Asthma

UPMC
You have been diagnosed with asthma, which is a condition that can make breathing difficult. Managing your asthma correctly is very important to leading an active and healthy life. Your first step in managing your asthma should be forming a strong partnership with your doctor. Together, you can develop a personalized treatment plan to help control your symptoms.

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### What is asthma?

Asthma is a chronic lung disease. This means that it cannot be cured. For most patients it can be controlled. Asthma causes the airways to be very sensitive. Airways become inflamed and narrow. Breathing becomes difficult. The inflammation leads to edema (eh-DEEM-ah), or swelling, of the airways. Edema causes cells in the airways to break down. This breakdown of cells releases chemicals into the airways that lead to more edema and inflammation. Increased inflammation, swelling, and mucus block the flow of air, making it difficult for you to breathe. Certain “triggers” can cause asthma episodes.

### Signs and symptoms of asthma

The typical symptoms of asthma include

- shortness of breath
- wheezing
- chest tightness
- coughing

Asthma treatment is different for infants, children, and adults. Treatment varies and is based on your asthma symptoms, and how often you have these symptoms. For children with asthma, please refer to the Children’s Hospital of Pittsburgh website at www.chp.edu/ and go to Child Health A-Z. Next, click on Respiratory Disorders and then Chronic Respiratory Disorders, Asthma. Select from the various links in “All about Asthma.”
Goals of asthma treatment

Talk to your doctor and asthma team about your personal treatment goals. According to the National Asthma Education and Prevention Program (NAEPP), the general goals of asthma treatment should include:

- be free from severe symptoms day and night, allowing you to sleep through the night
- have the best possible lung function
- be able to participate fully in any activities of your choice
- not miss work or school because of asthma symptoms
- need few or no urgent care visits or hospital stays for asthma
- use medicines to control asthma with as few side effects as possible
- be satisfied with your asthma care

To reach these goals, your personal asthma treatment plan may include:

- avoiding triggers (staying away from things that bother your airways)
- medicines (know how they work and how to take them)
- monitoring your symptoms
- seeing your doctor regularly

- knowing when to get medical and emergency help
- peak flow, which is a measurement of air flow, monitoring (see p. 22 for peak flow)

Asthma triggers

Every person with asthma has different triggers that can bring on an asthma attack. Controlling your environment by reducing or stopping exposure to your triggers is an important part of treatment. Here are some typical triggers and ways to control them:

**Animal dander:** Animal dander comes from the skin, hair, or feathers of all warm-blooded pets including dogs, cats, birds, and rodents. If you have asthma, it is recommended that you don’t have a pet. If you must have a pet, it should never be allowed in your bedroom. Wash your pet weekly. If you have forced-air heating, filter or seal the air ducts that go to the bedroom. You should also avoid products made with feathers (such as pillows). Use a vacuum fitted with a HEPA filter.

**Dust mites:** Dust mites are microscopic insects found in the home. Many people are allergic to them. Put your mattress and pillows in airtight covers. Wash all bed linens, clothing, and stuffed toys weekly in hot water to kill dust mites. The water temperature should be 130 F. The use of an air conditioner or dehumidifier may decrease the amount of dust mites.
**Cockroaches:** Cockroaches and their droppings cause allergic reactions in many people. Use poisoned bait or traps to control cockroaches. Cockroaches are attracted by water and food debris. Do not leave food or garbage exposed. Permit eating only in the kitchen or dining room. Keep food in the refrigerator or in sealed containers. Keep your kitchen counters clean. Remove garbage daily. Vacuum and mop floors regularly. Repair leaky faucets.

**Pollens:** Pollens are some of the most common allergens. To minimize your exposure, stay inside with your windows closed as much as possible during the high-pollen season. Stay inside especially during the afternoon when the pollen count is high.

**Indoor molds:** Mold is caused by damp conditions. It puts off tiny spores, which can cause allergic reactions when breathed in. Fix all leaks and eliminate water sources associated with mold growth. Clean your bathroom, kitchen, and basement regularly. Use dehumidifiers with the setting placed between 25 and 50 percent in damp basement areas. Avoid sources of mold, such as wet leaves, garden debris, and stacked wood. Avoid standing water or areas of poor drainage.

**Tobacco smoke:** If you have asthma, you should not smoke. No one should smoke in your home. Choose no smoking areas in restaurants, hotels and other public places. UPMC offers smoking cessation classes. Call 1-800-533-UPMC (8762) for more information. You can also call the Pennsylvania Free Quit line for telephone support at 1-800-QUIT NOW. Counselors are available day and night, every day, and can link callers with local services. People with a hearing impairment can call 1-877-228-4327. An on-line resource, www.smokefree.gov, allows you to choose the type of help that best fits your needs.

**Cold air:** Breathing very cold air can irritate your airways and lead to an asthma attack. Cover your mouth and nose with a scarf in the winter.

**Infections:** Lung infections, like bronchitis and pneumonia, can be dangerous for people with asthma. Increased mucus and inflammation in the airways make it very hard to breathe. Stay away from people with colds or the flu. Talk to your doctor about over-the-counter cold medicine before taking any of them yourself. Get a flu shot each year and ask your physician if you should get a pneumonia vaccine.

**Exercise:** You do not have to avoid exercise because of your asthma. In fact, exercise is strongly encouraged. Talk to your doctor about developing a safe exercise plan and how to use your medicine before you exercise. Always warm up and cool down. Avoid exercising outside in the afternoon and evening when pollen, mold, or ozone counts are high. Avoid exercising when your asthma is not well controlled or your peak flow results are low. (see p. 22 for peak flow)

**More irritants:** Strong odors from painting or cooking, scented products, strong emotional expression (such as crying or laughing hard), and stress can also be asthma triggers.
Other triggers:
• medicines (Some medicines can make asthma worse and even life-threatening. Make sure you tell all doctors that you have asthma and what medicines you take for it.)
• sulfites in food, such as dried fruit or beverages (wine)
• a condition called GERD (gastroesophageal reflux disease), which can cause heartburn and make asthma symptoms worse, especially at night
• exposures to irritants or allergens at work

Medicines used in the treatment of asthma

Although asthma is a chronic disease, there are effective treatment options. A treatment plan will be designed especially for you to help control your asthma. This plan, designed by your doctor, may include how to adjust your medicines based on your symptoms and peak flow results.

Note: The following information is not complete for each asthma medicine. It is general information about each of the categories of medicines used to treat asthma. You may be prescribed only one or several of these medicines based on your individual asthma treatment plan. Get specific information about each medicine you are prescribed.

Two main types of medicine are used to treat asthma: long-term control medicines (controllers) and quick relief medicines (rescue medicines). Long-term control medicines (controllers) prevent symptoms and treat the disease process. These medicines are taken daily, even if you feel well. Quick relief (rescue) medicines work quickly to open up narrowed airways when shortness of breath or other acute asthma symptoms occur.

Quick relief medicines (Rescue medicines)

Rescue medicines provide quick relief from shortness of breath and asthma symptoms. They start to work within several minutes. These medicines are called “short-acting bronchodilators” because they only last four to six hours.

Some quick relief medicines available today include:

<table>
<thead>
<tr>
<th>Generic Name</th>
<th>Brand Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albuterol</td>
<td>Proventil, Ventolin</td>
</tr>
<tr>
<td>Pirbuterol</td>
<td>Maxair</td>
</tr>
<tr>
<td>Bitolterol</td>
<td>Tornalate</td>
</tr>
<tr>
<td>Ipratropium</td>
<td>Atrovent</td>
</tr>
<tr>
<td>Ipratropium w/albuterol</td>
<td>Duoneb</td>
</tr>
<tr>
<td>Levalbuterol</td>
<td>Xopenex</td>
</tr>
</tbody>
</table>

Rescue medicine side effects: Side effects may include increased heart rate, headache, and skeletal muscle tremors.
**Carry your quick relief inhaler with you at all times.**
Take it as needed to relieve symptoms. Tell your doctor how often you need to use your quick relief medication.

Talk to your doctor about signs that your asthma may be getting out of control. With good control, you may not need quick relief medications very often. In general, your doctor might advise you to call when you notice:

- increased need or use of quick relief bronchodilators (Ask your doctor to explain exactly what this means. Your doctor might want to be called if you need to use your quick relief bronchodilator often.)
- waking up at night with asthma symptoms
- decreased activity tolerance
- peak flow reading in the yellow and red zone (See “Peak flow monitoring” information in this booklet.)

*Anticholinergic medicines*, like ipratropium (Atrovent) are sometimes used to decrease the effects of asthma. This medicine does not work directly on the airways, but on the nerve that causes the airways to narrow. Anticholinergics may prevent the airways from tightening.

*Anticholinergic side effects:* Side effects of anticholinergics include dry mouth, cough, and headache.

**Long-term control medicines (controllers)**

*How do controllers work?*
Controllers are taken every day, even if you don’t have symptoms. Many medicines can be used to control asthma. These include anti-inflammatory agents, long-acting bronchodilators (BRON-ko-DY-lay-tors), theophylline (thee-OF-uh-leen), and leukotriene (LUK-oh-teen) modifiers.

*Anti-inflammatory medicines* prevent swelling and narrowing of the airways. To work effectively, these medicines need to be taken every day, even if you don’t have asthma symptoms.

- **Inhaled steroids** are the strongest and most effective anti-inflammatory medicine available. Anti-inflammatory medicines prevent asthma attacks by making the airways less sensitive to triggers and decreasing inflammation or swelling. The inhaled form of steroids is used in the long-term control of asthma. When anti-inflammatory medicines are started, it takes several weeks for them to have an effect. After several weeks, you should not need your quick relief (rescue) medicine as often.

Some of the inhaled steroids available today include:

<table>
<thead>
<tr>
<th>Generic Name</th>
<th>Brand Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>beclomethasone</td>
<td>Various (Qvar, Vanceril, Belovent)</td>
</tr>
<tr>
<td>budesonide</td>
<td>Pulmicort</td>
</tr>
<tr>
<td>flunisolide</td>
<td>Aerobid</td>
</tr>
<tr>
<td>fluticasone</td>
<td>Flovent</td>
</tr>
<tr>
<td>triamcinolone acetonide</td>
<td>Azmacort</td>
</tr>
<tr>
<td>mometasone</td>
<td>Asmanex</td>
</tr>
</tbody>
</table>
Inhaled-steroid side effects: Side effects of inhaled steroids include hoarseness or a yeast infection in the mouth. If the inhaler can be attached to a spacer (a long tube that attaches to the inhaler), the chance of these side effects is reduced. Rinsing your mouth with mouthwash or water may also help reduce the chance of side effects. Many people confuse the effects of inhaled steroids with those of steroids taken by mouth (like prednisone). These medicines are not the same and it is unlikely that you will have any of the common side effects that come with steroids taken by mouth.

- **Oral steroids**, such as prednisone and medrol, are taken by mouth. They may be taken for a short time to help treat a severe asthma attack. Oral steroids are an effective treatment for asthma, but they have many side effects. Therefore, they are not usually recommended for long-term therapy.

  Oral steroid side effects: The side effects of oral steroids may include increased appetite, fluid retention, weight gain, nausea, vomiting, ulcers, or upset stomach. When steroids are taken for a longer period of time, the side effects may include high blood pressure, thinning of bones, cataracts, muscle weakness, and slower growth in children.

- **Non-steroidal anti-inflammatory medicines**, such as cromolyn sodium and nedocromil, are sometimes prescribed to prevent asthma symptoms and attacks. They will not provide immediate relief of symptoms during an asthma attack. Drinking water before or after use may help to avoid dry cough. Rinsing the mouth after use may help the unpleasant taste. Talk to your doctor about using cromolyn before exercise or exposure to an asthma trigger to prevent symptoms.

  *Leukotriene modifiers* are another type of asthma medicine. They help to reduce inflammation, swelling, increased mucus, and tightening of the airways. These medicines are taken by mouth. The leukotriene modifiers currently available include montelucast (Singulair), zafirlucast (Accolate), and zileuton (Zyflo).

  Leukotriene modifier side effects: Side effects of leukotriene modifiers may include fatigue, fever, upset stomach, dizziness, headache, and rash.

**Long-acting bronchodilators** are used along with anti-inflammatory medicines to prevent symptoms, especially night-time symptoms (nocturnal asthma). They also prevent exercise-induced narrowing of the airways, or bronchoconstriction (BRON-ko-con-STRICK-shun). The long-acting bronchodilators available today are salmeterol (Serevent) and formoterol (Foradil). This medicine is used daily. It should not be used for quick relief. With episodes of shortness of breath, you should use a quick relief (rescue) medicine.

  Long-acting bronchodilators side effects: Side effects may include headaches for the first few weeks, tremors, and the potential for increased blood pressure or increased heart rate.

**Combined inhaled medicines**: Advair combines 2 controllers: salmeterol (a bronchodilator) and fluticasone (a steroid). Advair offers the long-acting bronchodilator effects of salmeterol and the steroid’s ability to reduce swelling in 1 inhaler. It is usually prescribed 2 times a day, morning and evening, about 12 hours continued
apart. Do not exceed this dosage. NOTE: Advair comes in 3 different strengths that are color-coded. The fluticasone (steroid) dosage is different in each. **Advair does not replace the fast-acting inhalers (rescue medicines) to treat an attack of severe symptoms.** Talk to your doctor about how to use your quick relief (rescue) medicine for severe symptoms.

**Oral bronchodilators,** like theophylline, are used to support the inhaled medicines when nighttime symptoms occur. Oral bronchodilators are not used as much now since the medicines taken with inhalers have fewer side effects and are more effective.

**Oral bronchodilator side effects:** Side effects of oral bronchodilators include upset stomach, hyperactivity in some children, increased heart rate, and insomnia. The body’s use of theophylline can be changed by certain medicines, illness, and smoking. Blood tests are sometimes needed to make sure you are receiving the right dose of theophylline. Make sure you tell all doctors that you are taking theophylline when new medicines are prescribed.

**Anti-IgE Medicine**

Omalizumab (Xolair) is given as a shot to people who have moderate to severe asthma that is triggered by year-round allergens. This drug is for people who have symptoms even though they are on inhaled steroids. To receive Xolair shots, you must also have:

- a high IgE level, measured by a blood test, and
- a positive allergy skin testing or RAST tests

Not everyone who has asthma can qualify to get Xolair shots. These shots are usually given every 2 to 4 weeks in the doctor’s office. Xolair may help reduce the number of asthma attacks.

**How to use your inhaler**

There are two types of inhalers: metered-dose inhalers (MDIs) and dry powder inhalers. MDIs have been available for many years. Dry powder inhalers are newer. They are less harmful to the ozone than MDIs. The Food and Drug Administration (FDA) has been overseeing the safety of new inhalers as they are redesigned. You can expect changes over the next several years as new inhalers become available.

It is important to use good inhaler technique. That way, your medicine is delivered properly. The inhaler method is the preferred method, since the medicine goes directly to the airways, causing fewer side effects. Your doctor may recommend open-mouth, closed-mouth, or the spacer technique.

For inhaler devices not covered in this booklet, be sure you get detailed instructions. Read the package insert, which may have printed instructions with illustrations. Also ask your doctor or nurse to watch you use your inhaling device at every visit.
Always check your inhaler mouthpiece for foreign objects, such as small coins, candy, or lint, before you use it.

**Metered-dose inhalers**

There are 3 different techniques for using metered-dose inhalers (MDIs). They are the open-mouth, closed-mouth, and spacer techniques. The spacer technique is often preferred. A spacer deposits less medicine in your mouth and the back of your throat. With a spacer, you can inhale more medicine directly into your lungs, where you need it.

The second best technique is open-mouth. When done right, it leaves less medicine in your mouth and throat and more in your lungs. It’s important to become very familiar with the technique you use so you get the most benefit from your medicine.

**Metered-Dose Inhalers**

**Open-mouth technique**

Follow these steps:

1. Remove the cap and hold the inhaler upright.
2. Shake the inhaler.
3. Tilt your head back slightly and breathe out slowly.
4. Position the inhaler 1 to 2 inches in front of your open mouth.
5. Press down on the inhaler as you start to breathe in slowly.
6. Breathe in slowly for three to five seconds.
7. Hold your breath for 10 seconds.
8. Exhale slowly through pursed lips (as if you are going to whistle).
9. Repeat puffs as prescribed.

*Wait one to two minutes (or as instructed) and repeat steps 2 through 8.*

Waiting between doses may permit the second puff to enter your lungs better.
Closed-mouth technique

Follow these steps:

1. Remove the cap and hold the inhaler upright.
2. Shake the inhaler.
3. Tilt your head back slightly and breathe out slowly.
4. Position the inhaler in your mouth, and close your lips around the inhaler.
5. Press down on the inhaler as you start to breathe in slowly.
6. Breathe in slowly for three to five seconds.
7. Hold your breath for 10 seconds.
8. Exhale slowly through pursed lips (as if you are going to whistle).
9. Repeat puffs as prescribed.

Wait one to two minutes (or as instructed) and repeat steps 2 through 8. Waiting between doses may permit the second puff to enter your lungs better.

Spacer technique

Follow these steps:

1. Attach the inhaler to the spacer.
2. Shake the inhaler well.
3. Place the mouthpiece into your mouth (a face mask may be used for children).
4. Press down on the inhaler. This will put one puff of the medicine in the holding spacer.
5. Breathe in slowly and deeply for three to five seconds.
6. Hold your breath for 10 seconds.
7. Exhale slowly through pursed lips.
8. Repeat puffs as prescribed.

Wait one to two minutes (or as instructed) and repeat steps 2 through 7. Waiting between doses may permit the second puff to enter your lungs better.
Determining the number of puffs left in your MDI

Each inhaler is labeled with the number of metered doses, or puffs, that it contains. Divide the number of puffs in the inhaler by the number of puffs used per day. For example: 2 puffs, 4 times a day is a total of 8 puffs a day. If the inhaler has 200 puffs, you can divide 200 by 8 to get 25, which is the number of days it will last.

Use this formula:

\[
\frac{\text{number of puffs in your inhaler}}{\text{number of puffs used each day}} = \text{number of days inhaler will last}
\]

If you take additional puffs, your inhaler will empty sooner. Always check the expiration date. Throw away the inhaler when it expires. If you have questions about your metered-dose inhaler, ask your doctor.

The mouthpiece and cap of your MDI should be rinsed daily in warm running water. Twice a week, wash the mouthpiece and cap in mild soap, then rinse them in warm water. Make sure the pieces are dry before you use the inhaler again. You should have another inhaler to use while the pieces dry.

Dry powder inhalers

Dry powder inhaler with Diskus

The Diskus is a dry-powder inhaler. When using a dry powder inhaler (DPI), you must inhale quickly and deeply.

How to Use the Diskus Inhaler

Follow these steps:

1. Hold the Diskus with one hand.
2. Place your thumb on the thumb grip. Then push it as far away from you as it will go. You will now see the mouth piece.
3. Slide the “trigger” away from you until you hear it click. Your dose is now ready to be inhaled.
4. Exhale and bring the Diskus opening up to your mouth. Be careful not to tilt the Diskus. It must stay in a level position until after you inhale the medicine.
5. Breathe in quickly and deeply.
6. Hold your breath for up to 10 seconds. Move the Diskus away from your mouth.
7. Breathe out slowly.
8. Close the Diskus by sliding the thumb grip back over the mouth piece.
9. If your Diskus includes an inhaled steroid, rinse and
gargle with diluted mouth wash or just with water if
you’re not able to use mouth wash. This helps prevent
hoarseness and an infection in your mouth from the
inhaled steroids.

10. Never wash the Diskus after use.

To see a video and obtain more instructions, go to
www.advair.com/asthma_inhaler_instructions.htm

**Determining the number of doses left in your Diskus DPI**

A counter on top of the Diskus shows how many doses are
left. Each time you click the trigger, one dose is released and
the counter reduces by one.

**Diskus Care**

Do not wash Diskus inhalers after use. You may wipe them
with a clean, damp cloth to remove any residue. The Diskus
must always be kept dry.

**Dry Powder Inhalers**

**Dry powder technique for Turbohaler**

When using dry powder inhalers, you must inhale quickly
and deeply.

1. Open the device.
2. Activate the canister.
3. Exhale.
4. Put your mouth around the mouthpiece and inhale quickly and deeply.
5. Hold your breath for 10 seconds.
6. Exhale slowly through pursed lips (as if you are going to whistle).
7. Rinse your mouth with water after using inhaled steroids.

For more information, go to www.twistclickinhale.com/instructions.

This is the only technique for a dry powder inhaler. You can not use
the open-mouth or spacer technique. Some dry powder inhalers have
a counter that lets you know the number of doses left. The dry powder
inhalers **can not** be washed. The medication inside the inhaler must be
kept dry at all times. If you have any questions about your dry powder
inhaler, ask your doctor.
Peak flow rate monitoring

A peak flow meter is a device that measures how well air moves out of your lungs. The peak flow rate can be used to find out if there is narrowing in the airways. By taking your medicine before the symptoms occur, a serious attack may be avoided. It is recommended that all patients age 5 and older who have moderate or severe asthma should use a peak flow meter.

How to use a peak flow meter

1. Place the indicator at the base on the numbered scale.
2. Stand up.
3. Take a deep breath.
4. Place the meter in your mouth, and close your lips tightly around it.
5. Blow out as hard and fast as you can.
6. Write the number down.
7. Repeat this exercise two more times.
8. Write down the highest of the three numbers. Your best number is the peak flow rate.

Finding your personal best

Your “personal best” number is the highest peak flow number you can achieve over a two-week period, when your asthma is under good control. Good control means you feel good and do not have any asthma symptoms. To find your personal best, take peak flow readings every day for two weeks. Take the readings in the morning and in the evening, before and after taking your inhaled bronchodilator. Your personal best is the highest reading that you achieve. Write down these readings.

Once you know your personal best peak flow reading, your doctor can adjust your treatment plan based on the numbers. The peak flow numbers are put into zones that are set up like a traffic light. This will help you to know what to do when the numbers change.

Green Zone: This zone is 80 to 100 percent of your personal best. This means that all is clear. There are no asthma symptoms. Use your daily plan as prescribed.

Yellow Zone: This zone is 50 to 79 percent of your personal best. This means to proceed with caution. You should follow the back-up plan prescribed by your doctor, which may include additional medication or other special instructions. You may not have any symptoms when you are in the yellow zone, but you should talk to your doctor to prevent a further drop.

Red Zone: This zone is less than 50 percent of your personal best. This indicates a medical alert. Use your quick relief inhaler and call your doctor immediately if your peak flow reading does not return to the yellow or green zone and remain there.

Record your peak flow readings on the diary sheet included with your peak flow meter or on a calendar. Be sure to give this information to your doctor.

continued
**Monitoring your symptoms and detecting an attack**

It is important to begin treatment early in an asthma attack. Early warning signs include:

- a drop in peak flow rate
- coughing
- wheezing
- chest tightness
- shortness of breath

Your doctor and asthma team might want you to record your symptoms in an Asthma Symptom Diary. Talk to your asthma team about keeping an asthma symptom diary.

Below is an example of how symptoms can be recorded:

<table>
<thead>
<tr>
<th>No Symptoms</th>
<th>NO symptoms (wheeze, cough, chest tightness, or shortness of breath) even with normal physical activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mild Symptoms</td>
<td>Symptoms during physical activity, but not at rest. It does not keep you from sleeping or being active.</td>
</tr>
<tr>
<td>Moderate Symptoms</td>
<td>Symptoms while at rest; symptoms may keep you from sleeping or being active.</td>
</tr>
<tr>
<td>Severe Symptoms</td>
<td>Severe symptoms at rest (wheezing might even be absent); symptoms cause problems walking or talking; muscles in the neck or between ribs are pulled in when breathing. (Go to the emergency room)</td>
</tr>
</tbody>
</table>

Peak flow rates should be checked on a regular basis and recorded. These readings will help your doctor plan your care. A drop in peak flow usually occurs before the other symptoms. This drop often occurs days earlier. For many people, especially children, the only sign of a problem is a cough, especially at night.

**Follow your plan**

Your doctor will create a personalized plan for you so that you know what to do in case of an asthma attack. Asthma is a chronic condition. This means it can be treated, but it cannot be cured. You need to follow your treatment plan carefully to help control your asthma. Signs that your asthma is not controlled include:

- waking at night with an attack
- increased use of bronchodilators
- decreased activity level
- a peak flow reading in the yellow or red zone

**When should I premedicate?**

Premedicating means using your inhaler before you have symptoms. You can premedicate before you exercise or before you come in contact with known triggers. This can help reduce or prevent symptoms. Talk to your doctor about premedicating.
When to seek emergency medical care

Asthma can be life-threatening. If you experience any of the following signs, go to a hospital emergency department:

• Your wheeze, cough, or shortness of breath gets worse, even after you have taken your medicine and it has had time to work.
• Breathing becomes difficult.
• You have trouble walking or talking.
• You stop playing or working and cannot start again.
• Your lips or fingernails are blue or gray. If this happens, go to the emergency department or call 911 immediately.

Evaluating your results

Your doctor will evaluate you on a regular basis to see how well your treatment plan is working. It’s very important to stick to your treatment plan, even when you feel well.

Many people stop taking their medication when they are symptom-free. Remember: asthma is a chronic condition. It doesn’t just go away. You will have good and bad periods.

• Following your treatment plan, even when you have no symptoms, will help you stay well.
• Write down your treatment plan so you don’t forget it.
• Bring your peak flow readings to follow-up visits. These readings will help your doctor adjust your medicines.

• If you keep a Symptom Diary, take it to follow-up visits
• Be alert to signs that your asthma is not controlled and tell your doctor.
• Be aware that stress can cause asthma attacks.

If you have any questions about this information, please call your doctor at: _______________________________

This information is meant to be used along with your doctor’s advice. It does not replace individual education given to you by your health care team. It is here to support your education. If you have questions or concerns, talk with your doctor. You should not use this information to diagnose and treat yourself.

Keep a record of your medications, how much to take, and how often to take them.

I will need to get a new inhaler

Name of inhaler Before (date)

My Medication(s)

Name Dose Times per day

continued
**Resources for asthma**

National Asthma Education and Prevention Program, National Heart Lung and Blood Institute (NIH)
www.nhlbi.nih.gov


American Association for Respiratory Care, www.yourlunghealth.org

American Lung Association, www.lungusa.org

Asthma and Allergy Foundation of America, www.aafa.org

www.ventolin.com (HFA)

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For help in finding a doctor or health service that suits your needs, call the UPMC Referral Service at 412-647-UPMC (8762) or 1-800-533-UPMC (8762). Select option 1.

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