



LSUHealth

INTERIM LSU PUBLIC HOSPITAL

Guide to Asthma Care

LSUHSC Asthma Disease Management
Patient Education

In this handout you will learn about:

- [Facts about Asthma](#)
- [Asthma medicines: Quick relief and controllers](#)
- [Asthma Control Test \(ACT\)](#)
- [Correct techniques for inhalers](#)
- [Peak Flow meters](#)
- [Asthma Action Plan](#)
- [Asthma Diary](#)
- [Exercise and Asthma](#)
- [Asthma Triggers](#)

This handout should help you learn some important facts about asthma to help you take better care of yourself.

It is not meant as a substitute for your provider's care.

Introduction

LEARN TO CONTROL YOUR ASTHMA

Your asthma can be treated and controlled. With the right medicines and staying away from triggers (things like dust or smoke that make you sick) you may live most of your life feeling well. As you get older your asthma can get worse or better, so you need to keep seeing your asthma doctor or nurse to help take care of you.

- Stick to your **ACTION PLAN**. This is the plan where your provider lists your medicines and what you should do to stay well and what to do in case of an emergency.
- Pay attention to signs that your asthma is getting worse. Act quickly to stop an attack and get help if you feel worse.
- Know your asthma triggers (things that make your asthma worse).
- Ask your provider/educator about any concerns you have about your asthma treatment plan.
- See your provider regularly.
- Do not miss your clinic appointments.

Internet Resources

These sites will give you more information about asthma. Check them out!

1. American Academy of Allergy, Asthma and Immunology www.aaaai.org
2. Asthma and Allergy Foundation of America www.aafa.org
3. Center for Disease Control www.cdc.org
4. American Lung Association www.lungusa.org

1. Facts About Asthma

Asthma affects more than 30 million Americans, including children and adults. It is a **chronic condition** of the airways or breathing tubes that is caused by different triggers. People with asthma have breathing tubes that are swollen and narrow because of:

- inflammation
- mucus
- muscles that get tight around the breathing tubes.

This makes breathing difficult!

The main symptoms of asthma are:

- Difficulty breathing
- Wheezing, but not everyone wheezes
- Tightness in the chest
- Cough, usually during the night and morning or after exercise.

The breathing tubes can over-react to many things that make your asthma worse, such as:

- trees, grasses, dust mites, mold, pets, roaches, weeds
- cigarette smoke, any strong odors or perfumes
- cold air
- exercise



Understanding what starts (or *“triggers”*) an asthma attack and how to stay away from these things is very important. Also know that infections, like colds, may make your asthma worse. For many people with asthma, strong smells like perfume, nail polish and sprays are bad triggers of an asthma attack.

If someone also has ALLERGIES (and most people with asthma do), they might also feel a stuffy nose, may sneeze, have itchy nose and/or eyes, have headaches, and/or sinus infections with asthma symptoms.

2. Medications for Asthma

There are two kinds of medicine to help your asthma:

1. **QUICK-RELIEF MEDICATIONS (Bronchodilators):**

These are medicines that relax the muscles that tighten around the breathing tubes to open them quickly. Your breathing is easier within minutes. If you need to use it more than TWICE A WEEK you need a controller medication (number 2 below) also.

Bronchodilators come in several forms:

- A. Inhaler device
- B. Nebulizer device

The main SIDE EFFECTS of these medications are feeling shaky or nervous and your heart beating fast.

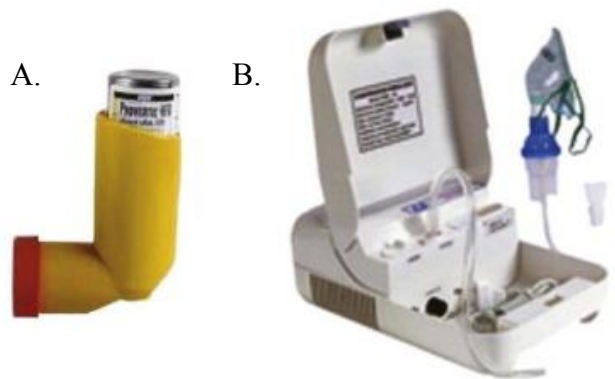


Figure 1: Photo courtesy of *Mason: Murray and Nadel's Textbook of Respiratory Medicine, 5th ed.*

2. **CONTROLLER MEDICATIONS:**

These medicines are called anti-inflammatories. They are needed to reduce or stop the swelling in the breathing tubes that is due to the inflammation (swelling) in your lungs. These medicines also prevent the swelling from getting worse and try to keep asthma under control. These are the CONTROLLERS of asthma. If you have symptoms more than twice a week, you need to use your controller medication EVERY DAY.

The best medication that controls this swelling is called a corticosteroid. This can be prescribed in several forms:

- Inhaled corticosteroid-you breathe it in and it goes into your lungs
- Oral (by mouth) or intravenous (by vein) corticosteroids for intense attacks

All patients with asthma are different so asthma medicines must be given to you based on your needs. Your provider will help you to find which medicines work best for you. There are other medications that your provider may suggest to help your asthma.

Corticosteroids (Controller: Anti-inflammation) come in three forms:

- Inhaler device (you breathe in)
- Tablets or liquid (you swallow)
- Shots

Which steroid you need will depend on how bad your asthma is. All asthma that will not go away needs a controller and steroids are the best controller medicine. When asthma is getting worse, steroids in tablet form or shots are better. When you are very short of breath you need to go to the **emergency room**, because you will need more help to get better.

Side Effects:

- Inhaled corticosteroids may cause a yeast infection in your mouth, called thrush. To try to stop this from happening, you can use a spacer device (an attachment on the inhaler) and gargle with water or a mouthwash after you take the medicine. (More information on the spacer is on page 7.)
- If you use oral corticosteroids for a short time you may feel more hungry than normal, you might gain weight, you might feel changes in your mood, and you can have high blood pressure. These symptoms should stop when you finish medicine as your provider tells you to.
- When taken for a *short time* and when supervised by your provider, corticosteroids are usually safe. Oral corticosteroids used for a *long time* may have serious side effects such as high blood pressure, bones become thin, cataracts (film in your eye), and muscle weakness. Because of this, your provider will only want you to use oral corticosteroids for a long time if your asthma is not better with controller medicines.

REMEMBER:

- Bronchodilators make you feel better, but they cannot make the swelling in your breathing tubes better.
- If you use a bronchodilator really often, it is a sign that the swelling in your breathing tubes is getting worse. You need to follow your action plan. You may need to call or see your provider so they can adjust your medications, if you are not feeling better.
- Take your medicines exactly the way your provider told you, even if you are not feeling bad. This will help the airway swelling and will keep asthma attacks from starting or worsening. This medicine must be taken regularly for it to work well.

Asthma medicines are safe, if you take them the way your provider says. They are not addictive and they do not stop working. Ask your provider if you have questions. Report all side effects to your provider. Stopping the medications may cause your asthma to get worse, so it is important to talk to your provider.

3. Asthma Control Test

One goal of your asthma care and your medications is to control your asthma. The Asthma Control Test is a test used to see how well you have felt with asthma over the past month. It is a simple set of questions that can be answered in a few minutes and will be done during your visit to your provider. This is important because if your asthma is making you feel worse, your medications will need to be changed to make you feel better.

If your asthma is better, your provider may also want to change your medications.

1. In the past **4 weeks**, how much of the time did your **asthma** keep you from getting as much done at work, school or at home?

All of the time	1	Most of the time	2	Some of the time	3	A little of the time	4	None of the time	5
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SCORE

2. During the past **4 weeks**, how often have you had shortness of breath?

More than once a day	1	Once a day	2	3 to 6 times a week	3	Once or twice a week	4	Not at all	5
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3. During the past **4 weeks**, how often did your **asthma** symptoms (wheezing, coughing, shortness of breath, chest tightness or pain) wake you up at night or earlier than usual in the morning?

4 or more nights a week	1	2 or 3 nights a week	2	Once a week	3	Once or twice	4	Not at all	5
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4. During the past **4 weeks**, how often have you used your rescue inhaler or nebulizer medication (such as albuterol)?

3 or more times per day	1	1 or 2 times per day	2	2 or 3 times per week	3	Once a week or less	4	Not at all	5
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5. How would you rate your **asthma** control during the past **4 weeks**?

Not controlled at all	1	Poorly controlled	2	Somewhat controlled	3	Well controlled	4	Completely controlled	5
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TOTAL

If your score is 19 or less, your asthma may not be under control. Be sure to talk with your doctor about your results.

Copyright 2002, by QualityMetric Incorporated.
 Asthma Control Test is a trademark of QualityMetric Incorporated.
 The Asthma Control Test is for people with asthma 12 years and older.

References: 1. US Department of Health and Human Services, National Institutes of Health, National Heart, Lung and Blood Institute. *Expert Panel Report 3: Guidelines for the Diagnosis and Management of Asthma (EPR-3 2007)*. NIH Item No. 08-4051. <http://www.nhlbi.nih.gov/guidelines/asthma/asthgdln.htm>. Accessed September 10, 2007. 2. Nathan RA et al. *J Allergy Clin Immunol*. 2004;113:59-65.



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4. Correct Techniques for Inhalers

It is very important to use your inhaler the right way so that the medication gets into your lungs. If the inhaler is not used the right way, the medication will stay in your throat and not go into your lungs.

Two kinds of inhalers are:

Metered dose inhalers (MDI) - this kind needs a spacer

Powder inhaler - this kind does *not* need a spacer

Why use a spacer?

If you do not use your inhaler the right way, a lot of the medicine can end up on your tongue, on the back of your throat, or in the air. A spacer is a plastic device that attaches to the end of your inhaler. The spacer will help put the medication in your lungs, where it needs to be. It helps you to not cough and will also help so that you do not get a yeast infection in your mouth when you take your inhaled steroid medicines.



Figure 2 (Illustration courtesy of <http://www.megahowto.com>)

Using Your Metered Dose Inhaler the Right Way - Pocket Spacer (Green/Clear)

- | | |
|-------------------|---|
| Getting ready | <ol style="list-style-type: none">1. Take off the cap and shake the inhaler.2. Attach the spacer to the end of your inhaler, if not already attached.3. Breathe out all the way (like you are blowing out candles).4. Place your inhaler with your spacer in your mouth. |
| Breathe in slowly | <ol style="list-style-type: none">5. With a spacer attached, press down on the inhaler and breathe in very slowly. You should NOT hear a whistle! If you hear a whistle, you are doing it too fast!6. Keep breathing in slowly until you cannot do it anymore. |
| Hold your breath | <ol style="list-style-type: none">7. After breathing in the medicine, hold the breath in your lungs as you count to 10 slowly.8. Wait about 1 minute before using the inhaler again. |

Make sure that you:

- Breathe out before pressing your inhaler.
- Breathe in very slowly through your mouth, not your nose.
- Press your inhaler only once while you are inhaling (one breath for each puff) and then repeat. Do not press the inhaler twice.
- Shake the inhaler canister between puffs.
- Make sure you breathe in evenly and deeply (slowly).

Using Your Powder Inhaler the Right Way

Some medications do not need a spacer. The powder inhalers do not need spacers because it is made to push the medicine into your lungs with your breath. Your asthma teacher will teach you how to use your inhaler in the clinic or the hospital. You can ask for help if you have questions at any time. You should also read the instructions on your inhaler box.

Diskus apparatus:

Example: Advair, Serevent

1. Take the cap off.
2. Breathe out all the way.
3. Push back the lever on the side.
4. Hold the inhaler in your mouth.
5. Breathe in deeply and evenly.
6. Hold your breath as you count to 10 slowly, if you can.
7. Gargle with water, and spit into sink.



Figure 3 (Illustration courtesy of <http://www.admit-online.info>)

Turbuhaler:

Example: Pulmicort

1. Take the cap off.
2. Click bottom opposite of a clock's hands, and then like clock hands until you hear a click.
3. Breathe out all the way.
4. Put the inhaler into your mouth.
5. Breathe in deeply and evenly.
6. Hold your breath as you count to 10 slowly, if you can.
7. Gargle with water, and spit into sink.

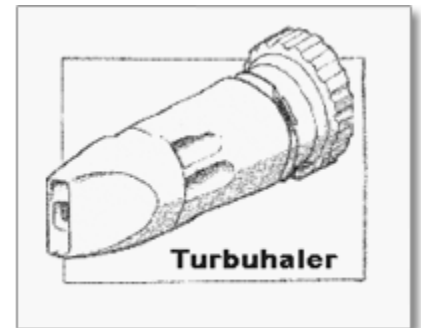


Figure 4 (Image courtesy of <http://www.lung.ca>)

For **inhaled steroids** you **MUST** gargle the back of your mouth after using the inhaler. Gargle with water and spit. Do not swallow.

5. Understanding the Peak Flow Meter

The **peak flow meter** is a plastic tool that you can use at home, in your provider’s office or in the hospital. It will help make your asthma better. A peak flow meter measures how fast you can breathe out and can be used to see how your asthma is doing. It is easy to learn how to use. Your asthma teacher or provider will teach you how to use it. You will see how good you are doing (**best peak flow**) and you can see when you are not doing so well, when you are feeling bad. Depending on how your peak flow is, you will need to change your medications. (See **ACTION PLAN** later.) The more you know about your peak flow the better you will be able to follow your plan.



Finding Your Personal Best Peak Flow Number

It might take some time for you to know what your best **peak flow number** is, especially if your asthma makes you feel bad. What you will see is that as your asthma gets better, your peak flow number will get better and better. To know your best peak flow, your asthma needs to be the best it can be. Once the peak flow does not continue to get better, you have achieved your best peak flow. Everyone is different but there are some numbers that are available based on sex, age and weight, and you can see these numbers on the paper that is in the box with your peak flow device. You may not have those numbers, but that is ok. You need to know what a good number is for *your* body.

How to Use Your Peak Flow Meter (PocketPeak)

1. Place the blue marker at the bottom of the marked scale.
2. Stand or sit up straight in a chair. Remember to do it the same way each time.
3. Take a very deep breath and hold your breath.
4. Place the peak flow meter in your mouth, putting your lips around it and keep your tongue in your mouth.
5. Blow out as hard and as fast as you can (like you are blowing out candles).
6. Write down the number.
7. Do this two more times, and write down only the highest number in your chart or diary.
8. Look at the chart to see if your number is in the green, yellow, or red zone.
9. Do this every morning and night. Asthma is sometimes worse in the mornings and at night.
10. When you are feeling bad, do it before using the inhaler and after.

Your Peak Flow Zones—The zones on your chart will help your asthma and help you keep it controlled. It would be helpful to chart your numbers, and to keep them in your asthma diary.



Green Zone (80 to 100 percent of your best number) this means good control of your asthma. Use your usual daily long-term control medicines, if you take any. Keep taking these medicines even if you are in the yellow or red zones.






Yellow Zone (50 to 79 percent of your best number) this means **caution: your asthma is getting worse**. Also take your quick-relief medicines. You might need to increase other asthma medicines as directed by your provider. If you do not feel better, you need to go to the Emergency Room.



Red Zone (below 50 percent of your best number) this means a **medical alert!** Add or increase your quick-relief medicines and **go to the Emergency Room**.

See how it all fits into your **ACTION PLAN**...

6. Adult Asthma Action Plan (Sample)

<p>Asthma Severity by Symptoms:</p> <p><input type="checkbox"/> ≤ 2 days/week Intermittent</p> <p><input type="checkbox"/> > 2 days/week Mild Persistent</p> <p><input type="checkbox"/> daily Moderate Persistent</p> <p><input type="checkbox"/> throughout the day Severe Persistent</p>														
<p>Peak Flow: _____ Best Peak Flow: _____</p>														
	<p>GREEN ZONE: DOING WELL</p> <ul style="list-style-type: none"> ● Peak Flow: _____ to _____ (80% - 100% of my best peak flow) ● No cough, wheeze, chest tightness, or shortness of breath ● Can do usual activities ● Usual medicines control asthma <p>Before Exercise: <input type="checkbox"/> _____ Albuterol</p> <p><input type="checkbox"/> 2 puffs 20 minutes before exercise</p>	<p>TAKE THESE LONG-TERM-CONTROL MEDICINES EACH DAY (include an anti-inflammatory)</p> <table border="1"> <thead> <tr> <th>Medicine</th> <th>How much to take</th> <th>When to take</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	Medicine	How much to take	When to take									
	Medicine	How much to take	When to take											
	<p>YELLOW ZONE: ASTHMA IS GETTING WORSE</p> <ul style="list-style-type: none"> ● Peak Flow: _____ to _____ (50% -80% of my best peak flow) ● Cough, wheeze, chest tightness, or shortness of breath ● Waking at night due to asthma ● Can do some, but not all, usual activities ● Increased need for asthma medications 	<p>1st → Add: Quick-Relief Medicine (short-acting B₂ Agonist) and keep taking your Green Zone medicine</p> <p>_____ Albuterol _____ <input type="checkbox"/> 2 puffs, every 20 minutes for up to 1 hour OR Nebulizer Treatment, once</p> <p>2nd → If your symptoms improve and your peak flow returns to the Green Zone after 1 hour of above treatment:</p> <p><input type="checkbox"/> Take 2 puffs of the quick-relief medicine every 3 – 4 hours for 1 to 2 days, as needed.</p> <p><input type="checkbox"/> Double the dose of your inhaled steroid for 7 – 10 days.</p> <p style="text-align: center;">-OR-</p> <p>If your symptoms DO NOT improve and your peak flow DOES NOT return to the GREEN ZONE after 1 hour of above treatment:</p> <p>Take: _____ Albuterol _____ <input type="checkbox"/> 2 puffs OR <input type="checkbox"/> Nebulizer Treatment (Quick-Relief Medicine [short-acting B₂ Agonist])</p> <p>Add: <u>Prednisone 30 mg a day for 5 days</u></p>												
	<p>RED ZONE: MEDICAL ALERT</p> <ul style="list-style-type: none"> ● Peak Flow less than: _____ (50% of my best Peak Flow) ● Very short of breath ● Quick-relief medicines have not helped ● Cannot do usual activities ● Increased symptoms longer than 24 hours ● Trouble walking and talking due to shortness of breath ● Lips or fingernails are blue 	<p>Take this medicine:</p> <p><input type="checkbox"/> _____ Albuterol _____ <input type="checkbox"/> 4 - 6 puffs OR Nebulizer Treatment (Quick-Relief Medicine [short-acting B₂ Agonist])</p> <p><input type="checkbox"/> Prednisone 60 mg once AND CALL 911 OR GO TO THE HOSPITAL EMERGENCY ROOM</p>												

IMPORTANT!!

Sometimes, your peak flow number may not reflect how bad your asthma really is. Remember to use your **symptoms** – not just your peak flow number – to figure out your correct zone on the action plan.

The Asthma Action Plan is your set of instructions on what to do when you are getting sick. This will be discussed with you by a provider, asthma teacher or respiratory therapist. If you do peak flows it will help to follow your action plan. You can also follow with how you feel. It is important to know what to take every day, what to take when you are feeling worse (the yellow zone), and what to do when you are in medical alert (the red zone). This is your emergency plan as well. Make sure you take it and your medicines with you in case of emergency.

7. Patient Asthma Diary

It is very helpful for you and your provider to have a diary of how you feel, peak flow numbers, and medications. It can be easy. Keep it in a small notebook that you can keep at home and bring it to your provider’s appointment. This notebook can be reviewed over the years. You will begin to see which things during the year or what time of the year that you feel bad and this will make planning for the future easier. For example, if you get sick every December or January, you should have a provider’s appointment in December.

By knowing your warning signs and acting on them, you may be able to recognize the beginning of an asthma attack and avoid a serious problem with your asthma.

Warning signs:

- Decrease in Peak Flow (YELLOW ZONE)
- Coughing
- Wheezing
- Waking up at night coughing or short of breath
- Shortness of breath when doing activity

Danger signs:

- Have a hard time talking or walking
- Your quick-relief medication is not working
- Your Peak Flow is in the RED ZONE.

SUGGESTED PATIENT ASTHMA DIARY:

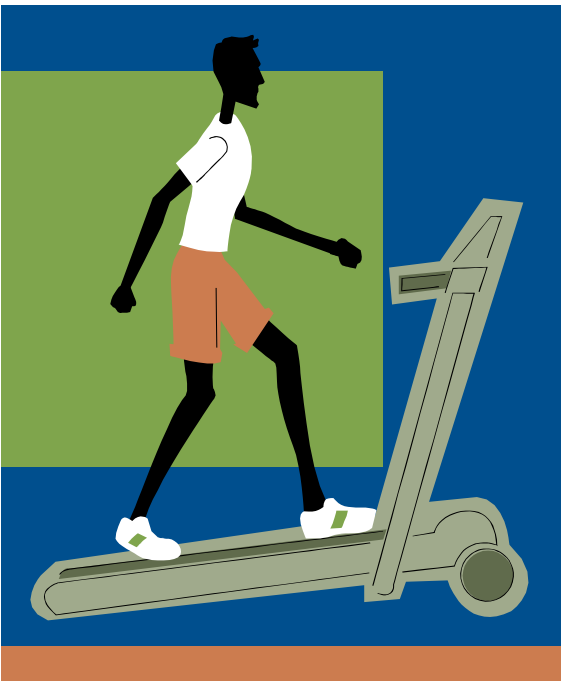
Date	Controller Meds	BD Use	Peak Flow Note time of day	Symptoms and Notes

8. Exercise and Asthma

Some people with asthma only feel bad with exercise. You might have a hard time breathing, start wheezing, or have a cough. These feelings might make you not be able to exercise as much. This can happen after you stop the exercise for those with very mild disease. Most people with asthma will feel bad during exercise if their asthma is not well controlled. It is important to exercise to stay well.

Here is what you can do:

- Use your bronchodilator about 15 to 30 minutes before exercise.
- Try to stay out of the cold weather because it will irritate your breathing tubes. Cover your face with something to warm the air you breathe in if you must be outside in the cold.
- Try not to exercise outside during allergy season. Use a treadmill or a gym during allergy season. If you cannot do this, do not exercise early in the morning when pollen levels are really high.
- If you are an athlete or exercise regularly, you may need medications to be able to train and compete. Many Olympians with asthma have competed and won when they are on good medications!



9. Asthma Triggers

Allergy testing (by blood test or skin pricks) and your asthma history will help your provider to figure out what makes your asthma worse. Staying away from these triggers is very important. Some triggers are allergens and others irritate the breathing tubes of many people with asthma. Remember that seeing a provider is very important to help you find out what makes your asthma worse. It is very important to know if you have allergies, because not every person with asthma has allergies. Here are a few helpful ideas:

Pollens (outdoors):

- Stay indoors in the middle of the day and the afternoon during allergy season.
- Use air-conditioning.
- Keep windows closed during allergy season when pollen and mold are highest.



House Dust Mites (indoors): Dust mites are little animals that you can only see with a microscope. They live in dust and places where humans spend a lot of time. They eat the dead skin from humans and they live in mattresses, pillows, and carpet.

- Put your mattress, box springs and pillows in allergen barriers. These can be bought at most linen stores or department stores in the bedding section. Make sure they are barriers for allergy, not just regular covers.
 - Allergen pillow barriers cost \$3 - \$6.
 - Allergen mattress barriers cost \$20 - \$100.
 - Vinyl box spring barriers cost \$15 - \$20. (These can be used on mattresses, too, if the cloth barriers are too expensive.)
- Wash your sheets, pillowcases and bed cover in HOT water, once a week. This will kill the dust mites. Warm water does not kill dust mites.
- Remove all carpet from bedroom
- Use a vacuum with a HEPA filter, wear a face mask, and leave the room for at least an hour afterward.

Animal Danders: This is in animal saliva, urine, and dead, dry skin.

- Remove animal from house or if you have a pet wash the pet every week.
- If you cannot remove your pet from your house, do not let it in the bedroom.
- Take your asthma medicines before you visit people with pets.

Indoor Molds

- Fix faucets that leak (drip) and keep bathrooms open to the air outside if possible (ventilation).
- Clean moldy surfaces with a bleach containing cleaner- may irritate breathing tubes.

Smoke

- Stay out of areas with smoke
- Do not smoke!
- Do not allow smoking in your house



Strong Odors and Sprays

- Do not stay anywhere that bothers your breathing tubes and makes it hard for you to breathe.
- Perfumes and other strong scents could also bother your asthma.

Colds and infections: One of the worst triggers of asthma!

- Wash your hands and do not touch your nose or eyes.