

# ASTHMA AND YOUR CHILD



Helping Your Child Stay Healthy and Active

# When Your Child Has Asthma

Have you learned that your child has asthma? Asthma is a chronic (ongoing) disease of the airways in the lungs. It can't be cured, but it can be controlled. With asthma in control, your child **can** enjoy a healthy, active life.

## The Benefits of Control

A child whose asthma is in control can do all of the things that other kids do. When asthma is in control:

- Your child can play with other kids and take part in sports.
- Your child will sleep better.
- Your child can miss fewer school days due to asthma (and you'll miss fewer days of work).
- Your whole family's life is less disrupted.
- Your child is much less likely to have a serious, even deadly, asthma attack.

Control means better health for your child and peace of mind for you. Controlling asthma does take work, but the results are worth it.



### Also available in Spanish

This booklet is not intended as a substitute for professional medical care. Only your doctor can diagnose and treat a medical problem.

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## A Treatment Plan for Your Child

You will work with your child's healthcare provider to develop a treatment plan. This is a program for controlling your child's asthma. This treatment plan includes:

- Using medications.
- Monitoring asthma and managing symptoms.
- Reducing your child's asthma triggers.
- Helping your child exercise safely.
- Knowing what to do in case of a flare up or asthma emergency. (Read about the Asthma Action Plan starting on page 14.)

## The Asthma Care Team

Controlling asthma takes teamwork. More than one provider may be involved in your child's care. The providers help develop a treatment plan and show you the tools you need. But the rest is up to you and your child. Be sure you understand your child's treatment plan. If you have questions, ask one of your child's healthcare providers. Keep asking until you get the answers you need.

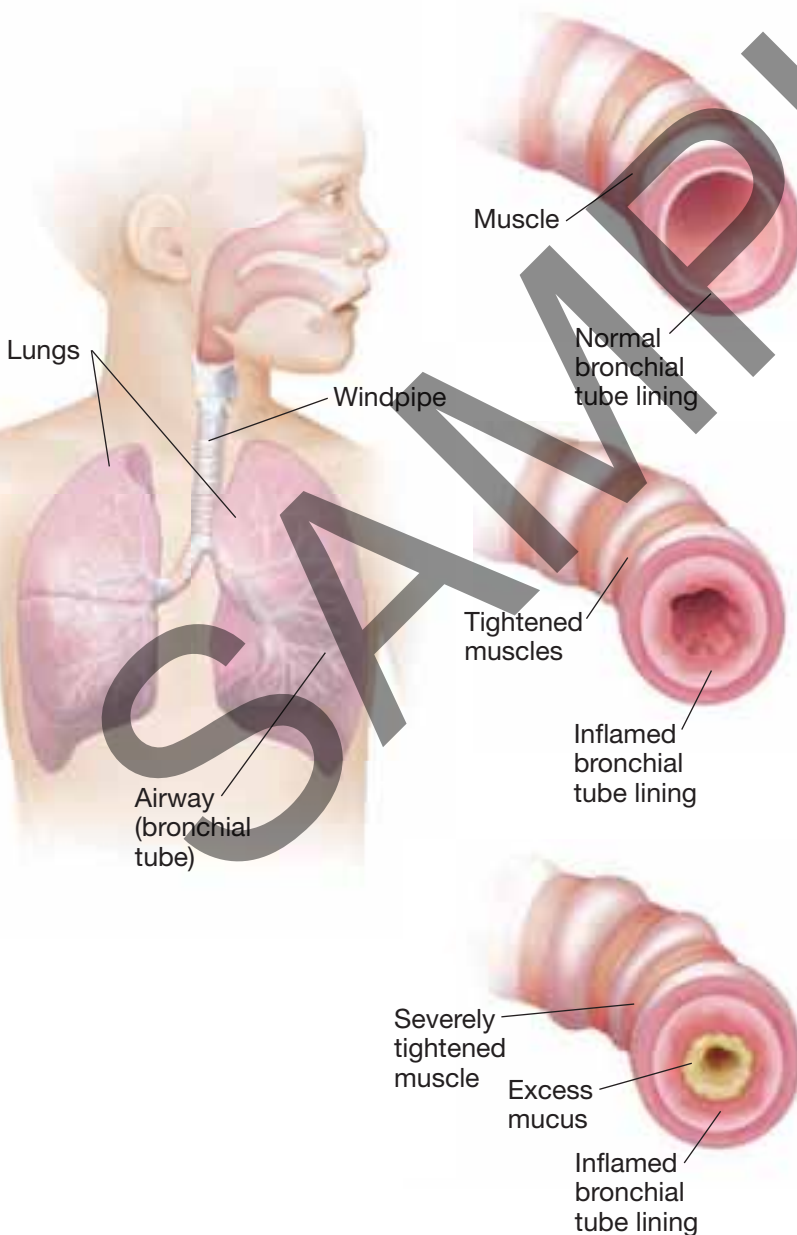
You may work with some of the professionals listed below.

- A primary care provider to manage asthma treatment. If needed, he or she can refer your child to asthma specialists.
- Respiratory therapists to give tests that help show how well your child's lungs work. They often teach patients about asthma.
- Nurses and health educators to help you and your child learn skills to control asthma.
- Specialists, such as an allergist or pulmonologist, to help adjust the treatment plan to your child's needs.
- An asthma care manager to help the team work together.

# Asthma and the Lungs

The lungs contain a series of branching tubes called airways. These are known as bronchial tubes. Muscles wrap around the tubes to control how open the airways are. The airways make sticky mucus to trap any particles that are breathed in. When lungs are healthy, breathing is easy. With asthma, airways become narrowed. This makes breathing in and out harder.

## How Asthma Affects the Lungs



**When airways are healthy and open**, there is plenty of room for air to pass in and out of the lungs. Breathing in and out is easy.

**With asthma**, airways become inflamed and swollen most of the time. Muscles around the airways may be tight. Air has to go through a narrower tube. This may cause mild asthma symptoms. Inflammation also makes airways very sensitive and easily irritated.

**With a flare-up**, sensitive airways become irritated. They become even more swollen. The bands of muscle around the airways tighten even more. Too much mucus forms. All of this narrows the airways even more. This causes more severe asthma symptoms.



## Asthma Symptoms

Some children have asthma symptoms often (**persistent** asthma). Others have symptoms only once in a while (**intermittent** asthma). When your child has symptoms, he or she is having an **asthma flare-up**. Flare-ups can be mild, moderate, or severe. Common symptoms of asthma flare-ups are listed below.

### **Mild to moderate asthma symptoms include the following:**

- Coughing, especially at night
- Getting tired or out of breath easily
- Wheezing (a whistling noise when breathing out)
- Chest tightness
- Fast breathing when at rest

### **Severe asthma symptoms include the following:**

- Very fast or hard breathing
- Sucking in between the ribs, and above and below the breastbone (retractions)
- Being unable to walk or talk
- Lips or fingers turning blue

**Call 911 if you see any of these severe asthma symptoms!**

# Types of Asthma Medications

Medications play a key role in controlling asthma. Long-term controller medications help reduce the inflammation in the lungs. Quick-relief medications are used to treat symptoms when they occur. Your child will likely have both of these types. Other types may also be used. Work with your child's healthcare provider to find the best medications for your child.



## Long-Term Controller Medications

Most kids with asthma take long-term controller medications. These medications are used daily, even when the child feels well. This helps reduce inflammation and swelling in the airways. It can help prevent symptoms and flare-ups. These medications:

- Will **not** stop flare-ups in progress. Quick-relief medications are used for that.
- Must be taken every day, often once or twice a day.
- Take some time to start working.

## Quick-Relief (Rescue) Medications

Even when asthma appears to be controlled, flare-ups may still happen. Quick-relief medications start working within minutes of using them. They help stop flare-ups. This eases symptoms such as coughing, wheezing, and shortness of breath. These medications:

- Are taken only when needed.
- Work quickly to stop flare-ups in progress.
- May be prescribed to use before exercise, if exercise triggers asthma in your child.

Never make medication changes without talking to your child's healthcare provider first.



## Types of Quick-Relief Medications

| Medication                  | How it's taken                          | How it helps  |
|-----------------------------|---|---|
| Short-acting bronchodilator | Inhaled (breathed in through the mouth) | Quickly relaxes muscles around the airways to help stop flare-ups<br>Doesn't help control the underlying cause of flare-ups |

## Types of Long-Term Controller Medications

| Medication                 | How it's taken             | How it helps   |
|----------------------------|----------------------------|--|
| Inhaled corticosteroid     | Inhaled                    | Prevents or reduces airway inflammation<br>Protects the airways from triggers  |
| Long-acting bronchodilator | Inhaled or taken as pills  | Slowly relaxes the muscles around the airways for long-term control of asthma<br>Should <b>not</b> be used for quick relief<br>Usually used along with an inhaled corticosteroid |
| Leukotriene modifier       | Taken as pills or granules | Helps reduce airway inflammation<br>May be used in addition to or instead of inhaled corticosteroids   |
| Oral corticosteroid        | Taken as pills or liquid   | Reduces airway inflammation<br>May be prescribed for a short time to help bring asthma under control   |



# Using Asthma Medications

There are several ways to take asthma medication. But many medications are inhaled. Your child will likely need to learn to use an inhaler. No matter how it is taken, be sure you know when and how each medication should be used. If you have questions, ask your child's healthcare provider.

## Types of Inhalers

Most children with asthma have at least one inhaler. Which type depends on the kind of medication, your child's age, and other factors. Types of inhalers are described below.



### Metered-Dose Inhaler with a Spacer

A **metered-dose inhaler (MDI)** releases medication in a fine spray. A **spacer** is a holding tube or bag attached to the MDI. The spacer helps the medication go into the child's lungs rather than sticking to the walls of the mouth. This makes each dose work better. It also makes side effects less likely.



### Dry Powder Inhaler

This type of inhaler releases medication in tiny grains of powder. No spacer is needed. To use this inhaler, the child must be able to take a quick, deep breath.



### Nebulizer

A nebulizer turns medication into a mist sent through a mouthpiece or mask that fits closely on the child's face. Getting the full dose takes from 7 to 15 minutes.

## Using Inhaled Corticosteroids

Inhaled corticosteroids can lead to a mouth infection called thrush. To help prevent this:

- Your child should always use a spacer when taking inhaled corticosteroids.
- Have your child rinse his or her mouth and spit out the water after using the inhaler. You can have your child use the inhaler before brushing his or her teeth.



Your child's inhaler technique should be checked by the healthcare provider at each appointment.



## Know When and How to Use Medications

Know all of your child's medications and when they should be used. Your child's Action Plan (see page 15) helps you with this. In general:

- **Use quick-relief ("rescue") medication to relieve symptoms quickly.** This eases your child's breathing right away. But keep in mind that quick-relief medications don't do anything to treat the underlying cause. For this, controller medications are used.
- **Use controller medication every day to treat inflammation.** This is the underlying cause of asthma symptoms. Treating this helps make your child's airways less sensitive and less likely to flare up. If your child's symptoms get worse, you may be told to increase the amount of controller medication your child takes.



## Taking Daily Medications

It may seem clear to your child why he or she needs to take rescue medication for a flare-up. But your child may be confused by having to take long-term controller medication when he or she feels well. Remembering to take medication each day can be hard for anyone. You can help. Try these tips:

- Develop a routine. Make taking long-term controllers part of getting ready for bed or for school.
- Set up a reward system. For example, award a point for each day your child sticks to the schedule. Your child then earns rewards based on these points.
- Make sure your child understands what long-term controllers do and don't do.
- Explain the role of these medications to any other caregivers. That way, the routine will be followed when your child is in someone else's care.

# Reducing Asthma Triggers

**Triggers are things that make your child's asthma worse. Helping your child avoid triggers is another key to asthma control. These pages cover the most common triggers, but your child may have others. Start by working to control the ones that affect your child most.**

## Common Nonallergy Triggers

These triggers irritate the lungs. They are problems for most children with asthma.



**Smoke**, especially from tobacco, is a lung irritant. To control it:

- If you smoke, quit. This may be the single best thing you can do to control your child's asthma. Ask your healthcare provider for help quitting.
- Keep your child away from any kind of tobacco smoke. Also try to avoid incense, fireplace, or campfire smoke.
- Urge any members of your household who smoke to quit.



**Scents and chemicals** irritate sensitive lungs. To help protect your child:

- Switch to unscented soap, lotion, toilet paper, and cleaning products. Don't use air fresheners or perfume.
- Keep your child away and use ventilation when using chemicals with strong fumes, such as bleach or ammonia.
- If you have a gas stove, use the exhaust fan when the stove is on. Adjust pilot lights properly. (Your utility company can help with this.)



**Colds and the flu** can worsen asthma symptoms and trigger flare-ups. To help your child avoid cold and flu germs:

- Have your child wash his or her hands often with plain soap and water. (Use an alcohol-based hand sanitizer when there's no access to soap and water.)
- Have your child get a yearly flu shot.



**Cold air and other weather changes** can be triggers for some children. You can't control the weather, but you can take precautions:

- Keep track of what types of weather affect your child: cold, hot, humid, or windy. This varies from child to child.
- Limit outdoor activity during weather that affects your child's asthma.
- If cold air is a trigger, have your child wear a scarf over his or her mouth and nose.

## Common Allergy Triggers

These can be problems for children who have allergies. Testing can show which triggers your child is allergic to.



**House dust mites** are tiny creatures that live in house dust. They are a common cause of allergies. To help manage them:

- Wash and dry bedding each week. Use hot settings.
- Cover mattresses and pillows with allergen-proof covers.
- Take items that collect dust out of your child's bedroom. This includes curtains, stuffed toys, and books.
- Get a vacuum with a HEPA (high-efficiency particulate air) filter. Vacuum regularly.
- Use a dehumidifier or air conditioner to lower humidity to less than 50%.



**Pollens** from trees, grasses, and weeds are the plants most likely to cause allergies. If your child is allergic to pollens:

- Use air conditioning in your home or car, if you have it, instead of opening the windows.
- Have your child bathe and change clothes after extended periods outdoors. Don't let your child sleep in his or her clothes.



**Mold** thrives in damp places. To help reduce mold:

- Fix water leaks in and around the home.
- Wipe up damp areas and keep them clean.
- Run an exhaust fan in the bathroom.
- Use a dehumidifier or air conditioner to dry the air. (Less than 50% humidity is ideal.)
- Avoid vaporizers, humidifiers, and swamp coolers.



**Pets** with fur or feathers can cause allergies. It's best not to have them. If you have a furry or feathered pet:

- Keep the pet outside. If it is allowed inside, keep it off furniture.
- Don't allow the pet into your child's bedroom. Never let your child sleep with a pet.
- Have your child wash his or her hands after touching or playing with an animal.



**Household pests** such as rats, mice, and cockroaches produce allergens. To help control them:

- Wash dishes promptly. Store food in tightly sealed containers. Fix water leaks, which can attract cockroaches.
- Take garbage out daily.
- Don't leave pet food out.
- Kill roaches with traps or boric acid, not chemical sprays.
- If you're a renter, talk to your landlord about the problem.

# Encouraging Exercise

**Your child needs exercise to be healthy and fit. So don't let fear of an asthma flare-up keep your child from being active. Many professional and Olympic athletes have asthma. They are able to perform because their asthma is in control. The same is true for your child.**

## What Kind of Exercise?

Kids with asthma can do any activity they like. They can play baseball, basketball, soccer, or football. They can swim, run cross-country, or do gymnastics. If exercise has led to asthma flare-ups in the past, you may worry. But when asthma is in good control, your child will be able to exercise without fear. Work with your child's healthcare provider to help make exercise and sports safe for your child.

## Making Exercise Safer

- Your child's healthcare provider may prescribe taking a dose of quick-relief medication before exercise. Be sure your child carries this medication and knows when and how to take it.
- Teach your child to warm up for 5 to 15 minutes before exercise. This reduces the chance of a flare-up.
- Talk to your child's gym teacher or coach. Explain when and how your child should take asthma medications. Also explain the importance of warming up. This person should know the symptoms of an asthma flare-up and what to do about it.
- Your child may need to avoid exercise outside at certain times. Depending on triggers, you may need to watch for high air pollution days, dry and windy days, or days when a lot of pollen is in the air.

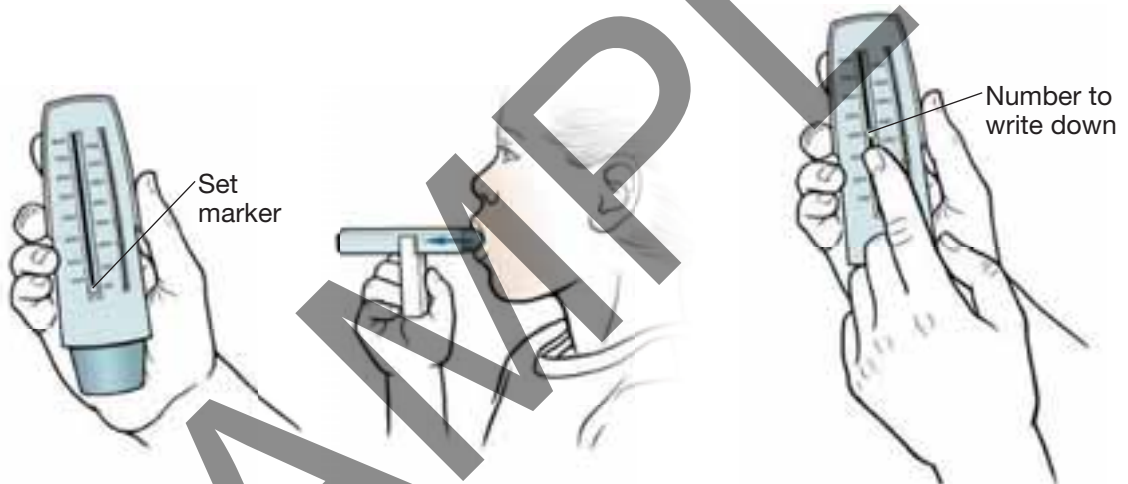


# Peak Flow Monitoring

A peak flow meter is a tool for testing your child's lungs. It can help warn you of a flare-up, even before there are symptoms. Your child's healthcare provider will tell you if your child needs to use a peak flow meter. He or she can check that your child is using the peak flow meter correctly.

## Using the Peak Flow Meter

A peak flow meter measures how much air your child can quickly push out of the lungs. This helps show how open your child's airways are at that moment. Your child's peak flow meter may look different from the one shown here, but will work in a similar way.



Move the marker to zero or the lowest number on the scale. Have your child stand if possible. (If that is not possible, have your child sit up straight.) Ask your child to take as deep a breath as he or she can.

Put the mouthpiece of the meter in your child's mouth. Ask your child to blow into the mouthpiece once, as hard and fast as possible.

Check where the marker has moved on the numbered scale. Write down this number. Move the marker back to zero and repeat the test two more times. The highest of the three is your child's peak flow number.

## What Do the Numbers Mean?

Your child's **personal best peak flow number** is his or her best number. This is the result when your child's lungs are as open as they can be. Ask your doctor how to determine your child's personal best number. Then, write that number here: \_\_\_\_\_.

Comparing your child's peak flow numbers to his or her personal best helps you know when asthma is—or isn't—under control.

# Making Treatment Work

**Know your child's symptoms and triggers. This will help you spot asthma that's getting worse. Peak flow monitoring can help, too. Your child's Action Plan is a set of clear guidelines for what to do when your child has symptoms. The Action Plan is a major part of asthma treatment. It can help you see how treatment is working to control your child's asthma.**

## Your Child's Action Plan

Fill out the Action Plan form on page 15 with your child's healthcare provider. You can then make extra copies of the completed form to post where it may be needed. The Action Plan tells you what to do when your child is in each of the three asthma zones:

- **Green = good control.** Your child has no asthma symptoms. Peak flow (if used) is normal or near normal. With asthma in control, your child is in the Green Zone all or most of the time.
- **Yellow = poor control.** Your child is having more symptoms or needing more rescue medication. Peak flow is lower than normal. This is a mild to moderate flare-up. Quick action is needed to get your child's asthma back into control. If your child is often in the Yellow Zone, the treatment plan needs to be revised.
- **Red = danger.** Symptoms are moderate to severe. Your child's peak flow is very low. This is a severe flare-up. **Your child needs medical attention now!**

## Is Your Child's Asthma in Control?

The questions below are a quick way to check whether asthma is in control. **If you answer yes to either question, your child's asthma is not well controlled.** If you have a yes answer, talk with your child's healthcare provider. Work to adjust your child's treatment plan. Also discuss any problems that make it hard for you or your child to stick to the plan. Your child's healthcare provider can help address these problems.

Does your child need to use his or her quick-relief inhaler more than 2 times a week (other than before exercise)?

Does your child wake up at night with symptoms more than 2 times a month?



# Asthma Action Plan

Child's Name: \_\_\_\_\_

Date: \_\_\_\_\_

Provider's Name: \_\_\_\_\_

Office Phone: \_\_\_\_\_

After-Hours Phone: \_\_\_\_\_

Parent's Phone: \_\_\_\_\_

Fill out this Action Plan form with your child's healthcare provider. Then make extra copies to keep where you need them.

## Green Zone

**Peak flow** is greater than:

\_\_\_\_\_ (80% of personal best)

### Green Zone Symptoms:

None. Asthma doesn't get in the way of school, activities, or sleep.

Long-term control medication(s) to take daily:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Medication(s) to take before exercise:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Other medications:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Asthma check-up appointments:  
Visit every \_\_\_\_\_ months.

The goal: Stay in the **Green Zone!**

## Yellow Zone

**Peak flow** is between:

\_\_\_\_\_ and \_\_\_\_\_ (50% to 80% of personal best)

### Yellow Zone Symptoms:

- Coughing, wheezing
- Chest tightness
- Shortness of breath
- Symptoms at night

Take \_\_\_\_\_ puffs of this quick-relief medication:  
\_\_\_\_\_  
\_\_\_\_\_

If your child does not return to the **Green Zone** within 1 hour, repeat \_\_\_\_\_ puffs of quick-relief medication.

Increase/add long-term control medication:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Call the provider** if the child is in the **Yellow Zone** for more than \_\_\_\_\_ hours or uses more than \_\_\_\_\_ puffs of quick-relief inhaler a day.

Follow the **Yellow Zone** plan if the child has a cold or other upper respiratory infection.

## Red Zone

**Peak flow** is less than:

\_\_\_\_\_ (50% of personal best)

### Red Zone Symptoms:

- Constant coughing or wheezing
- Severe symptoms at night
- Trouble breathing at rest

Take \_\_\_\_\_ puffs of this quick-relief medication:  
\_\_\_\_\_  
\_\_\_\_\_

**Then, call the child's healthcare provider!**

**CALL 911 right away** if the child is still in the **Red Zone** after \_\_\_\_\_ minutes and you cannot reach the provider.

**CALL 911 right away** if the child has any of the following:

- Severe trouble breathing
- Trouble walking or talking
- Blue lips or fingers

## Your Child Away from Home

Your child will likely spend time at the homes of family and friends, at daycare, or at school. Being away from home can help your child learn to take charge of his or her asthma. There are things you can do to smooth the way.

### At School

Arrange a meeting with your child's school. If possible, include the school nurse and your child's gym teacher or coach. At this meeting:

- Go over your child's Action Plan. Bring written instructions for your child's teacher and coach, the school nurse, and the administration.
- Show how to use the asthma inhaler.
- Discuss possible triggers, such as class pets, mold, cleaning products, tobacco smoke, perfumes, and scented products.
- Work with the school staff to solve problems that affect your child.

### In Other People's Care

To help keep your child healthy:

- Be sure that anyone who takes care of your child has a copy of your child's Action Plan. Caregivers should also understand what different types of medications do and how and when they're used.
- Before your child visits a new friend, talk to the parents. Explain about your child's asthma and ask about triggers in the household. This is especially vital before an overnight visit.
- Teach your child to suggest playing at your home or in another safe place if there are triggers (such as a pet or cigarette smoke) at a friend's house.

## Helping Your Child Take Control

You and your child can manage asthma! Work with your child's healthcare providers. If you have any questions or need help, talk to a member of your child's healthcare team. Together, you can help your child stay healthy and active—for life.

