

Peak Flow Asthma Zones

Once you know your personal best peak flow number, your PCM will help you determine your peak flow numbers for each part of the following three-zone system:

GREEN ZONE	Doing Well
	<p>80 or more of your personal best number. This signals <i>all clear</i>. Your asthma is under control.</p> <ul style="list-style-type: none"> ▶ No cough, wheeze, chest tightness, or shortness of breath during the day or night. ▶ Can participate in usual activities ▶ Keep following your treatment plan and taking your medications. ▶ Try to stay in your Green Zone.
YELLOW ZONE	Getting Worse
	<p>50 to 79% of your personal best number. This signals <i>caution</i>. You may be having an episode of asthma that requires an increase in your medicines.</p> <ul style="list-style-type: none"> ▶ Cough, wheeze, chest tightness, or shortness of breath, or ▶ Waking at night due to asthma, or ▶ Can do some, but not all or usual activities ▶ Take action before you have an actual attack. Follow your treatment plan and take the medication your PCM recommended. ▶ Get back into your Green Zone.
RED ZONE	Medical Alert
	<p>Below 50% of your personal best number. This signals a <i>medical alert</i>. You are having an asthma attack.</p> <ul style="list-style-type: none"> ▶ 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 the yellow zone ▶ GET HELP! Take 4 to 8 puffs or 1 nebulizer treatment or rescue medication (may repeat every 20 minutes) Take 1st dose of oral steroid (if prescribed).

Your Action Plan

When your PCM reviews your symptoms and diagnoses your asthma, he or she will work with you to devise an action plan to treat your asthma.

Your PCM may recommend you start treatment at a higher "step" to quickly gain control over your asthma, then work down to a lower step if possible. If your treatment isn't bringing your asthma under control, your PCM will have you go to the next highest "step" in treatment.

It's a good idea for you and your PCM to review your action plan every 1 to 6 months. Make follow-up

appointments with your PCM to determine whether you should step up or step down with your treatment.

Medications

There are two main kinds of asthma medications that your PCM may prescribe for you:

Relievers: Quick-relief medications, or bronchodilators, work to relax the muscles that have tightened around your airways. These medications offer quick relief, but do not prevent asthma episodes from starting.

Controllers: Long-term controller medications, or anti-inflammatory medicines, are taken to prevent or reduce the swelling in the airways that cause asthma symptoms.

Taken daily, long-term medications help keep your asthma under control.

Step Care for Asthma Self-Management		
Severity Levels (Zones)	Symptom Frequency	Medication Action
Step 1 Mild Intermittent PB>80% or greater	<2 times/wk	<p>Short-acting beta-agonist inhaler as needed</p> <p>Usually not needed</p>
Step 2 Mild Persistent PB>80% or greater	>2 times/wk but less than daily	<p>Short-acting beta-agonist inhaler as needed</p> <p>Low dose steroid or other controller drug</p>
Step 3 Mod Persistent PB>50-79%	Daily	<p>Short-acting beta-agonist inhaler as needed</p> <p>Medium dose steroid or other controller drug</p>
Step 4 Severe Persistent PB<50%	Continuous	Short-acting beta-agonist inhaler as needed
	Limited physical activity	High dose steroid and other controller drug

"<" equals less than
">" equals greater than
PB- Personnel Best

Using an Inhaler

Inhaled medication has to get into your lungs to work. Your health care provider will show you these steps to follow to use your inhaler:

1. Remove the cap and shake the inhaler.
2. Breathe out.
3. Hold the inhaler as instructed.
4. Breathe in slowly through your mouth as you press down on the inhaler.
5. Keep breathing in slowly and deeply.
6. Hold your breath for 10 seconds. Breathe out.
7. Repeat as instructed.

Some people have trouble using an inhaler the right way. Your health care provider can give you a spacer or holding chamber or a nebulizer to make it easier for you to take your medication:

If you use a spacer

▶ A spacer or holding chamber attaches to your inhaler. It helps direct the medication into your lungs.

1. Attach the spacer or holding chamber to your inhaler.
2. Shake well.
3. Press the inhaler button to release a puff of medicine into the spacer or holding chamber.
4. Breathe out, then breathe in slowly and deeply on the mouthpiece.
5. Hold your breath for 10 seconds, then breathe out.
6. Repeat as instructed.

If you use a nebulizer

▶ A nebulizer turns your medications into a mist. The mist can be breathed in through a facemask or mouthpiece.

1. Pour instructed amount of saline into the nebulizer.
2. Add the prescribed amount of medication.
3. Attach the mouthpiece or mask to the nebulizer.
4. Put your mouth around the mouthpiece, or place the mask to your face.

5. Take slow, deep breaths. Hold each breath for 1-2 seconds before breathing out.
6. Continue until the medication is gone.
7. Rinse and dry the equipment after each use.

Key Self-Management Points

To effectively manage your asthma with your health care provider and to live a normal, active life, you need to know and understand the following:

1. Your asthma triggers.
2. How, when, and why you should use your peak flow meter.
3. What each prescribed drug does for you.
4. The dose and frequency for each drug.
5. The undesirable adverse effects with each of these drugs.
6. Which drugs are your asthma long term controllers and which are your asthma relievers.
7. Why you should take asthma quick relievers only when you are symptomatic.

How to Work With Your Primary Care Manger (PCM)

1. Agree on clear treatment goals with your PCM.
2. Agree on what things you need to do. Then do them.
 - ▶ Ask questions until you feel you know what your PCM would like you to do, when you should do it, and why. Tell your PCM if you think you will have trouble doing what is asked. You can work together to find a treatment plan that is right for you.
 - ▶ Repeat back to your PCM what you understood that your PCM told you before you leave the clinic. It may also help to write these things down before you leave the PCMs office.
 - ▶ Put up reminders to yourself to take your medicine on time. Put these reminders in your cell phone, by your computer, sticky notes to self, anywhere you will see them
3. See your PCM at least every 6 months to check your asthma and review your treatment. Call for an appointment.

Prepare a Day or Two Before Each Visit

1. Think about whether your asthma has been under control. Be aware of any changes in your home or work that may have made your asthma worse.
2. Write down questions and concerns to discuss with your PCM. Include all of your concerns, even those you think are not a big deal.
3. Bring your medicines and peak flow meter to each visit.

Determining When Medical Help is Needed

Call Your Clinic if—

- ▶ You are unsure about how to take your medicines.
- ▶ You are coughing up mucus.
- ▶ Your asthma attack does not respond to your medications.
- ▶ You are unable to sleep because of wheezing and/or coughing.
- ▶ Your peak flow volumes have dropped to less than 79% of your personal best.
- ▶ You are short of breath more often than before.
- ▶ You are breathing faster than usual.

Dealing with your breathing problem early can prevent a severe problem from taking place.

Get Immediate Care if— (Call 911)

Immediate care means that you should get medical help fast. Go to the emergency room or call 911.

- ▶ Symptoms worsen despite reliever medications.
- ▶ Your peak flow numbers are half your usual numbers, you have taken your prescribed medication, and your peak flow number does not return to the yellow or green zone and stay there.
- ▶ Your lips and/or fingernails turn gray or blue.
- ▶ You have rapidly become worse over a few hours or in some case minutes.
- ▶ You can't say four or five words because you're so short of breath, wheezing, gasping for air, and hunched forward.

Focus on breathing slow and easy while you wait for immediate care. Sit upright. Try to remain as calm and relaxed as you can. Take 4-8 puffs or nebulizer

treatment of rescue medication (may repeat every 20 minutes). Start first dose of oral steroid (if prescribed).

For More Information

American Academy of Allergy, Asthma, and Immunology
800-822-2762; www.aaaai.org

American Lung Association
800-LUNG-USA; www.lungusa.org

Asthma and Allergy Foundation of America
800-7-ASTHMA; www.aafa.org

NHLBI Information Center
301-951-3260; www.nhlbi.nih.gov/nhlbi/nhlbi.htm

Managing Your Asthma: A Patient's Guide



- ▶ **What is Asthma?**
- ▶ **How is Asthma Diagnosed?**
- ▶ **Protecting Yourself From Asthma Triggers**
Allergens
Irritants
- ▶ **Management and Treatment of Your Asthma**
Asthma Treatment Goals
Peak Flow Monitoring
Peak Flow Asthma Zones
Your Action Plan
Medications
Step Care for Asthma Self-Management
Using an Inhaler
How to Work With Your Primary Care Manger (PCM)
- ▶ **Determining When Medical Help is Needed**
- ▶ **For More Information**

This patient guide will help you work with your Health Care Team to develop an action plan for treating your asthma. With the right action plan—that combines both self-management and medical care—you can live a normal, active life.



<http://www.healthquality.va.gov>
<https://www.qmo.amedd.army.mil>

July 2012

What is Asthma?

Asthma is a disease of the lungs affecting more than 15 million Americans, over one-third of which are children. *There is a lot you can do to manage the disease.* Learning about asthma is the first step.

Asthma affects the airways in your lungs. With asthma, your airways and bronchial tubes are extra sensitive—especially to “triggers” such as dust, animals, pollen, mold, cigarette smoke, cold air, viruses, exercise, and certain occupational exposures.

Asthma hampers your lungs’ ability to deliver oxygen to your blood. Without a steady supply of oxygen, your body’s organs can’t function properly and your overall health can be threatened.

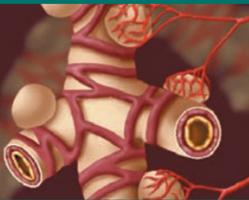
Education and proper medical care will allow most people to control their asthma and lead relatively unrestricted, productive lives.

With proper treatment and self-management, asthma can be controlled! **You** play an active role in managing your asthma through taking medications and avoiding triggers.

Normal—When asthma is under control, the linings of the airways are smooth and clear, and air flows easily in and out.



Inflamed Airways—When asthma is not controlled, breathing these triggers inflames the airways and can make them swell. As a result, the airways are made smaller, and air flows at a reduced rate.



During an Attack—The airways and bronchial tubes swell even more and the airway lining makes extra mucus. Also, the muscles around the airways become tight and air gets trapped in the alveoli. All of this makes it very hard for air to pass through your airways and can even block them.

How is Asthma Diagnosed?

Symptoms of Asthma

- ▶ Shortness of breath. Breathing that gets harder and may hurt. It is harder to breathe out than in. Tightness in the chest.
- ▶ Wheezing (high-pitched whistling sound).
- ▶ Persistent cough (commonly at night in children).

Associated Findings

- ▶ Cold symptoms lasting more than 10 days.
- ▶ Excessive fatigue after exertion.
- ▶ Waking up often in the middle of the night with shortness of breath, chest tightness, or coughing.

Visit your Primary Care Manager (PCM) and discuss your particular symptoms. Based on the following, you and your PCM can determine the type of asthma you have, how severe it is, and what triggers your asthma.

A clinic visit

- ▶ Your PCM will ask you questions about: Your asthma symptoms—such as what seems to trigger them and how often you have flare-ups, and what medications you are taking. The history of asthma in your family. Your work and home environments. Your participation in various activities.
- ▶ Your PCM will listen to your breathing and heartbeat, and check your nose, ears, eyes, and throat for signs of allergies.

Lung function tests will measure how well your lungs are working. You may be asked to blow into a spirometer, which measures how much and how fast you breathe out air. Lung function tests can tell your PCM how open or narrow your airways are and whether certain medications will make your asthma better.

Special allergy tests may be performed to determine if you are allergic to such things as pollen, dust, and animal dander that can trigger asthma attacks. These

may be skin tests or a blood test.

Other tests may also be performed to check for nasal, sinus, or stomach problems. If your PCM suspects other lung problems, you may need a chest x-ray.

Protecting Yourself from Asthma Triggers

Asthma symptoms can be triggered by allergens (substances that cause an allergic response) or irritants. If you are allergic to any of the following, the control measures listed below may be helpful.

Allergens

House dust mites are tiny insects that live in dust and are most often found on mattresses, pillows, carpets, bed covers, and upholstered furniture. Dust mite droppings may trigger your asthma.

- ▶ Wash bed pillows, sheets, and covers every week. Use the “hot button” on most washers.
- ▶ Use special dust-proof mattress and pillow covers.
- ▶ Use a dehumidifier (dust mites need moist air to live).
- ▶ Consider removing carpets, extra pillows, and upholstered furniture, especially in your bedroom.

Animal dander—skin, fur, or feathers from dogs, cats, birds, and small rodents—can cause your airways to swell and become inflamed. If you are found to be allergic to your pet, consider the following:

- ▶ If possible, find a new home for your pet.
- ▶ If you want to keep a pet, try to keep it outside or, at least, out of your bedroom.
- ▶ Keep your pet away from carpet and upholstered furniture.
- ▶ Wash your hands after you handle your pet.
- ▶ Bathe your pet once a week.

Tree, grass, and weed pollens are common allergens.

- ▶ Stay inside when the pollen count is high. Keep your windows closed.
- ▶ Use air conditioning in both your home and car.

Molds, which may cause asthma flare-ups, are found indoors and outdoors in damp places.

- ▶ Use a dehumidifier to reduce the humidity in your home to less than 50%.

- ▶ Have someone regularly clean tubs, sinks, and other mold and mildew sites using a cleanser with bleach.

- ▶ Avoid damp places such as basements.

- ▶ Keep your furnace and air conditioner filters clean. Also, consider having your air ducts cleaned regularly.

- ▶ Avoid sources of mold outdoors such as wet leaves and garden debris.

Cockroaches leave droppings that may be an asthma trigger for you.

- ▶ Keep your kitchen clean and take your garbage out daily.

- ▶ Store your food in tightly sealed containers.

- ▶ Use traps and poison baits to control a cockroach problem if one is present. Do not use chemical sprays unless you can be away from home during the spraying.

Food, medicine, and cosmetic allergies can cause asthma flare-ups, especially food with sulfites (additives found in juices, beer, wine, vegetables, dried fruits, shellfish if they are packed in ice, and some processed foods) and medicines such as aspirin, or aspirin-like pain relievers, or antibiotics.

- ▶ Read food labels. Avoid foods that contain sulfites.
- ▶ Use medicines such as acetaminophen instead of aspirin.
- ▶ Do not use antihistamines—they cause the mucus in your airway to thicken

Irritants

Cigarette, pipe, and cigar smoke can affect asthma severely.

- ▶ Do not smoke. If you do smoke, seek help to quit smoking.
- ▶ Avoid secondhand smoke—don’t allow anyone to smoke in your home or car.
- ▶ Use an indoor air-cleaning device. It will also help control mold and animal dander.

Wood smoke is also a possible asthma trigger.

- ▶ Avoid fireplaces and wood-burning stoves.

- ▶ Do not use kerosene heaters.

Strong odors from paint, cleaning products, garden chemicals, perfumes, lotions, hair sprays, and deodorants can trigger asthma problems.

- ▶ Use perfume-free products.

- ▶ Use unscented personal hygiene products.

- ▶ Do not use potpourri or scented candles.

- ▶ Use an exhaust fan or open a window when cooking.

- ▶ Leave your home while it is being painted, and only return when the odor is gone.

Outdoor triggers such as air pollution, smoke, and car exhaust can be a problem.

- ▶ On days when air quality is reported as poor, stay indoors as much as possible.

Weather changes can affect your lungs and airways—usually very hot, humid weather or very cold, dry weather.

- ▶ Stay indoors when possible when the weather is very hot or very cold.
- ▶ If you do go out in cold weather, wear a scarf over your nose and mouth to protect your lungs.

Illness, such as sinus problems or upper respiratory tract infections (e.g., colds or flu), can make your lungs more sensitive.

- ▶ Get a flu shot every year.

- ▶ Avoid people who have colds.

- ▶ Wash your hands frequently.

- ▶ Treat cold symptoms immediately—talk to your Primary Care Manager (PCM).

Emotions and stress that come with feeling upset or excited can change your breathing and trigger asthma symptoms.

- ▶ Relax.

- ▶ Breathe in slowly through your nose, hold for 2 counts, then pucker your lips and breathe slowly out through your lips for 4 counts.

Exercise-Induced Asthma.

Exercise can trigger asthma episodes. Exercise-induced asthma, or EIA, occurs when your airways

become narrow and constricted within just a few minutes after beginning to exercise. The attack will generally peak in severity about 5 to 10 minutes after starting to exercise, and may continue for 20 to 30 minutes. Symptoms of EIA include:

- ▶ Shortness of breath.
- ▶ Wheezing.
- ▶ Coughing.
- ▶ Tightness in the chest.

You can exercise with asthma if you follow your PCM’s instructions and:

- ▶ Take your asthma medication before you exercise.
- ▶ Do warm-up and cool-down exercises.
- ▶ Do not push yourself.

REMEMBER: Exercise can also help with your asthma by:

- Reducing shortness of breath
- Improving your overall health
- Giving you more stamina and energy

Occupational Asthma. Consider your workplace as a potential source of triggers.

- ▶ Consult your employee health services for a workplace evaluation if your asthma symptoms flare up while at work.

Management and Treatment of Your Asthma

Asthma Treatment Goals

- ▶ Be free from severe asthma symptoms.
- ▶ Sleep through the night.
- ▶ Have as few asthma episodes as possible.
- ▶ Eliminate emergency visits or hospitalizations for asthma.
- ▶ Decrease use of quick-relief medications.
- ▶ Use asthma controller medications as directed.
- ▶ Participate in any activity without worrying about asthma episodes.
- ▶ Reduce the lost time from work or school.

Peak Flow Monitoring

As part of your asthma action plan, you will be taught how to use a peak flow meter. Your “peak flow” is how fast you can push air out of your lungs. Monitoring your peak flow can:

- ▶ Help you see how well your written asthma action plan is working, and whether it needs to be modified.
- ▶ Tell you that an asthma episode may occur soon.
- ▶ Show you when to use medication.
- ▶ Help you know when to call your PCM.
- ▶ Help you decide whether to go to the clinic or emergency room or call 911.

Follow these easy steps to use a peak flow meter:

1. Move the peak flow meter’s marker to “0” or the lowest number on the scale.
2. Stand up or sit up straight.
3. Take a deep breath.
4. Close your lips around the meter’s mouthpiece, making sure your tongue does not block the opening.
5. Blow into the mouthpiece as hard and fast as you can.
6. Write down the number that shows on the scale.
7. Repeat steps 1-6 two more times.
8. Write down the highest of the three numbers in your peak flow diary. This is your peak flow number. To find your ideal or *personal best* (“PB”) peak flow number, do the following for 2 weeks:

- ▶ Take peak flow readings when you wake up and before you go to sleep.
- ▶ Also take readings before and after you take your inhaled medication.
- ▶ Keep track of the results in your diary. The highest number you reach during the 2-week period is your personal best peak flow number.