

# Controlling Your Asthma

Patient Education Guide



AMERICAN  
COLLEGE  
OF CHEST  
PHYSICIANS  
AND  
THE CHEST  
FOUNDATION



# Controlling Your Asthma

Patient Education Guide

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## Rules of Two™

Dallas Asthma Consortium  
[www.dallasasthma.org](http://www.dallasasthma.org)

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# Table of Contents



This booklet will help you and your health-care provider (doctor, nurse practitioner, or physician assistant) plan ways to control your asthma. Why? Because with good treatment, almost all people with asthma can live normal, active lives. Prevention is the key. With a few lifestyle changes and medicine, you can learn to prevent serious asthma problems. Together with your provider, you will learn how to reach this goal.

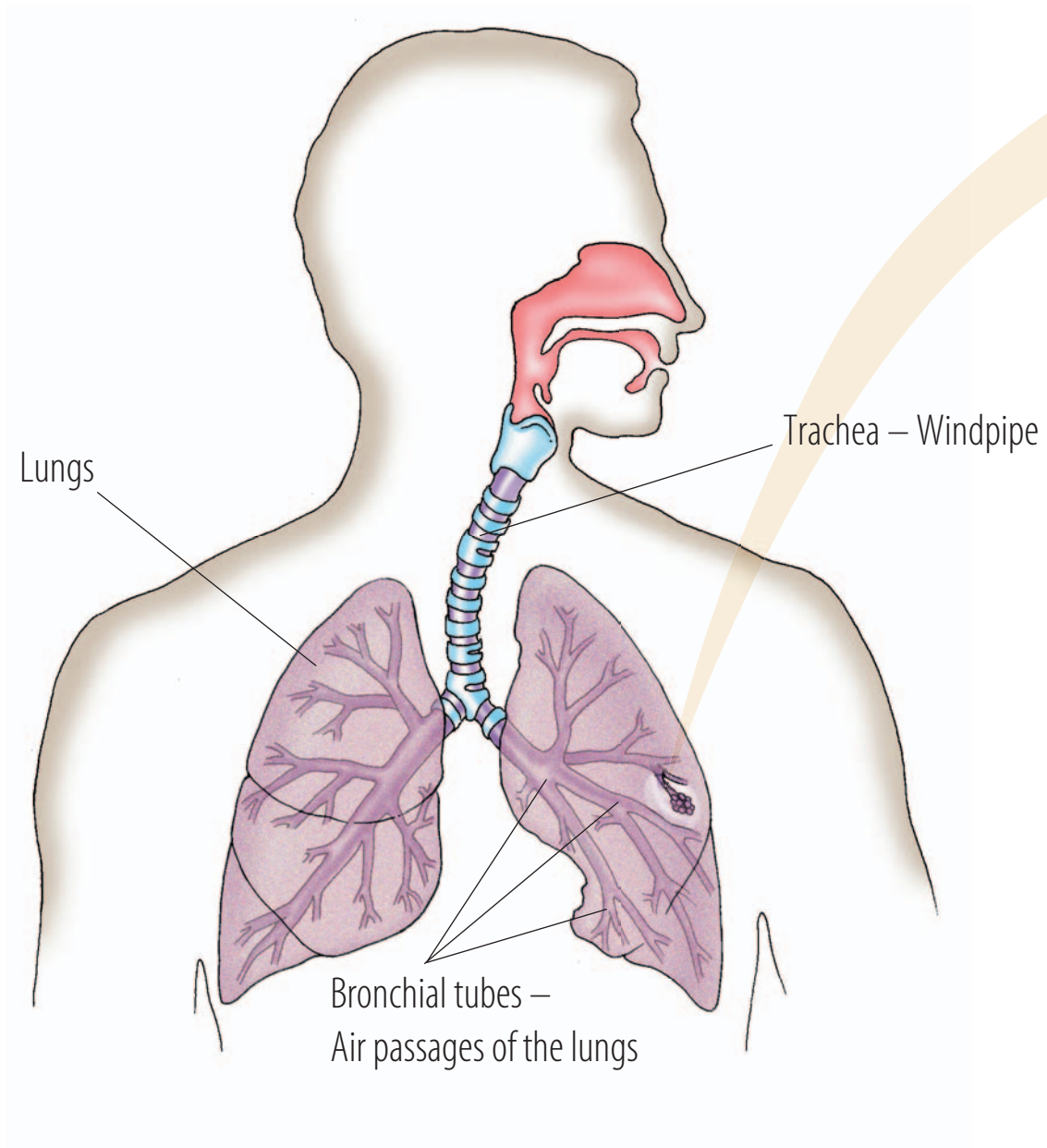
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# What Is Asthma?

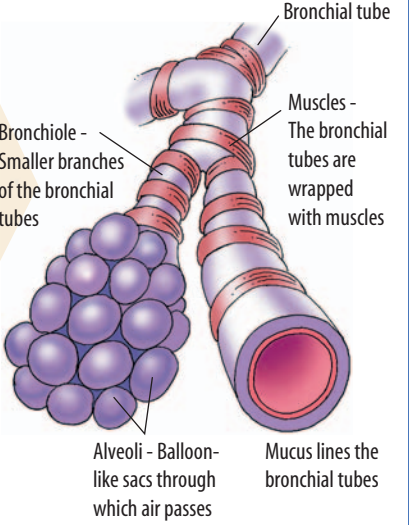
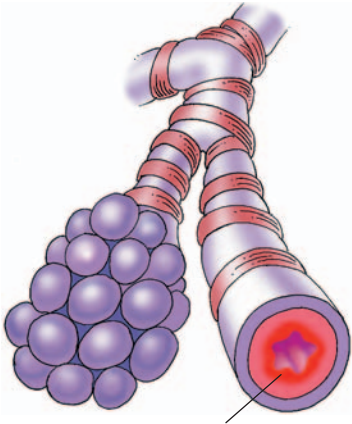
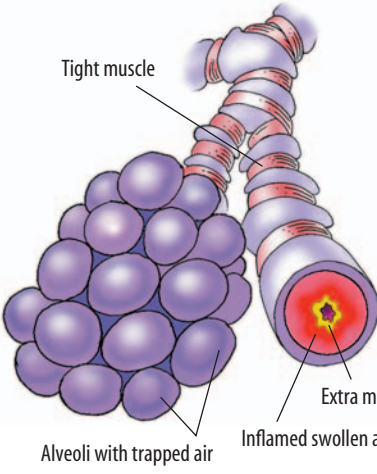


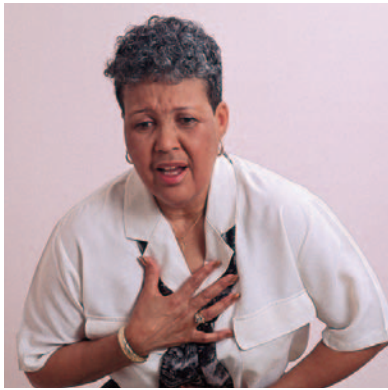
Asthma is a chronic (long-term) disease of the airways in the lungs. It can't be spread to others, and it has nothing to do with how you were raised or your relationships. Asthma is often hereditary, meaning it is passed through families. Sometimes, more than one person in the same family has asthma.

Understanding how your lungs work will help you understand more about asthma.

## Inside Your Lungs



# When You Have Asthma

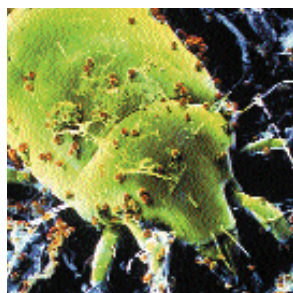
Normal Airway	Inflamed Airway	Airway Under Attack
		
		
<p><b>NORMAL</b></p> <p>When asthma is under control, the linings of the airways (bronchial tubes) are smooth, clear, and air flows easily in and out.</p>	<p><b>INFLAMED AIRWAYS</b></p> <p>With asthma, your airways are super sensitive. When asthma is not controlled, the airways become inflamed and swollen. The airways then are made smaller, but air can still flow. When this happens, you may have a cough, chest tightness, wheezing, shortness of breath, or you may feel tired.</p>	<p><b>DURING AN ATTACK</b></p> <p>During an attack, the airways swell up even more and make extra mucus (phlegm). Also, the muscles around the airways become tight, and air gets trapped in the alveoli (the small sacs at the end of the bronchial tubes). All of this makes it very hard for air to pass through your airways and can even block them. You may wheeze, cough, and have trouble breathing.</p>

# Why Does Asthma Happen?

Sensitive airways can become affected by many things. These are called asthma triggers. The first important step in controlling your asthma is to discover what allergens trigger your asthma, and stay away from them!

If you can control your triggers, you can help keep your airways from becoming inflamed and swollen.

## Common Allergens That Trigger Asthma



### House Dust Mites

Dust mites are tiny insects found in house dust in almost all parts of the United States. They live on human dander (skin flakes shed by all people), and they increase with moisture in the air. Dust mites are plentiful on mattresses, pillows, carpets, bed covers, and upholstered furniture.

#### SOLUTION

- You can control dust mites by washing the bed pillows, sheets, and covers every week in hot water (130° F).
- Use a special allergy-proof mattress and pillow covers.
- If possible, get rid of carpets, extra pillows, and upholstered furniture, especially in the bedroom.
- Limit stuffed animals in children's rooms, and wash them weekly in hot water (130° F).
- Dust and vacuum often.
- Use a dehumidifier in damp areas, such as basements—dust mites need moist air to live.

## Common Allergens That Trigger Asthma



### Animals

All warm-blooded animals, including birds and small rodents, produce dander (shedded skin, fur, and feathers), urine, saliva, and droppings to which you may be sensitive.

#### SOLUTION

- Don't have furry pets in your home. Your pet will increase asthma symptoms, either immediately or over time.
- If that's not an option, keep pets out of your bedroom. Keep your bedroom door closed, and consider using dense filters or tape double-thickness cheesecloth over forced-air outlets.
- Keep pets away from carpet and upholstered furniture as much as possible.



### Molds

Molds can grow in many homes and apartments, especially if you have a damp environment.

#### SOLUTION

- Repair leaks and clean with fungicide or bleach and water solutions where mold is visible. Keep humidity at less than 50%, using a dehumidifier if necessary, especially in basements.

## Common Allergens That Trigger Asthma



### Cockroach Droppings

You can breathe in the droppings of cockroaches and become sensitive to it. This is a concern in big cities and areas of the country with cockroach problems.

#### SOLUTION

- Keep food in tight containers.
- Repair water leaks.
- Use traps and poison baits to control cockroaches. Sprays can be irritating to your airways. If spraying is necessary, people with asthma must leave the home until the odor has cleared.



### Outdoor Triggers

Tree, grass, and weed pollens and outdoor mold can also be a problem. Air pollution, smoke, and car exhaust can affect you as well.

#### SOLUTION

- Keep your doors and windows shut, when possible, during times when outdoor triggers are present.
- Avoid outdoor activity during high pollen or ozone hours, or premedicate prior to activity.
- Shower and shampoo after being outside.



## Common Irritants That Trigger Asthma

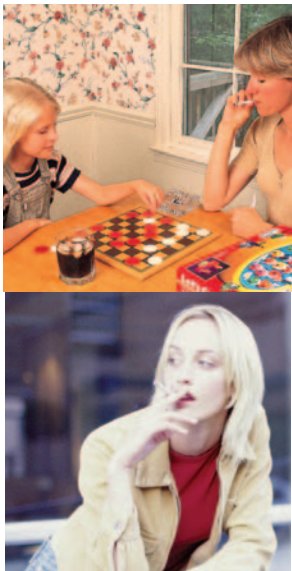


### Strong Smells

Strong smells from painting, spraying, cleaning fluids, garden chemicals, perfumes, lotions, hair sprays, and deodorants can trigger asthma problems.

#### SOLUTION

- Stay away from the house or apartment when these chemicals and sprays are in use, and stay away until the smell clears.



### Smoking

Cigarette, pipe, and cigar smoke are triggers that can affect asthma severely. Children in homes with adults who smoke are far more likely to have asthma problems and ear infections.

#### SOLUTION

- If possible, smokers in families with asthma should quit.
- Smokers should never smoke indoors, in cars, or around people with asthma.
- Smokers should wear a removable shirt or jacket while smoking that can be taken off upon returning inside.

## Additional Asthma Triggers



### Infections

Viruses and infections of the sinuses can also make asthma worse. Viral infections are the most common triggers in young children and also cause attacks in adults.

#### SOLUTION

- Get your flu shot every year.
- See your provider for proper treatment. Often, you will need more of your regular asthma medicines until the infection clears.
- Ask your provider for asthma medicine prior to flu season to prevent an asthma attack if your child gets a viral infection every year.



### Drainage From Colds and Sinus Problems

Drainage from colds and other sinus problems can make asthma worse.

#### SOLUTION

- Don't ignore a drippy nose. Talk to your provider about medicines you can take to reduce the drainage.
- Wash hands frequently.
- Don't share toothbrushes or toothpaste when you have a cold.

## Additional Asthma Triggers



### Food and Medicine Allergies

Many people with asthma report problems with eating certain types of food, especially those that contain sulfites, such as beer, wine, shrimp, and processed potatoes. Some medicines, especially aspirin and beta-blockers (contained in some heart medicines and eye drops), cause problems. Check with your provider.

#### SOLUTION

- Be careful to avoid eating foods that contain sulfites.
- Read food labels, and use substitute medicines, such as Tylenol or Advil, instead of aspirin.
- Stay away from any food or medicine that makes your asthma worse.



### Weather Changes

Weather changes can affect the lungs and airways of people with asthma—usually very hot, humid weather or very cold, dry weather.

#### SOLUTION

- Avoid doing much outdoors when the weather is very hot or cold. Wear a scarf around your mouth and nose to protect your airways when you must be out in cold, dry weather.

## Additional Asthma Triggers



### Exercise and Stress

Many people with asthma can have attacks during exercise or during times of high stress.

#### SOLUTION

- If exercise is one of your triggers, your provider can give you medicine to take 15 to 30 minutes before exercising to prevent an asthma attack.
- Do warm-up exercises 6 to 10 minutes prior to exercise.
- If you are still experiencing asthma symptoms, see your provider, as you may need additional medicine.



### Gastroesophageal Reflux Disease (GERD—Heartburn)

GERD occurs when a muscle in the esophagus (food pipe) relaxes and opens at the wrong time, allowing food or stomach fluids to splash up into the esophagus. You experience a burning sensation (heartburn) because of this occurrence. This is present in children and adults with asthma more than other people.

#### SOLUTION

- You may need to make some lifestyle changes, such as avoiding certain foods, alcohol, or tobacco, or take medicine.
- You may need to take medication to control acid in your stomach.
- Ask your provider for guidance.



### REMEMBER

- Even though asthma can affect exercise, you should not avoid it. Regular exercise can improve your lungs and overall health. It's an important part of controlling your asthma. Ask your provider to help you plan a safe exercise program.
- Controlling your asthma triggers is the first important step in keeping your airways open and in controlling your asthma.

# Work With Your Health-care Provider

The second important step in controlling your asthma is to work with your provider to form an asthma action plan. You may be asked to keep an asthma diary to help you do this. The action plan will tell you what medicines to take and when.

- As part of your asthma action plan, your provider will teach you how to use a peak flow meter.
- Keep regular appointments with your provider, even when you are feeling fine. Well visits will help you keep your asthma under control.
- Keep an accurate diary, as your provider will use this as part of your assessment to help direct your asthma management.

## Lung Function Testing–Spirometry

The National Asthma Guidelines recommend a breathing test on the initial visit, every 1 to 2 years, or as often as your provider feels it is necessary. This test, called spirometry, measures how air is moving through your lungs. Ask your provider about this test.

## Peak Flow Meter

A peak flow meter can be used at a clinic or at home to measure how well you are breathing.

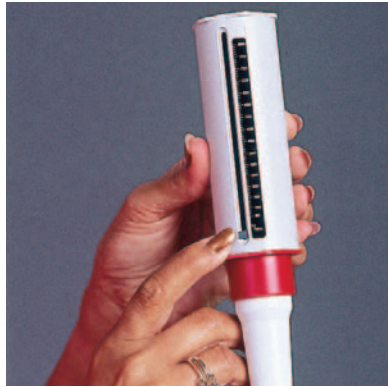
- Peak flow can be useful in identifying triggers.
- If a peak flow meter is used every day at home, you can find breathing problems even before you start to wheeze or cough. A drop in peak flow is a good way to recognize early signs of a coming asthma attack.
- Peak flow and the symptoms you are having help your provider decide if you are having an asthma flare.
- It helps to see how severely an asthma attack is affecting you.
- It helps the provider see how your asthma can be controlled over time.

There are many kinds of peak flow meters.



# How To Use a Peak Flow Meter

Your asthma is not like anyone else's, so you will need to discover your own personal best peak flow.



**STEP 1:**  
Slide the marker down as far as it will go. This sets the meter at zero.



**STEP 2:**  
Stand up. Take a deep breath in, and blow all the way out as far as possible.



**STEP 3:**  
Then take as deep a breath in as possible with your mouth open.



**STEP 4:**  
Place the meter in your mouth and close your lips around it to form a seal. Your tongue should be away from the hole. Keep your fingers away from the markings. Blow out once as **hard** and **fast** as you can.



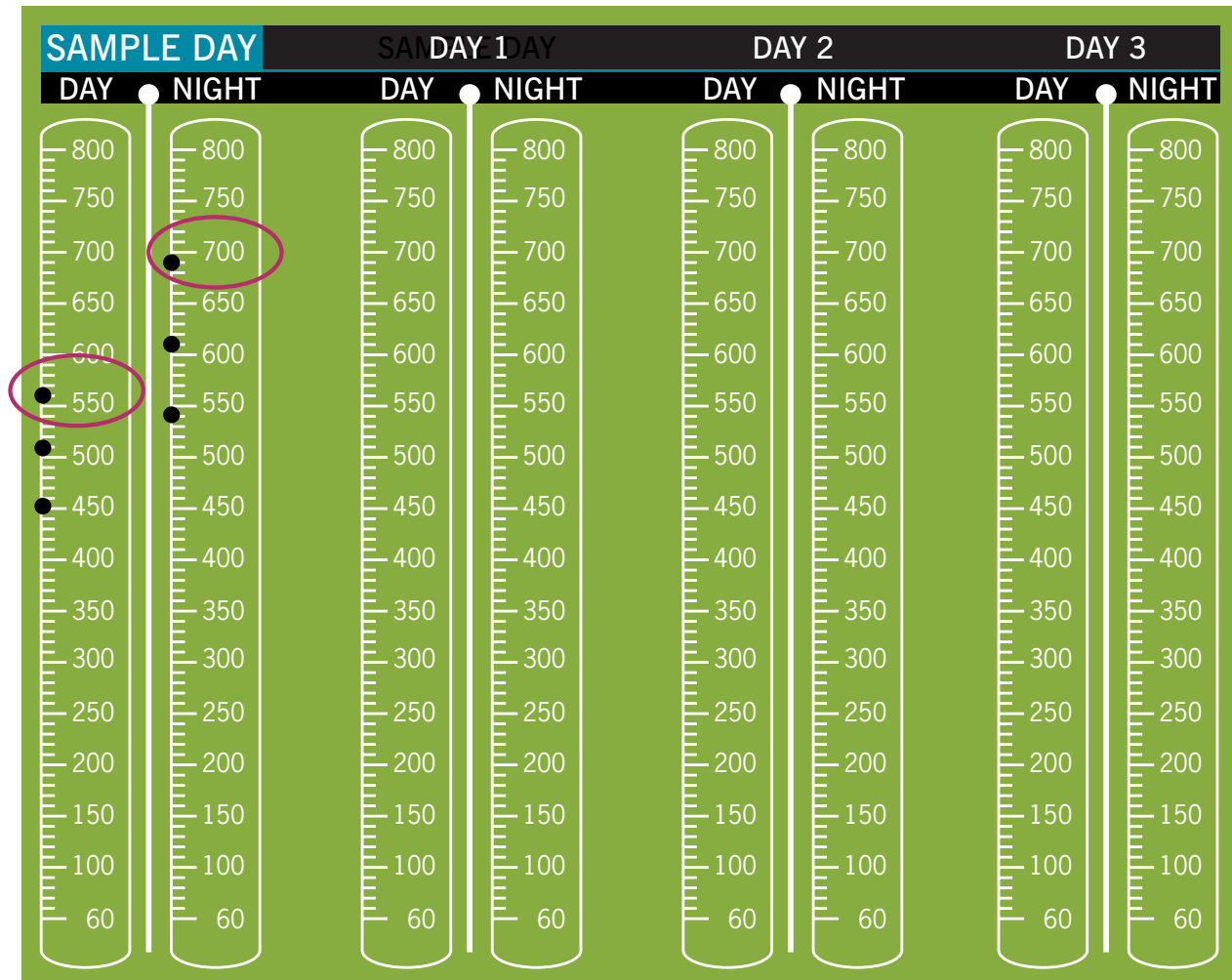
**STEP 5:**  
Don't touch the marker, and write down the number you get.



**STEP 6:**  
Repeat twice. Reset the marker to zero each time. Write down the number each time.  
  
Your peak flow is the highest of these three numbers.

# How To Use a Peak Flow Meter

- Find your peak flow number in the morning and evening.
- Hold the meter next to the chart each time you blow to make it easier to record the number.
- Circle the highest number of three blows. This is your peak flow.



## How To Establish Your Personal Best Peak Flow:

When your asthma is under control, record your peak flow twice daily for 2 weeks. Measure your peak flow at the same time of day, as peak flow is lowest in the early morning and highest between 12:00 noon and 5:00 PM. The highest number during those 2 weeks will be your personal best peak flow. Reestablish your personal best peak flow with new peak flow meters. Children need to reestablish their personal best peak flow every 6 months to allow for lung growth changes.

# Asthma Diary

With your provider's help, use this diary. Keep it up to date and always on hand. In an emergency, it's an important record of your medicines, triggers, and peak flow. Your provider will use this as part of your assessment.

NAME \_\_\_\_\_

The form features a horizontal bar at the top with three colored zones: Green Zone (left), Yellow Zone (middle), and Red Zone (right). Above the bar are three circles, each with an 'A' above it, representing peak flow measurements. Below the bar is a grid for recording data over a seven-day period. The grid has columns for 'PEAK FLOW', 'Medicines/Dosage', and 'Triggers, Symptoms'. The rows are organized by day (Monday to Sunday) and time of day (DAY and NIGHT).

		Green Zone	Yellow Zone	Red Zone	PEAK FLOW	Medicines/Dosage	Triggers, Symptoms
Monday	DAY						
	NIGHT						
Tuesday	DAY						
	NIGHT						
Wednesday	DAY						
	NIGHT						
Thursday	DAY						
	NIGHT						
Friday	DAY						
	NIGHT						
Saturday	DAY						
	NIGHT						
Sunday	DAY						
	NIGHT						



ASTHMA ACTION PLAN FOR \_\_\_\_\_ Provider's Name \_\_\_\_\_ Date \_\_\_\_\_

PROVIDER'S PHONE NUMBER \_\_\_\_\_ HOSPITAL/EMERGENCY ROOM PHONE NUMBER \_\_\_\_\_

## GREEN ZONE: Doing Well

- No cough, wheeze, chest tightness, or shortness of breath during the day or night
- Can do usual activities

And, if a peak flow meter is used, peak flow:

More than: \_\_\_\_\_ (80% or more of my best peak flow)

My best peak flow is: \_\_\_\_\_

## BEFORE EXERCISE

Take these long-term control medicines each day (includes an antiinflammatory):

MEDICINE	HOW MUCH TO TAKE	WHEN TO TAKE IT
	<input type="checkbox"/> 2 or <input type="checkbox"/> 4 puffs	5 to 60 minutes before exercise

## YELLOW ZONE: Asthma is Getting Worse

- Cough, wheeze, chest tightness, or shortness of breath or
- Waking at night due to asthma, or
- Can do some, but not all, usual activities

- OR -

Peak flow: \_\_\_\_\_ to \_\_\_\_\_  
(50% to 80% of my best peak flow)

## FIRST

Add: quick-relief medicine — and keep taking your GREEN ZONE medicine.

\_\_\_\_\_  
(short-acting beta<sub>2</sub>-agonist)  2 or  4 puffs, every 20 minutes for up to 1 hour  
 Nebulizer, once

## SECOND

If your symptoms (and peak flow, if used) return to GREEN ZONE after 1 hour of above treatment:

- Take the quick-relief medicine every 4 hours for 1 to 2 days.
- Double the dose of your inhaled steroid for \_\_\_\_\_ (7 to 10) days.

- OR -

If your symptoms (and peak flow, if used) do not return to GREEN ZONE after 1 hour of above treatment:

- Take: \_\_\_\_\_  2 or  4 puffs or  Nebulizer  
(short-acting beta<sub>2</sub>-agonist)
- Add: \_\_\_\_\_ mg per day for \_\_\_\_\_ (3 to 10) days.  
(oral steroid)
- Call the doctor within \_\_\_\_\_ hours after taking the oral steroid.

## RED ZONE: Medical Alert!

- Very short of breath, or
- Quick-relief medicines have not helped, or
- Cannot do usual activities, or
- Symptoms are same or get worse after 24 hours in YELLOW ZONE

- OR -

Peak flow: less than \_\_\_\_\_ (50% of my best peak flow)

- Take this medicine:
- \_\_\_\_\_  4 or  6 puffs or  Nebulizer  
(short-acting beta<sub>2</sub>-agonist)
  - \_\_\_\_\_ mg per day  
(oral steroid)
- Then call your doctor NOW!** Go to the hospital or call for an ambulance if:
- You are still in the RED ZONE after 15 minutes **AND**  You have not reached your doctor.

## DANGER SIGNS!

- Trouble walking and talking due to shortness of breath
- Lips or fingernails are blue

- Take  4 or  6 puffs of your quick-relief medicine **AND**
- Go to the hospital or call for an ambulance \_\_\_\_\_ **NOW!**  
(emergency information)

# Asthma Medicine

If you regulate your triggers and use long-term control medicines correctly, your asthma can be very well controlled.

## Long-term Control Medicines

They reduce and help prevent the inflammation and swelling of your airways. If inflammation is controlled, your chances of having an asthma attack are low. Remember, managing your triggers, along with using long-term medicines, will give you good control of inflammation.

- Inhaled corticosteroids are the preferred medicine for persistent asthma (National Asthma Education and Prevention Program 2002).
- They must be used regularly to be effective, usually every day.
- You cannot become addicted to them, even if you use them for many years.
- Most will be inhaled, some are swallowed.
- With each new inhaler, especially the corticosteroid inhaler, check the number of doses in the canister. Count the number of doses you will be using each day and divide that number into the total number in the canister. This will tell you how long the medicine will last. Write the date to call for a refill on the canister. **DO NOT USE BEYOND THE NUMBER OF DOSES ON THE CANISTER.**
- **DO NOT DROP THE CANISTER INTO WATER.**

## Inhaled Corticosteroids

THESE ARE INHALED

- Below are examples of the most common medicines used for controlling inflammation and swelling of the airways.
- They are not the same as muscle-building steroids that are misused by athletes.

FLUTICASONE/SALMETEROL  
(Flovent/Serevent)  
Combination Therapy  
(Advair Diskus)



FLUTICASONE  
(Flovent)



BUDESONIDE  
(Pulmicort Turbuhaler)



## Long-term Control Medicines

### Inhaled Corticosteroids

THESE ARE INHALED

TRIAMCINOLONE  
(Azmacort)



BECLOMETHASONE DIPROPIONATE  
(Qvar)



FLUNISOLIDE  
(Aerobid)



BUDESONIDE  
(Pulmicort)  
*Nebulized form*  
(Pulmicort Respules)



### POSSIBLE SIDE EFFECTS

- Oral thrush (fungal infection in mouth)
- Dysphonia (hoarseness)
- Minimum growth delay in first year of treatment with children. Research shows these children attain their normal height. Your provider will keep your child on the lowest maintenance dose possible. Uncontrolled asthma may cause more development problems than long-term medicine.

## Long-term Control Medicines

### Oral Corticosteroids

THESE ARE SWALLOWED

#### PREDNISONONE

- Deltasone
- Prednisone

#### METHYLPREDNISOLONE

- Medrol
- Methylprednisolone

#### PREDNISOLONE

- Prelone Syrup
- Pediapred

#### POSSIBLE SIDE EFFECTS

##### You may notice after a few days:

- Fluid retention
- Increased appetite

##### You may experience after several months of use:

- Adrenal suppression (less able to handle stress)
- Decreased resistance to infection (get infections more easily)

##### You may experience after several months or years of use:

- Moon face
- Cataracts
- Excess facial hair
- Osteoporosis

### Non-Steroid Medicine

THIS IS ALWAYS INHALED

- Protects the airways from some asthma triggers.
- Can help prevent asthma attacks due to exercise.
- Must take at least three times a day to be effective.

#### POSSIBLE SIDE EFFECT

- Dry mouth

#### CROMOLYN SODIUM

(Intal)



## Long-term Control Medicines

### Long-Acting Inhaled Beta<sub>2</sub>-Agonists

THESE ARE INHALED

- Can be used to prevent asthma problems, especially at night.
- Can help prevent asthma attacks due to exercise.
- Should not be used during an attack.
- Should not exceed more than 2 doses a day, 12 hours apart.

#### POSSIBLE SIDE EFFECTS

- Racing heart
- Tremors (shaking)
- Nervousness

SALMETEROL  
(Serevent Discus)



FORMOTEROL FUMERATE  
(Foradil)



FLUTICASONE/SALMETEROL COMBINATION  
(Advair)



### Long-Acting Oral Beta<sub>2</sub>-Agonists

THESE ARE SWALLOWED

- These medicines have a slower onset of action than the inhaled albuterol.
- Not a preferred therapy.

#### POSSIBLE SIDE EFFECTS

- Racing heart
- Tremors (shaking)
- Nervousness

ALBUTEROL SULFATE  
- Proventil Tablets

ALBUTEROL SULFATE  
- Ventolin Syrup

ALBUTEROL SULFATE  
- Volmax Tablets

## Long-term Control Medicines

### Methylxanthines

THESE ARE SWALLOWED

- Theophylline, sustained release tablets and capsules.
- Used especially for nighttime asthma symptoms.
- Check with your provider if you have any of the side effects.
- Check with your provider about taking a blood test to make sure that the treatment dose is correct.

Examples:

Slo-bid

Theo-dur

Theo-24

Uni-Dur

#### POSSIBLE SIDE EFFECTS

- Racing heart
- Tremors (shaking)
- Nervousness
- Nausea
- Headaches
- Insomnia (sleeplessness)
- Heartburn
- Seizures (rarely)

### Leukotriene Modifiers

THESE ARE SWALLOWED

- Can be used in combination with inhaled corticosteroids for people with mild asthma.
- Can help reduce the amount of steroids taken.
- Singulair can help with allergic asthma.

ZAFIRLUKAST  
(Accolate)



#### POSSIBLE SIDE EFFECTS

- Headache
- Infection
- Stomach pain or upset
- Generalized pain
- Dizziness
- Fever
- Weakness

MONTELUKAST SODIUM  
(Singulair)



#### POSSIBLE SIDE EFFECTS

- Tiredness
- Stomach pain or upset
- Dizziness
- Rash
- Cough
- Stuffy nose

# Quick-Relief Medicines

The **long-term control medicines**, on pages 20 to 24, are used to prevent asthma attacks from happening in the first place, but if asthma is severe, asthma attacks can still happen. Your provider will provide **quick-relief medicines** that usually relieve an asthma attack once it starts or keep it from getting worse. The medicines quickly relax the muscles around your airways so you can breathe easier. These medicines can also be used to prevent attacks if used before you exercise.

No matter what kind of quick-relief medicine you use, always carry it with you. Never leave home without it! Make sure you know how to use it the correct way. Check expiration dates regularly to make sure it is still effective.

## BE CAREFUL

You can use quick-relief medicines too often. They make you feel better for a little while, but will not help if you need to use them every day. You may need long-term control medicines if you:

- Need quick-relief medicine more than twice a week.
- Wake up at night more than twice a month with asthma symptoms.
- Need a refill more than twice a year.

*(Baylor's Rules of Two®)*

With good control, you should not need quick-relief medicines very often.

## Short-Acting Beta<sub>2</sub>-Agonists

THESE ARE INHALED

- Below examples are used most often.

POSSIBLE SIDE EFFECTS

- Racing heart
- Nervousness and tremors (shaking)

ALBUTEROL SULFATE  
(Proventil)

*Also available in nebulized form*



ALBUTEROL SULFATE  
(Proventil HFA)



ALBUTEROL SULFATE  
(Ventolin)



## Quick-Relief Medicines

### Short-Acting Beta<sub>2</sub>-Agonists

THESE ARE INHALED

PIRBUTEROL ACETATE  
(Maxair)



METAPROTERENOL SULFATE  
(Alupent)



LEVALBUTEROL HCl INHALATION SOLUTION  
(Xopenex)



### Anticholinergics

THESE ARE INHALED

- Most often used together with short-acting beta<sub>2</sub>-agonists in the emergency room.
- Acts as a booster for the short-acting beta<sub>2</sub>-agonists.

#### POSSIBLE SIDE EFFECT

- Dry mouth

IPRATROPIUM BROMIDE  
(Atrovent)



IPRATROPIUM BROMIDE/ALBUTEROL  
(Combivent) Combination Therapy



### REMEMBER

- Set aside money for asthma medicine. Buy more before you run out.
- Ask your provider any questions you have about medicines. Asthma may get better or worse over the years. Your provider may need to change your medicines over time.
- Always check expiration dates.



# How To Take Asthma Medicines

Many asthma medicines come as sprays and powders that are used in an inhaler. When you breathe in the medicine through the inhaler, it goes right to the airways in the lungs where it is needed. Ask your provider to help you learn how to use an inhaler.

## How to use a metered-dose inhaler (MDI)



### STEP 1:

Take off the cap, and shake the inhaler with the metal canister inserted.



### STEP 2:

Hold the inhaler like this—stand up, take a deep breath, and breathe out as much as you can. Tilt head back slightly.



### STEP 3:

Hold the inhaler in your mouth or 2 fingers away from your mouth (the best method). As you start to breathe in, push down on the top of the inhaler, and keep breathing in slowly and deeply, keeping mouth open until breathing is complete.



### STEP 4:

Hold your breath for 5 to 10 seconds with your mouth closed, then breathe out slowly. If you use more than one puff, wait 1 minute before inhaling again.



### STEP 5:

If using inhaled corticosteroids, rinse your mouth with water, but don't swallow.



### STEP 6:

Once a day, remove the cap and the canister from plastic holder, and wash them with mild soap and water. Rinse with running water. Let dry.



## Turbuhaler Technique and Tips

- Follow the manufacturer's instructions to load your dose of medication.
- Hold inhaler upright after loading medicine.
- Hold the inhaler away from the mouth, take a deep breath in, and blow out slowly and completely.
- Put your mouth around the mouthpiece and inhale deeply and forcefully.
- Hold your breath and count to 10.
- Breathe out slowly.
- Repeat these steps for the number of doses that your doctor has prescribed.
- Rinse your mouth with water, but don't swallow.
- The red line appearing on the window of your turbuhaler indicates only 20 doses left. Order refill at this time.



## Diskus Technique and Tips

- Hold Diskus in left hand and place thumb on the thumb grip, pushing it forward away from you as far as it will go.
- Holding the Diskus in a level horizontal position, push the lever forward away from you until it clicks or as far as it can go.
- Holding the Diskus level but away from your mouth, take a deep breath, and blow out as deeply and completely as possible.
- Put the mouthpiece to your lips and breathe in steadily and deeply through your mouth.
- Remove the Diskus from your mouth.
- Hold your breath and count to 10.
- Breathe out slowly.
- To close Diskus, put your thumb on the thumb piece and slide the thumb grip back toward you until it clicks shut. The lever will automatically return with the thumb grip and reset itself.
- Repeat procedure for the number of doses the doctor has prescribed.
- If using inhaled corticosteroids, rinse your mouth with water, but don't swallow.

Never wash the mouthpiece or any part of the Diskus device. It must always be kept dry.

## Spacers and Holding Chambers

Some people, especially children, have trouble using an inhaler the right way. Using a spacer helps deliver more medicine to the lungs and helps decrease hoarseness that may occur with inhaled corticosteroids. Holding chambers allow you to breathe in and out more than once per puff of medicine. Wash the plastic spacer or chamber with soap and water when it is new to cut down on the electrostatic field that is inside the chamber.



**STEP 1:**  
The holding chamber or spacer attaches to the inhaler.



**STEP 2:**  
Shake well.



**STEP 3:**  
Breathe all the way out. Place the mouthpiece in your mouth, then press the inhaler button to release a puff of medicine into the spacer or chamber.

REPEAT THESE STEPS TWICE



**STEP 4:**  
Breathe in slow and deep, keeping the mouthpiece in place until finished.



**STEP 5:**  
Hold your breath and count to 10, then relax and breathe out.



**STEP 6:**  
Young children may require a chamber with a mask. It is necessary for the mask to fit securely against the face for the child to receive maximum dose.

- If you need more than one puff of medicine, wait at least a minute before using the spacer again.
- No matter what medicines you take and when, use your asthma diary and asthma action plan that you've created with your provider. Always follow your plan, and your asthma can be controlled.



## Using a Nebulizer

- If using a face mask, the mask must fit properly (right size) and tightly over nose and mouth.
- If using a mouthpiece, it must be between the teeth with lips closed tightly around it.
- Waving the mouthpiece or mask in front of the mouth will NOT get the medicine into the lungs.
- Rinse out mouth after nebulizing Budesonide (Pulmicort Respules).
- Give infants a drink of water.
- If a face mask was used, wash face with soap and water to avoid skin irritation.
- The cup, mouthpiece, or mask should be washed daily with mild soap and water, rinsed in a vinegar and water solution, and dried. Never wash the tubing.
- Change filter on nebulizer compressor according to manufacturer's recommendations.

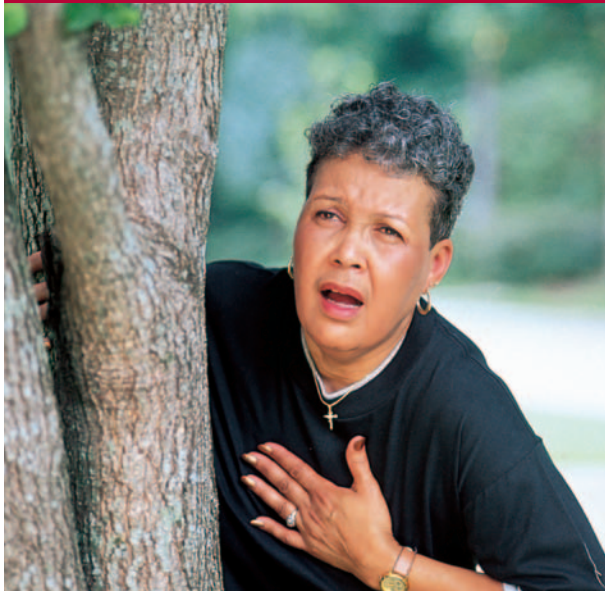
# Asthma Attacks Can Be Dangerous

It helps to know when an asthma attack may be starting. You may be able to prevent it before it starts.

## DANGER SIGNS

Can't talk well or walk/gasping for air  
Lips or fingernails turn blue

**YOU ARE HAVING A MAJOR ATTACK.  
IF YOU HAVE THESE SIGNS,  
GO TO THE EMERGENCY ROOM  
OR CALL 911 IMMEDIATELY!**



## Know Your Signs and Symptoms

- Coughing, sneezing, itchy throat
- Tight chest, wheeze
- Shortness of breath
- Wake up at night
- Fast heartbeat and breathing
- Headache

## Take Action

- Work with your provider to develop an action plan.
- Learn what your warning signs are.
- When you feel an attack coming:
  1. Get away from the trigger that started your attack.
  2. Take a quick-relief medicine, up to 3 treatments of 2 to 4 puffs, 20 minutes apart. Check your peak flow first and before each additional dose.
  3. If you still have wheezing and shortness of breath, get emergency help from your provider.

# Follow Your Asthma Action Plan

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Controlling your asthma may seem like a lot of work, but taking steps now can help you live a normal life.

- Find ways to control your asthma triggers.
- Keep your asthma diary up-to-date and follow your asthma action plan.
- Take your long-term control medicines daily or as prescribed.
- Always carry your quick-relief medicine with you.

All of these steps together can greatly reduce your chances of having asthma attacks. Prevention is the key. All it takes is good information and a working partnership with your provider.

**“Controlling Your Asthma” is also available in Spanish.**

**Other patient education guides available from the ACCP  
in print and on the ACCP Web site ([www.chestnet.org](http://www.chestnet.org)) are:**

Living Well With COPD

Flexible Bronchoscopy

Cough: Understanding and Treating a Problem With Many Causes

Mechanical Ventilation: Beyond the Intensive Care Unit

Pulmonary Rehabilitation: A Team Approach To Improving Quality of Life

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