keep bedding and pillows covered during the day.**

Try to use bedcovers that can be washed periodically.



9. **Avoid using wall-to-wall carpeting.**

Wall-to-wall carpeting is harder to clean and acts like a sink for dust mites.

10. **Keep stuffed toys dust free.** Stuffed toys can contain many dust mites, and they can expose a child who sleeps with them for many hours. Washing in hot water helps reduce dust mites. Better yet, keep stuffed toys out of the bedroom, or store them in covered cabinets or sealed boxes.

11. **Choose low or no carpeted floors.**

Dust mites are hard to remove from carpeting. Carpeting that is short and tightly woven is better than the longer, shag style. It is best to use an upright vacuum with a powered nozzle and an allergen-proof bag. If you have bare floors, damp mop once a week to help remove dust.

12. **Dust often.** It helps control dust mites. Remember to dust the blades of ceiling fans overhead—especially in the bedroom. Use a rag that attracts dust or a damp rag. Dry cloths only spread the dust around.

**13. Use good quality vacuum cleaner bags.** A HEPA (high-efficiency particulate air) filter works best; it can trap small particles. Remember to change vacuum bags often. An exhaust filter on the vacuum also helps keep more dust from blowing into the air.

**14. Use pleated air filters.** These can trap more particles. Some have an electrostatic charge to them. Don't use the flat, blue fiberglass filters. You can also get special filters that fit over the air-conditioning and heating vents to help filter the air blown through these vents.

**15. Organize.** Keep things in order. It is hard to keep surfaces well dusted if cluttered with lots of stuff like newspapers, stacks of mail, and knick-knacks. Put small objects—knick-knacks, toys, stuffed animals, etc.—in glass cabinets, or store them in plastic containers.

**16. Vacuum and launder or dry-clean curtains or drapes from time to time.** Washable curtains and blinds are easier to keep clean.



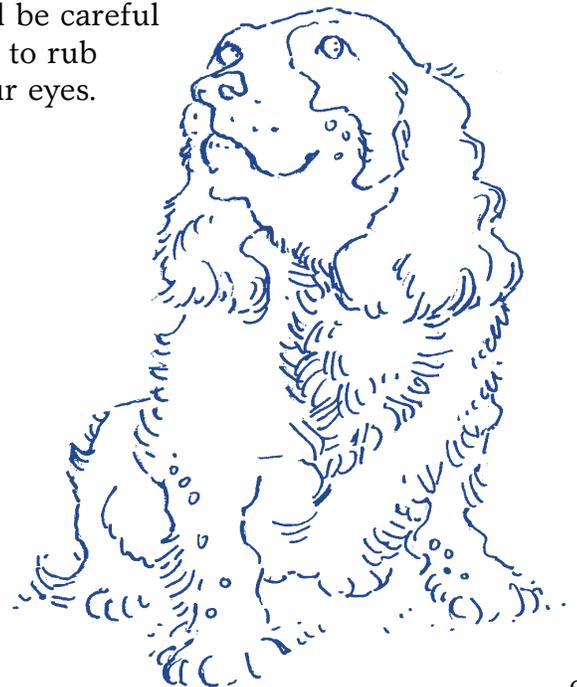
**19. Wash pets often.** This might help control the pet's skin flakes and help prevent dry skin and scratching.

**20. Keep pets off upholstered furniture.** Pet dander can stick to surfaces for a long time. It is especially hard to clean upholstered furniture because the stuffing can hold onto these particles.

**21. Avoid litter boxes.** People can also be allergic to the urine of furry pets. Pets kicking up dust in a litter box and rodents scratching in a cage only spread more particles in the air.

**22. Dust and vacuum regularly.** Since pet dander mixes with house dust, regular vacuuming (especially with a HEPA filter) and dusting help keep this problem under control.

**23. Avoid petting animals and visiting homes with indoor pets.** Often when an allergic person pets an animal, they may get itchy or swollen eyes or a stuffy nose. If they suffer from asthma, they may also have asthma symptoms. Very sensitive people may be wise to change clothes after visiting people with pets. Wash your hands after petting an animal, and be careful not to rub your eyes.



## Pets

**17. Keep pets outdoors.** About one-quarter of people with asthma are allergic to pets (especially to cats). Keeping them outdoors helps reduce asthma triggers inside.

**18. Keep the door to the bedroom closed.** If you have indoor pets, keeping them out of the bedroom, especially off the bed, can help reduce asthma triggers.

## Mold

**24. A musty smell means mold or mildew is present.** One way to reduce mold growth is to reduce the humidity (moisture level) in the air, since mold needs moisture to grow.

- Keep the indoor humidity level at an ideal range of 30 to 50 percent. Using a dehumidifier or air-conditioner can help. You can use a moisture meter to monitor the humidity level. You can buy moisture meters (also called hygrometers) at hardware stores. Also, remove any carpeting in the home that has had water damage for more than 24 hours—mold grows quickly under wet carpets and padding.

**25. Reduce moisture in the air by keeping the home air-conditioned.**

When buying an air-conditioner, make sure it is properly sized for the room. A unit that is too big for the space will not properly reduce humidity.

**26. Prevent mold growth by fixing any leaky plumbing fixtures.** Mold needs a water source to grow.

**27. Wipe up water around tubs and showers.** Soap scum provides molds with nutrients to grow—along with water that remains from showers and tubs.

**To remove mold,** use a solution of 1 cup of chlorine bleach, 1 gallon of water plus 1 tablespoon of detergent that does not contain ammonia. Let the area remain wet for about 10 minutes, then rinse thoroughly with water and dry well.

When using bleach, keep the person with asthma out of the room; the smell can irritate the lungs.

**28. Vent exhaust fans to the outside.** This helps remove humidity from the air, especially when the air becomes warm and humid from activities such as showering or boiling large amounts of water. Also, opening a window might help.

**29. Keep shower curtains open to help dry out.** Wash curtains monthly. If washed by machine, add chlorine bleach to the water to kill mold.

**30. Clean and disinfect refrigerator drip pans regularly.** Also vacuum around the coils. Refrigerators with automatic defrosters have drip

pans near the floor. Crumbs that may have collected underneath the refrigerator plus the moisture and dust that collects on the coils are areas that can grow mold (in addition to attracting cockroaches). Make sure you turn off controls and unplug the refrigerator before cleaning these areas.



**31. Vent the clothes dryer to the outside of the house.** Never leave the dryer unvented or vented to the attic. Drying wet clothes produces a lot of humid air.

**32. Make sure you wash wet towels and bath mats regularly.** Don't let them pile up in laundry hampers. They can become moldy.

**33. Keep houseplants out of the bedroom.** Mold can grow in the soil of houseplants (also in the soil and rotting wood outdoors).

**34. Carpet should not be put over concrete floors in basements.**

Concrete can absorb moisture from the ground, which can then be absorbed by carpeting. Using a dehumidifier in a basement can help remove moisture from the air. Keep humidity levels between 35 and 50 percent. Outside your home, make sure the ground slopes downhill from the foundation so that water will drain away from the house. Make sure gutters and downspouts are working properly.

**35. Try to keep most books out of the bedroom.** Mold can grow on paper products—books, newspapers, etc.—especially in humid environments.

## Pests

**36. Clean up crumbs and spills quickly.**

Cockroaches and other bugs are attracted to food sources, such as crumbs and liquid on the floor. Remember, pests can't live without food and water.

**37. Don't leave dirty dishes in the sink, and don't leave food uncovered.**

Store food in airtight containers or sealed plastic bags that bugs cannot get into. Even pet food and water left out overnight can attract bugs.

**38. Fix leaky pipes.** Cockroaches need water and food to survive. Food particles underneath sinks, maybe from old grocery bags and a water source—like a leaky pipe—provide an ideal environment for these pests.

**39. Empty trash cans.** Clean them out regularly with a disinfectant cleaner. After cleaning, dry out cans and put in a plastic liner.

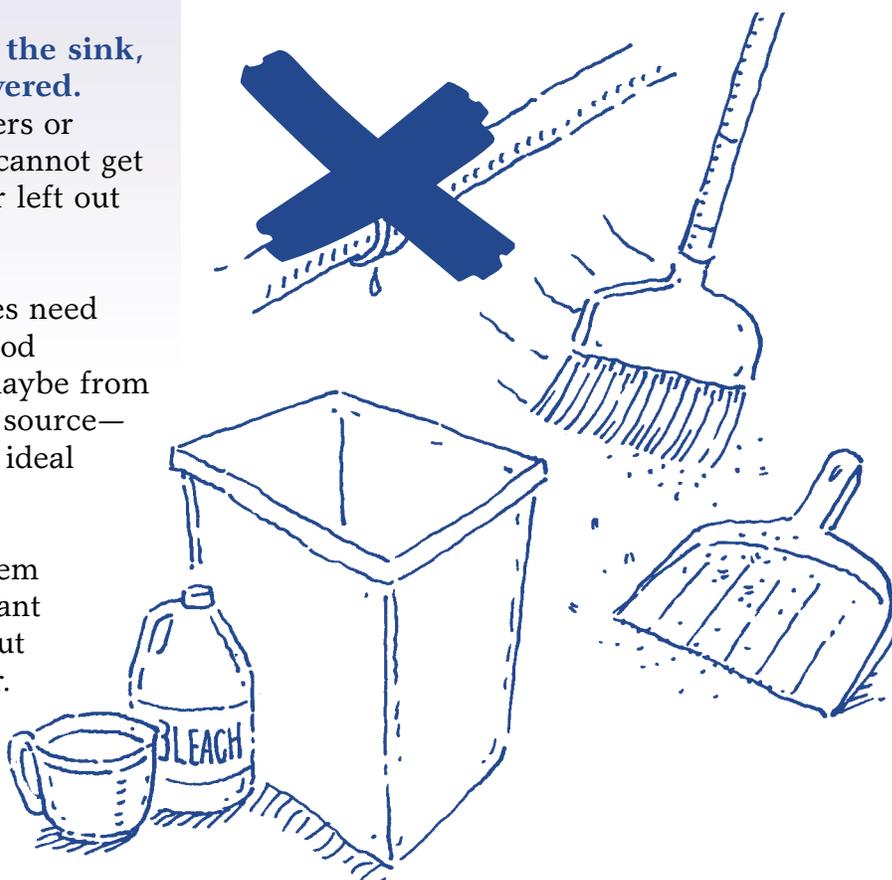


**40. Seal holes around pipes and in walls and spaces underneath doors.**

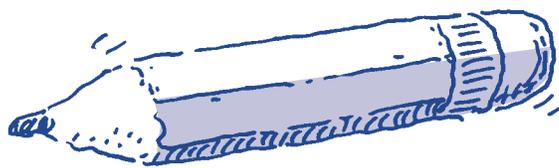
Pests can get into your home through small openings. Use weather stripping under doors, and for small holes you can use caulking. To fill large holes, use foam covered with wire mesh to plug the hole—don't use steel wool because it can rust. Wire mesh helps keep out mice and rats because they can't chew through the mesh.

**41. First, try to seal cracks where pests can enter the home.** Then, try to use non-poisonous control methods like boric acid, baits, or gel products. Use boric acid in a squeeze bottle. Make sure you read the label on all products and store safely away from children.

**42. Store items in plastic or metal containers.** Things made from wood products—like cardboard or paper bags—can attract cockroaches. Also, grocery sacks may have food particles in them that can attract pests.



# Action Checklist



## How Am I Doing?

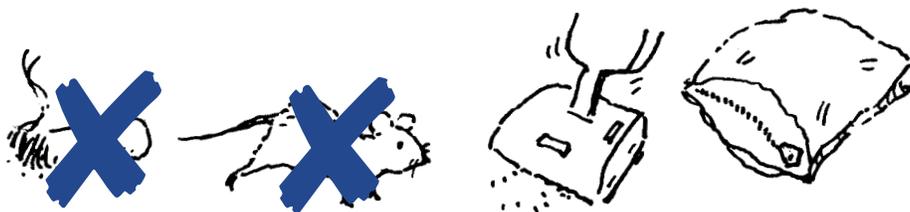
Check over the assessment and make note of changes you might make to reduce asthma triggers around your home. There are many triggers that can make asthma worse, and they differ from person to person. Identifying and avoiding triggers should be part of your asthma management plan.

It may not be possible to completely eliminate asthma triggers. You should still try to remove as many as possible from your home environment. This can help you or your child enjoy a healthier life with fewer asthma symptoms and episodes.

Pick at least three actions you can do to help control asthma triggers in your home.

- Start with your bedroom—it is the room where people spend the most time. More dust mites are found in the bedroom because they live in bedding and pillows. One of the least expensive actions you can take is cleaning—washing the bedding, dusting the furniture and ceiling fan blades, or mopping the floors. If you know you have certain allergies that trigger your asthma, concentrate on reducing those triggers. These are five of the best things you can improve to reduce asthma and allergy triggers:

- **Mattress Covers**
- **Floors**
- **Dust Reduction**
- **Pest Control**
- **Smoke**



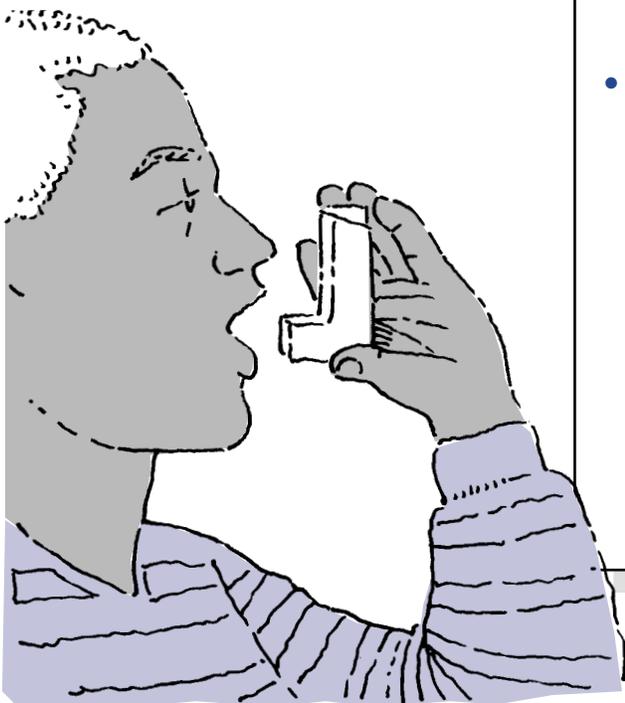
After filling out the self-assessment, record your **no** answers on the Action Checklist. List any actions or changes you plan to make, and write down a date to keep you on schedule.

Write all No responses below.	What can you do to change?	Set a date for action.
<i>Sample:</i> Pillows do not have covers on them.	Put zippered allergen-proof or plastic pillow covers on pillows.	September 1

## Managing Your Asthma with Medication

Be sure to work with your health care provider to establish an asthma management plan. In addition to controlling asthma by managing environmental triggers, there are medicines that treat asthma and types of equipment or tools (peak flow meters, spacers, nebulizers, and inhalers) that help monitor and control it.

There are many different kinds of medicines. Your doctor can decide which medicines and tools are right for you. If you are unsure about the medicines and types of medical devices prescribed, ask your pharmacist for help. It is important to know when and how to use your medicines and how and why they help control your asthma symptoms. If you or your child use medicines correctly, asthma can be controlled most of the time.



## Medicines Used to Treat Asthma

Today's advances in medicine can help prevent or control asthma symptoms. You need to work with your doctor and pharmacist to learn about which medicines are right for you. Generally, there are two main types of asthma medications:

- **Controller** or **everyday** medications. These medicines are taken every day to prevent airway inflammation that makes asthma worse. *Take these medications even when there are no symptoms.* Controller medicines are taken in tablet form, liquids, in inhalers, or by nebulizer. They work by making the lungs less sensitive to the triggers that cause asthma episodes.

Some of these daily controller medicines are corticosteroids, which are steroids that help reduce inflammation of the lungs. People are sometimes afraid of taking steroids because they've heard about the harmful effects steroids can have on the body after people, such as athletes, have taken large doses. But these types of steroids for asthma are very different. When they come in metered-dose inhalers, they are taken right into the lungs, and the dose is very small.

- **Rescue** or **quick-relief** medications. These are taken to treat episodes that do happen (like when there is coughing and wheezing). Make sure you always have your rescue medicine readily available. If you have a child in school, make sure this medicine is available at the school office if the child is not allowed to carry it. Write down all medicines prescribed on the asthma action plan at the end of this publication and on the asthma action plan for school (if needed).

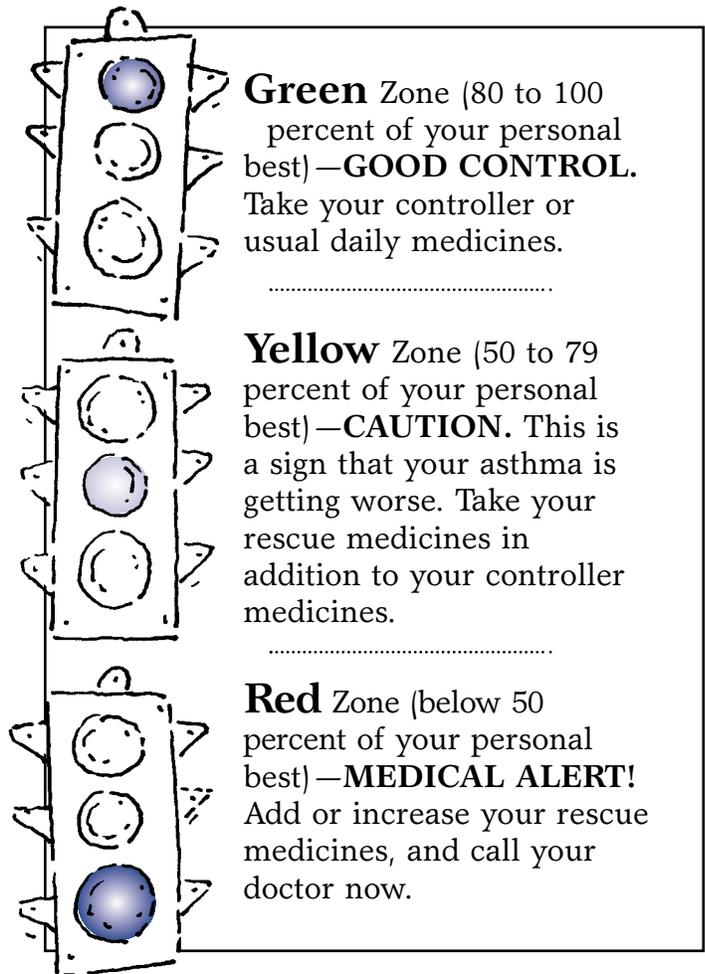
## Medical Devices Used to Treat Asthma

**Peak flow meters.** (Note: May not be useful for children under age 5.) A peak flow meter is a small handheld device that measures the air capacity of your lungs. By blowing into a peak flow meter, you can measure how well air is moving in and out of the lungs. Daily measuring and recording your peak flow can help you monitor your lung capacity. A person with asthma usually has some inflammation (swelling) in their lungs, even if they are not having any asthma symptoms. These airways become even more swollen during an asthma episode. A drop in peak flow can be an early sign of asthma getting worse—that airways in the lungs are starting to tighten. Using quick relief medications following a drop in the peak flow reading can help avoid serious asthma symptoms.

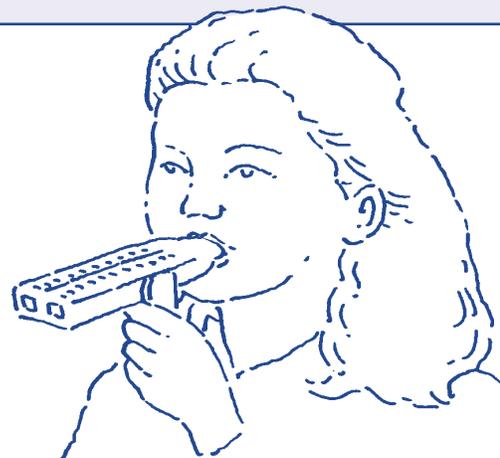


Most people with asthma can feel their symptoms get worse for several hours or even days before a more serious episode happens. Therefore, it is very helpful to do daily peak flow measurements. When asthma is under good control, you can establish your or your child's best peak flow reading by taking peak flow measurements every day, two times a day (once in the morning and once in the evening) for 2 to 3 weeks. Write down the number you get. The highest peak flow reading you get is your personal best.

A chart of peak flow zones is based on your personal best peak flow number. It is divided into three zones:



Fill out the chart at the end of this publication for your personal asthma management plan. Make sure you list your personal best peak flow reading and the types of medicines that you take.



**Using a nebulizer.** A nebulizer is a small compressor that hooks to a medicine cup containing asthma medicine. It turns asthma medicines into a mist. A mouthpiece or face mask attaches to the medicine cup, and you breathe in the medication right into your lungs. Nebulizers are very useful, especially in young children or in people with extreme coughing or wheezing, because the medication can be taken directly into the lungs over a period of time—usually several minutes—instead of one or two puffs on an inhaler.



Make sure you put in the correct amount of medicine and hold the cup upright so that it does not spill. Fit the mouthpiece tightly over your mouth (and nose if it is a face mask). Breathe in the mist until all the medicine is gone. Be sure to clean out the washable pieces after using them. Sometimes the medicine can be sticky, and it can plug up the little openings in the medicine cup.

**Using an inhaler.** An inhaler is a small device that contains asthma medicines. Make sure you use it correctly:

- Breathe out first.
- Put the inhaler to your mouth. At the same time, breathe in slowly and press on the inhaler.
- Breathe in slowly for 3 to 5 seconds.
- Hold breath for 10 seconds.

Sometimes a device called a spacer can be attached to the mouthpiece of the inhaler. Because it is hard for a small child to coordinate taking a breath and pushing on the inhaler at the same time, using a spacer with the inhaler can help deliver the full dose of medicine into the lungs.

There are several different types of inhalers. Both controller and rescue medicines may come in an inhaler. It is important to use an inhaler correctly to make sure the medicine is getting properly into the lungs. Talk to your doctor or pharmacist about the right way to use the type of inhaler prescribed for you.

**Important!** If you take the medicines that the doctor prescribed and they don't provide good relief, tell your doctor. He or she may prescribe a different medicine that works better for you. If you still can't get good relief from your asthma, ask for a referral to an asthma specialist.

## Take Action!

At this point you should be more aware of the actions you can take to help you control asthma. A written asthma management plan helps to combine your actions to control triggers at home with proper medications and daily peak flow monitoring.

## An Asthma Management Plan

- Monitor peak flow daily.
- Take your daily asthma medicine(s).
- Identify and reduce asthma triggers.
- Decide in advance how you will handle an asthma episode. Then control each episode.
- Plan for emergencies, and decide when to call the doctor.

Fill out the **asthma action plan** at the back of this publication. Keep a copy at home. If you have a child in school, fill out the asthma action plan for school and have it signed by your doctor.

## References

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*Kids Breathe Free*. Atlanta, GA: Pritchett and Hull Associates, 2000.

## FOR MORE INFORMATION

**A note about Web site information:** If you do not have a computer, contact your local public or college library. Most libraries have free computers connected to the Internet.

### Alabama Cooperative Extension System

- The Alabama Cooperative Extension System provides many resources on its Web site: [www.aces.edu](http://www.aces.edu)
- For asthma information, visit [www.aces.edu/asthma](http://www.aces.edu/asthma)
- For additional information, call your county Extension agent.

### U.S. Environmental Protection Agency: Office of Children's Health Protection

[www.epa.gov/children/](http://www.epa.gov/children/)

- **Take the Smoke-Free Home Pledge**  
A pledge to choose not to smoke in your home and not permit others to do so. Take the pledge and receive a free kit at 1-800-513- 1157 or order online. [www.epa.gov/smokefree/pledge](http://www.epa.gov/smokefree/pledge)

### Healthy Homes Partnership

- [www.uwex.edu/healthyhome/resources.html](http://www.uwex.edu/healthyhome/resources.html)
- *Help Yourself to a Healthy Home: Protect Your Children's Health*, 2nd edition.
- *Contribuya a Tener un Hogar Sano: Proteja la Salud de Sus Hijos*.

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### American Lung Association: Asthma

1-800-LUNG-USA

[www.lungusa.org/asthma](http://www.lungusa.org/asthma)

- **American Lung Association: Health House**  
A program for healthier and more comfortable homes by the American Lung Association. [www.healthhouse.org](http://www.healthhouse.org)  
1-877-521-1791
- **American Lung Association: Freedom From Smoking Online**  
A smoking cessation program available online. [www.lungusa.org/ffs/](http://www.lungusa.org/ffs/)

- **Open Airways for Schools**

This program teaches children, aged 8-11, how to detect the warning signs of asthma, including the environmental factors that can trigger an attack.

[www.lungusa.org/school/oas.html](http://www.lungusa.org/school/oas.html)

### **The Soap and Detergent Association**

1-202-347-2900

- Cleaning to Control Allergies and Asthma (English)  
[www.cleaning101.com/health/newallergies/](http://www.cleaning101.com/health/newallergies/)
- Procedimientos de limpieza para controlar las alergias y el asma (Spanish)  
[www.cleaning101.com/health/allergias](http://www.cleaning101.com/health/allergias)

### **Allergy and Asthma Network/Mothers of Asthmatics (AANMA)**

1-800-878-4403

[www.aanma.org/](http://www.aanma.org/)

### **Healthy Indoor Air for America's Homes: Asthma Instructional Module**

1-406-994-3451

[www.healthyindoorair.org/asthma.htm](http://www.healthyindoorair.org/asthma.htm)

### **USDA Cooperative State Research, Education, and Extension Service (USDA/CSREES)**

CSREES is a program under the U.S. Department of Agriculture (USDA) that helps link research and scientific information at land-grant colleges to families and communities.

Areas covered include agriculture, nutrition and health, youth and families, environmental stewardship and community economic development.

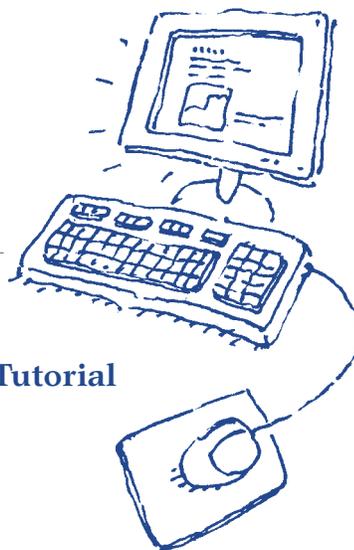
(202) 720-3029

[www.reeusda.gov/](http://www.reeusda.gov/)

### **Asthma and Allergy Foundation of America**

1-800-7-ASTHMA

[www.aafa.org](http://www.aafa.org)



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### **InteractiveTutorials/Youth Information**

#### **Children's Medical Center of the University of Virginia: Asthma Tutorial**

[www.healthsystem.virginia.edu/internet/pediatrics/tutorials/](http://www.healthsystem.virginia.edu/internet/pediatrics/tutorials/)

#### **The Healthy Homes Web Tool**

[www1.uwex.edu/healthyhome/tool](http://www1.uwex.edu/healthyhome/tool)

#### **National Jewish Medical and Research Center: The Asthma Wizard**

An interactive story about asthma for children.

[www.NationalJewish.org/wizard/wizard.html](http://www.NationalJewish.org/wizard/wizard.html)

#### **National Institutes of Health: National Heart, Lung, and Blood Institute**

Asthma Awareness Curriculum for the Elementary Classroom

[www.nhlbi.nih.gov/health/prof/lung/asthma/school/index.htm](http://www.nhlbi.nih.gov/health/prof/lung/asthma/school/index.htm)

Lesson plans, activity sheets, resources for teachers.

### **Asthma and Schools**

Information about asthma-related resources for school personnel working with grades K-12.  
[www.asthmaandschools.org/](http://www.asthmaandschools.org/)

### **AAAAI: Just for Kids**

The American Academy of Allergy, Asthma and Immunology Just for Kids section has lots of activities, a downloadable storybook (in English and Spanish), and coloring pages to help children learn about managing allergies and asthma.  
[www.aaaai.org/patients/just4kids/](http://www.aaaai.org/patients/just4kids/)

### **BrainPOP: Asthma**

A Web site featuring online educational animated movies for children about health, science, and technology.  
[www.brainpop.com/health/diseases/asthma/](http://www.brainpop.com/health/diseases/asthma/)

### **National Institute of Environmental Health Sciences:**

NIEHS Kids Pages: Asthma and Allergies and Their Environmental Triggers  
[www.niehs.nih.gov/kids/asthma.htm](http://www.niehs.nih.gov/kids/asthma.htm)

### **Asthma Moms**

[www.asthamamoms.com/](http://www.asthamamoms.com/)

### **Asthma Busters**

An online program for kids 7 to 14 who have asthma and for school nurses who work with students with asthma.  
[www.asthmbusters.org](http://www.asthmbusters.org)

### **Quest for the Code**

A free CD-ROM game for kids with asthma and their families.  
1-800-315-2580  
[www.starbright.org](http://www.starbright.org)



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## **Health Care Information**

### **All Kids**

ALLKids is a no-fee or limited-fee, comprehensive health insurance program for children under age 19. It covers checkups, physician visits, prescriptions, dental and eye care.  
1-888-373-KIDS (5437)  
Se habla español.  
[www.adph.org/allkids](http://www.adph.org/allkids)

### **National Hispanic Family Health Help Line: "Su Familia"**

A toll-free bilingual health help line that provides families with basic health information. This help line will refer families to local health providers and the Children's Health Insurance Program. Monday through Friday, 9 am to 6 pm, Eastern Time.  
1-866-SU-FAMILIA or 1-866-783-2645

# Asthma Action Plan for Home

Name \_\_\_\_\_ Date of Birth \_\_\_\_\_

Phone (Home) \_\_\_\_\_ Phone (Work) \_\_\_\_\_

Doctor's Name \_\_\_\_\_ Doctor's Phone \_\_\_\_\_

Pharmacy \_\_\_\_\_ Pharmacy Phone \_\_\_\_\_

Emergency Contact \_\_\_\_\_ Emergency Phone \_\_\_\_\_

## Peak Flow Meter Readings (May not be useful for children under age 5)

For 2 weeks, measure peak flows two times a day, once in the morning and once in the evening. Take two to three readings each time, and record the best one. Make sure you take a deep breath before blowing into the peak-flow meter, and blow out as hard and as long as you can.

Day	A.M.	P.M.	Day	A.M.	P.M.
1	_____	_____	8	_____	_____
2	_____	_____	9	_____	_____
3	_____	_____	10	_____	_____
4	_____	_____	11	_____	_____
5	_____	_____	12	_____	_____
6	_____	_____	13	_____	_____
7	_____	_____	14	_____	_____

••• Personal Best Peak-Flow Reading: \_\_\_\_\_ •••

**Green Zone - GOOD** \_\_\_\_\_ to \_\_\_\_\_ (80 to 100 percent of your personal best)  
Take your controller daily medicines.

**Yellow Zone - CAUTION** \_\_\_\_\_ to \_\_\_\_\_ (50 to 79 percent of your personal best)  
This is a sign that your asthma is getting worse. Take your rescue medicines in addition to your controller medicines.

**Red Zone - MEDICAL ALERT!** \_\_\_\_\_ to \_\_\_\_\_ (below 50 percent of your personal best) Add or increase your rescue medicines, and call your doctor now.

## Asthma Medications

**Controller**, or daily medicines (Use every day when peak flow is in **Green Zone**)  
Use even if you have no asthma symptoms.

Name	Amount
_____	_____
_____	_____

Special Instructions (For example: Use with a spacer attached to inhaler, take 2 puffs of inhaler 5 minutes apart, rinse mouth with water after taking medicine.)

\_\_\_\_\_

**Rescue** medications (Use if asthma symptoms are present or during an asthma episode.)  
Use when peak flow is in **Yellow** or **Red Zone**. Reminder: Keep taking daily controller medicines, also.

Name	Amount
_____	_____
_____	_____

Special Instructions

\_\_\_\_\_

### Allergies or Asthma Triggers (circle ones that apply)

Dust    Mold    Pets    Smoke    Exercise    Food    Other \_\_\_\_\_

Respiratory Infections    Strong Odors    Pollens    Change in Temperature

Special Instructions

\_\_\_\_\_

## EMERGENCY

**CALL 911 for emergency help if the following things happen:**

- The episode is very bad and does not get better in 15 minutes after taking asthma medicine
- It is hard to talk or walk
- Lips or fingernails are blue
- It is very hard to breathe or sit up

# Asthma Action Plan for School

Student Name \_\_\_\_\_ Date of Birth \_\_\_\_\_ Phone \_\_\_\_\_

Parent/Guardian \_\_\_\_\_ Phone (Home) \_\_\_\_\_

Phone (Work) \_\_\_\_\_

Parent/Guardian \_\_\_\_\_ Phone (Home) \_\_\_\_\_

Phone (Work) \_\_\_\_\_

Doctor's Name \_\_\_\_\_ Doctor's Phone \_\_\_\_\_

Emergency Contact \_\_\_\_\_ Emergency Phone \_\_\_\_\_

Describe the type of asthma symptoms your child experiences (e.g. wheezing, coughing, rapid breath, other \_\_\_\_\_)

Does your child use a peak flow meter? \_\_\_\_\_ Yes \_\_\_\_\_ No

(If Yes, is there one at school?) \_\_\_\_\_ What is the child's best peak flow number? \_\_\_\_\_

## Asthma Medications

Daily **Controller** medicines (use everyday—even if no asthma symptoms)

Name	Amount/dose	Frequency
1. _____	_____	_____
2. _____	_____	_____

Special Instructions (For example: Use with a spacer attached to inhaler, take 2 puffs of inhaler 5 minutes apart, rinse mouth with water after taking medicine.)

**Rescue** or **quick-relief** medicines (use if asthma symptoms are present or during an asthma episode) Use if peak flow less than \_\_\_\_\_

Name	Amount/dose	Frequency
1. _____	_____	_____
2. _____	_____	_____

Special Instructions (For example: Use with a spacer attached to inhaler, take 2 puffs of inhaler 5 minutes apart, rinse mouth with water after taking medicine, use with nebulizer)

**EMERGENCY: Call 911 and get emergency help if the following things happen:**

- The episode is very bad and does not get better in 15 minutes after taking asthma medicine
- There is difficulty walking or talking
- Lips or fingernails are blue
- Extreme difficulty breathing and hunched over

**Allergies or Asthma Triggers** (circle ones that apply)

Dust (or chalk dust)    Mold    Animal    Smoke    Exercise    Pollens  
Respiratory Infections (colds, flu)    Strong Odors    Change in Temperature  
Other \_\_\_\_\_ Food \_\_\_\_\_

**Comment/Special Instructions/Side Effects of Medication:**

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**Parent Authorization**

I authorize school personnel to assist my child in taking the above medication. I understand that additional parent/prescriber signed statements will be necessary if the dosage of medication is changed.

Medication should be in the original container and be properly labeled with the student's name, prescriber's name, date of prescription, name of medication, dose, strength, time interval, route of administration, and the date of drug's expiration when appropriate.

\_\_\_\_\_  
Signature of Parent or Guardian                      Date                      Phone

**Prescriber Authorization**

Special Instructions

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\_\_\_\_\_  
Signature of Prescriber                      Date                      Phone





*Your Experts for Life*

CRD-78

**Laura B. Booth**, *Extension Associate, Environmental Programs, Auburn University*

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Special thanks to all who helped with the technical review of the materials and who provided editorial assistance, especially Dr. Joseph Ponessa, Rutgers University; Dr. Jack Hataway, Alabama Department of Public Health; and Denise Shirley and JoAnn Culpepper, Alabama Cooperative Extension System, who have piloted this program in Tuscaloosa County, Alabama. EPA Office of Children's Health Protection and the Alabama Power Foundation also contributed funds for this project.

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This project was partially funded by the Alabama Department of Environmental Management through a Clean Water Act Section 319(h) nonpoint source grant provided by the U.S. Environmental Protection Agency-Region IV.

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