

Asthma: Your New Diagnosis

Understanding asthma

Asthma is a long-term disease that affects your lungs. It can cause your chest to feel tight; it can make you wheeze and cough or feel short of breath. Sometimes you can have a nighttime or early morning cough.

You can control your asthma by taking medicine and avoiding causes (or triggers) of an asthma attack. There is no cure for asthma yet, but you can control it if you take medicine and get rid of things around you that make your asthma worse.



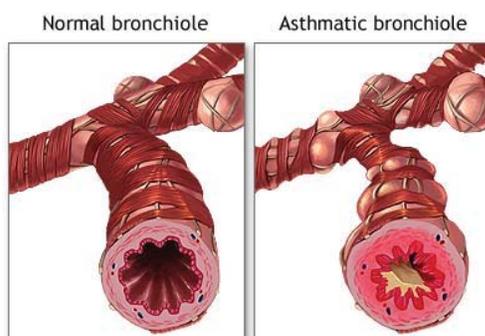
What happens during an asthma attack?

When you breathe, your lungs bring in fresh air and push out used air, but with asthma it can be harder to push out the used air and bring in the fresh air because:

- » The lining of the airway swells
- » Your body makes too much mucus and it clogs the airway
- » The muscles around the airway get tight, which makes the airway more narrow

Who gets asthma?

- » If a family member has asthma, you are more likely to have asthma
- » People who smoke or are around someone who does are more likely to have asthma
- » People with allergies are more likely to have asthma



What are the signs and symptoms?

- » Your chest may feel tight
- » Coughing
- » Wheezing (whistling or squeaking sound when you breathe out)
- » Being short of breath
- » Waking up during the night coughing
- » Shallow breathing (or panting)
- » Fast breathing (more than 30 breaths per minute for adults and more than 50 breaths per minute for children)
- » Retractions when breathing (skin pulling in around the collar bone, base of the throat, or ribs)
- » Emergency symptoms: your lips may turn dark red and your skin may look very pale and gray. This requires immediate medical care, so call 911 right away.

Asthma is very common. Did you know that it affects 8.2% of Americans, or 24.6 million people?

How is asthma diagnosed?

- » Medical history: The doctor will ask if it runs in the family or if other family members have had similar problems breathing.
- » Physical exam to listen to your breathing sounds and heart rate.
- » Pulmonary function test (lung function test): You will breathe into a spirometer which measures how much air you can breathe out in one second (this generally isn't used for children under age 5).
- » Chest x-rays to make sure there isn't something else causing breathing problems.
- » Blood test or skin prick (allergy) test.

Understanding Asthma

What your doctor may do for you

- » Prescribe medications
- » Identify and help you eliminate triggers
- » Assist you in controlling your asthma
- » Follow-up with you in six months

To-do list for asthma patients

- » Recognize and report symptoms to your doctor
- » Discuss treatment plan (medications to take, triggers to avoid, how to follow your asthma action plan)
- » Follow treatment plan faithfully. (follow all doctor directions and make any needed allergy modifications to your home)
- » Be vigilant about any changes (report medications not working, any new triggers, etc.)
- » Follow up with doctor regarding changes

Controlling Asthma

What causes your problems?

Keep track of what seems to bother you. You will start to see a pattern; it is different for every person who has asthma.

You can keep a small notebook and write down where you were when you had an asthma attack.

Triggers (anything that makes your asthma worse)

- **Common colds** are the most common trigger and usually last longer in people who have asthma.

Allergens

- **Animals:** If it's not possible to remove animals from the home, keep them out of your bedroom and off your bed (some people find it also helps to keep the door to their bedroom closed).
- **Dust:** Clean using a damp cloth. Wash bedding and stuffed animals in hot water once a week. Use dust mite-proof mattress covers, pillows, and pillow covers.



- **Pollen:** Hay fever or seasonal allergies may be worse at certain times of the year. Some things that help are:

- » Keeping the windows closed in your home and car.
- » Using central air instead of swamp coolers.
- » Showering before you go to bed at night to remove pollen from your hair and skin.



- **Insects and pests:** Keep food areas clean by wiping down countertops and stove tops. Keep food in covered containers and take out garbage daily.
- **Certain foods:** Peanuts, tree nuts, fish, corn, wheat, milk, eggs and sulfite food additives can cause allergic reactions. Avoid any of these if they trigger asthma symptoms. Read food labels carefully and ask questions if you are eating out.
 - » Your doctor may want you to carry an adrenalin or epinephrine injector pen to self-treat a sudden, life-threatening allergy or asthma emergency (which consists of difficulty breathing, swelling, and hives)

New Asthma Diagnosis

Irritants

- **Strong smells:** Cleaning sprays, smoke (cigarette smoke and fireplace smoke), air pollution, strong scented candles, and perfumes. Avoid these whenever possible.



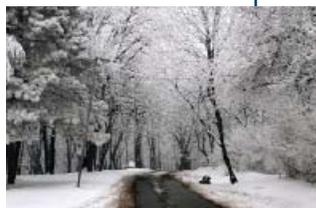
- **Exercise:** Some people with asthma may cough, wheeze or feel short of breath when they exercise. It helps to take extra time to warm up and cool down when exercising. Exercise helps keep your lungs strong and



healthy. Carry your rescue inhaler with you when you exercise.

- **Weather**

- » Breathing cold air can trigger asthma symptoms. It helps if you breathe through a scarf in the winter, or you can cup your hands over your nose to warm the air before you breathe in.
- » Some people are bothered by anything cold (ice cream, smoothies, and yogurt).
- » Sudden hot and humid days can trigger asthma. Use central air in your home and drink enough fluids to stay hydrated.



- **Medications** (that may trigger asthma attacks):
 - » Aspirin and other NSAIDS (Motrin, Advil, Aleve, Naprosyn).
 - » Betablockers (Corgard, Inderal, Normodyne, Propranolol, Pindolol, and Trandate) are used to treat high blood pressure, heart conditions and migraines.
 - » ACE inhibitors (Lisinopril, Accupril, Aceon, Altace, Captopril, Lotensin, Mavik, Monopril, Prinivil, Tarka, Univas, Vasotec, and Zestril) are used to treat high blood pressure and heart disease.
- **Strong emotions:** Stress and asthma often go hand in hand. Crying, yelling, expressing anger, or laughing hard can cause an asthma attack.



- **Mold:** For people sensitive to mold, inhaling mold spores can cause an asthma attack. To prevent mold from growing, fix any water leaks quickly. Open a window or use exhaust fans while showering or cooking to reduce moisture in the room. If you see mold, clean with soap and water and keep the area dry.

You should be able to do all the things you want to do if your asthma is in control.

Maintenance Medications

Asthma Medicines

There are two types of asthma medications:

- Long term maintenance/control medication
- Quick-relief medications



Maintenance or controller medications

Should be used every day, even when you feel okay. These prevent symptoms and may take a month to feel like they are working. It is important to keep taking medications every day, even once you start feeling better.

- **Inhaled corticosteroids** keep your airways from swelling. After you use these medications, rinse your mouth out with water, gargle, and spit it out. This can help prevent a fungal infection on your tongue. Some inhaled corticosteroids are:
 - » Flovent (fluticasone)
 - » Pulmicort (budesonide)
 - » Asmanex (mometasone furoate)
 - » Qvar (beclomethasone)

For small children, doctors may prescribe Pulmicort respules, which are vials of liquid that are used in a nebulizer that turns the medication into a mist so children can breathe it in more easily.



- **Inhaled long-acting beta2-agonists (LABAs)** (bronchodilators). These are NEVER to be used alone! They are often used with corticosteroids (listed above)
 - » Foradil (formoterol)
 - » Serevent (salmeterol)

- **Combination medications** (corticosteroid + bronchodilator)

- » Advair Diskus (fluticasone + salmeterol)
- » Advair HFA
- » Symbicort
- » Dulera



- **Leukotriene modifiers** (block allergy pathways)

- » Accolate (Zafirlukast)
- » Singulair (Montelukast)
- » Zileuton (Zyflo)

- **Mast cell stabilizers** (prevent the release of chemicals in the body that cause allergy symptoms)

- » Intal (cromolyn sodium)

- **Antihistamines** (block histamine, a chemical that causes allergy symptoms)

- » Claritin (loratadine)
- » Allegra (fexofenadine)
- » Zyrtec (cetirizine)
- » Benadryl (diphenhydramine)

- **Methylxanthines** (sustained release theophylline), help keep the airway muscles relaxed

Be sure to talk to your doctor about the potential side effects, risks, and benefits of your asthma medication.



Metered Dose Inhaler with Spacer

How to use asthma equipment

Metered dose inhaler (MDI) with spacer



- To start:
 - » Take the cap off the spacer and the inhaler
 - » Shake the inhaler
 - » Put the inhaler into the spacer
 - » Breathe out
- Breathe in slowly
 - » Put the spacer between your lips
 - » Start breathing slowly through your mouth
 - » Spray one puff into the spacer by pressing down on the inhaler
 - » Keep breathing in slowly and deeply
- Hold your breath
 - » Take the spacer out of your mouth
 - » Hold your breath as you count to 10, if you can
 - » Slowly breath out through your nose
 - » When finished, rinse your mouth with water and spit it out. If the inhaler contains a corticosteroid, this helps prevent the side effect of thrush. Maintenance medications generally contain a corticosteroid.
 - » NOTE: If you are using an inhaled dry powder capsule, you should close your mouth tightly around the mouthpiece of the inhaler and breathe in quickly.

Keep your inhaler clean

- Look at the hole where the medicine sprays out of the L-shaped holder. If it appears there is a powder around the hole, it needs to be cleaned. Pull the metal canister out of the L-shaped plastic mouthpiece. Rinse only the mouthpiece and cap in warm water. Let it air-dry overnight on a paper towel, then put the canister back in the mouthpiece in the morning. Do not rinse out the canister.

Replacing your inhaler

- If yours is a controller inhaler (one you use every day), write the date you need to replace it on the canister.
- To figure out this date, use the number of puffs you take each day and the number of puffs your canister contains. For example- if your canister has 200 puffs listed on it and your doctor has you take 8 puffs every day, your canister will last 25 days. If you start using the inhaler on August 1, replace it on August 25. Write August 25 on your canister.
- DO NOT put the canister in water to see if it is empty.

Storing your inhaler

- Store your inhaler at room temperature, as it may not work well if it is too hot or cold. The medicine in the inhaler is under pressure, so be careful not to puncture it.



Nebulizer

Nebulizer

Most nebulizers use an air compressor that will turn your liquid medication into a mist, which reaches deeper parts of your lungs and makes it easier to breathe when you are sick or have severe asthma. It will take 10-15 minutes to complete a breathing treatment.



To use a nebulizer:

- Attach the tube to the compressor hose on your nebulizer
- Unscrew the top of the medicine cup and add your liquid medication
- Screw the cap back on the medicine cup
- Connect the mouthpiece or mask to the medicine cup

- Connect the medicine cup to the hose
- Place the mouthpiece in your mouth/ or oxygen mask over your nose. (It's easier for small children to use a mask.) Breathe through your mouth until all of the medication is gone.
- Wash the medicine cup and mouthpiece with hot soapy water. Rinse and place in a small bowl with 2 cups hot water and one cup vinegar. Let sit for 30 minutes, then rinse and air dry on a paper towel. The vinegar will work to sterilize the medicine cup and mouthpiece.



Quick-Relief Medications

Emergency/rescue/quick-relief medications

These are used for fast relief if you are coughing, wheezing, or having problems breathing because of an asthma attack. These drugs work by relaxing the muscles around your airways. They are called “bronchodilators.”

If you need to use your rescue inhaler more than twice a week to control symptoms, you may need a daily preventive controller medication.

These emergency rescue medicines come in an inhaler and as a liquid in a vial. The vial is put in a machine to make a mist which is breathed in.

These medications can make you have a fast or irregular heartbeat. Talk to your doctor if this happens and you have heart problems. You could be at increased risk for sudden death from heart problems. You may also have headaches, tremors, shakiness, anxiety or feel restless.



- Short acting beta2-agonists
 - » Proventil, Proventil HFA, Ventolin HFA (albuterol)
 - » ProAir HFA
 - » Maxair (Piruterol)
 - » Xopenex HFA (Levalbuterol)
- Anticholinergics
 - » Atrovent (ipratropium bromide)
 - » Spiriva



Be sure to talk to your doctor about the potential side effects and all the risks and benefits of your asthma medications.



Peak Flow Meter

Peak flow meter

When you have an asthma attack, the muscles in your airways tighten, causing the airways to narrow. The peak flow meter gives you an early warning that this is happening, sometimes hours or days before you have any asthma symptoms. This lets you know when you need to begin or increase the use of your asthma prevention inhaler. If you can use your prevention or maintenance inhaler before you feel symptoms of an asthma attack, it may help stop the narrowing of the airways and help you to avoid a severe asthma emergency and the need for your rescue inhaler.



ADAM.

How to use a peak flow meter:

- Move the marker to the bottom of the numbered scale.
- Stand up straight.
- Take a deep breath and fill your lungs all the way.
- Hold your breath while you place the mouthpiece in your mouth. Close your lips around it, being careful not to block the hole with your tongue.
- Blow out as hard and as fast as you can with one breath.
- Write down the number you get (if you coughed when you blew into the peak flow meter, repeat the test).

- Move the marker back to the bottom and repeat the test again. Your highest number is your peak flow number.

To figure out your normal peak flow number, take your peak flow every day for 2 to 3 weeks.

Your doctor can help you set your **green**, **yellow** and **red** zone on your peak flow meter. He will tell you what you need to do in each colored zone.

Once you know your normal number, set the markers on your peak flow meter.

- Your **green** zone should be 80% of your “best” score and up to your top number.
- Your **yellow** zone should be between 80% and 60% (Often, your doctor will have you use your inhaler if you are in your **yellow** zone).
- Anything below 60% is your **red** zone. If you are in your red zone, your doctor will usually recommend that you go to the nearest emergency room.

If you need to take your peak flow daily, a good way to remember is to combine it with another daily activity such as brushing your teeth.

If you have an asthma attack, it helps to take your peak flow number, so you know if your medicine is working.



Allergy and Asthma Home

What can you do to make your home allergy and asthma friendly?

- Remove your shoes at the front door. This is the easiest and least expensive way to keep your home clean (since shoes can track in dirt, fungi, molds, pesticides, etc.).
- Use a vacuum with a filter to vacuum at least twice a week.
- Use air conditioning (central air) instead of a swamp cooler. Keep windows closed to keep out pollen.
- Change furnace filters at least once every 3 months. Use pleated filters, which are better at capturing particles.
- Dust using a damp cloth.
- Get rid of pets or at least keep them out of bedrooms.
- Limit stuffed animals in children's bedrooms and wash them regularly.



- Use mattress covers and allergy-proof pillows and pillow covers.
- Use roller blind shades instead of horizontal blinds (which trap dust).
- Don't store any items under the bed, as this is a great place for dust to build up.
- Shower before you go to bed at night. This removes pollen, dust, and pet dander from your hair and skin, which helps you breathe cleaner air as you sleep.
- Ask any smokers to go outside your home to smoke.



Xolair[®] and Allergy Shots

Xolair[®]

- Xolair[®] is an IgE inhibitor given by injection for moderate to severe allergic asthma. It is used when other medications have been tried but are unsuccessful in managing asthma symptoms. It is used for adults and children over age 12. Xolair[®] works on an antibody in the immune system.
 - » IgE is what tells the cells in your body to start an allergic reaction. So you may start coughing, wheezing, have swelling and hives or nasal congestion.
 - » Xolair[®] helps prevent the allergic reaction.
 - » Xolair[®] is given as a shot once or twice a month in a doctor's office where you can be watched for a bad reaction to the shot. Side effects may include dizziness, weak heart rate, itching, hives, or a feeling of warmth on your skin. In rare cases, side effects can be fatal.
- Be sure to talk to your doctor about the potential side effects and all the risks and benefits of your asthma medication.

Allergy Shots

- Allergy shots can be used for people with allergies when traditional treatments (antihistamines) aren't working.
- A simple skin prick test will be performed to determine what you are allergic to. The doctor will have a series of vials of allergens and will use the vial to lightly prick the skin on your back.
- After 20 minutes the staff will measure the size of welts on your back. If the welts exceed a certain size, it will show you are allergic to that specific allergen (cat, dog, grass, etc).
- Your doctor will then order a serum that contains tiny amounts of the things you are allergic to. The doctor will inject you with this serum twice a week, which should gradually desensitize your body to the most troublesome allergens. If you tolerate the injections, you can slowly decrease the frequency.
- Generally, the total treatment time for allergy shots is from 3-5 years.



Asthma Resources

Utah Department of Health Asthma Program

PO Box 142106
288 North 1460 West
Salt Lake City, Utah 84114-2106
801-538-6259

www.health.utah.gov/asthma

Utah County Health Department Utah County Asthma Coalition

151 South University Ave, Suite 2600
Provo, Utah 84601
801-851-7509

<http://www.utahcountyonline.org/Dept2/Health>

American Lung Association Utah Chapter

1930 South 1100 East
Salt Lake City, Utah 84106
801-484-4456

www.lungutah.org

Primary Children's Medical Center

Free asthma education classes on the 2nd
Tuesday of every month

Intermountain Healthcare's Employee
Services Center

5245 South College Drive

Murray, Utah 84123

To register call 801-662-2693

American Academy of Allergy, Asthma and Immunology

555 East Wells Street, Suite 1100
Milwaukee, WI 53202-3823
414-272-6071

www.aaaai.org

Allergy and Asthma Network Mothers of Asthmatics

8201 Greensboro Drive, Suite 300
McLean, VA 22102
800-878-4403

www.aanma.org

National Jewish Health Lung Line

1400 Jackson Street
Denver, CO 80206
1-877-CALL-NJH (877-225-5654)

www.nationaljewish.org

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- FamilyDoctor.org. American Academy of Family Physicians. Metered-Dose Inhaler: How to Use It Correctly. <http://familydoctor.org/online/famdocen/home/common/asthma/medications/040.html#ArticleParsysMiddleColumn0004>
- Mayo Clinic, Asthma Medications-Know your options. <http://www.mayoclinic.com/print/asthma-medications/AP00008/METHOD=print>
- Medfacts, An educational health series from National Jewish Health. Anti-IgE Treatment.
- MedlinePlus, U.S. National Library of Medicine, National Institutes of Health. Asthma - quick-relief drugs. <http://www.nlm.nih.gov/medlineplus/ency/patientinstructions/000008.htm>
- MedlinePlus, U.S. National Library of Medicine, National Institutes of Health. Asthma - control drugs. <http://www.nlm.nih.gov/medlineplus/ency/patientinstructions/000005.htm>
- MedlinePlus, U.S. National Library of Medicine, National Institutes of Health. How to use your peak flow meter. <http://www.nlm.nih.gov/medlineplus/ency/patientinstructions/000043.htm>
- MedlinePlus, U.S. National Library of Medicine, National Institutes of Health. How to use an inhaler with spacer. <http://www.nlm.nih.gov/medlineplus/ency/patientinstructions/000042.htm>
- MedlinePlus, U.S. National Library of Medicine, National Institutes of Health. How to use an inhaler-no spacer. <http://www.nlm.nih.gov/medlineplus/ency/patientinstructions/000041.htm>
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Using Your MDI— Closed-Mouth Technique

Patient Education Guide

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American College of Chest Physicians
3300 Dundee Road, Northbrook, IL 60062
(847) 498-1400 phone
(847) 498-5460 fax
www.chestnet.org



To make your breathing better, you **MUST** take your medicine as explained below. Following these instructions puts more of the medicine into your lungs. This will open up your air passages and help you breathe easier and feel better. You need to ask your health-care provider or pharmacist how many puffs of medicine your metered-dose inhaler (MDI) has when it is full. You need to keep track of how many puffs of medicine you take every day, so you can have your MDI refilled before you run out of medicine. Before using your MDI, please read the priming or preparing instructions. Your MDI should be cleaned once a week. See the instructions on cleaning your MDI.



1 Take cap off MDI. Check for and remove any dust, lint, or other objects. Shake MDI well.



2 Sit up straight or stand up.



3 Breathe out all the way.



4 Tilt MDI up slightly. Put MDI in your mouth, between your teeth, tongue flat under the mouthpiece, with lips sealed.



5 As you begin to **BREATHE IN SLOWLY, PRESS DOWN ON THE MDI**, as shown in this picture. Keep breathing in until your lungs are completely full.



6 **HOLD** your breath for 10 seconds. If you cannot hold your breath for 10 seconds, hold your breath as long as you can.



7 If you need to take another puff of medicine, wait 1 minute. After 1 minute, repeat steps 2-6.



8 Rinse your mouth out after you take your last puff of medicine. Make sure you spit the water out; do not swallow it. *Rinsing is only necessary if the medicine you just took was a corticosteroid, such as Flovent®, Beclovent®, Vanceril®, Aerobid®, or Azmacort®.*



9 Recap the MDI.

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Using Your MDI With a Spacer

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1 Take cap off MDI. Check for and remove any dust, lint, or other objects. Shake MDI well.



2 Attach MDI to spacer.



3 Sit up straight and breathe out normally.



4 Put mouthpiece of spacer in your mouth. Close your lips around the mouthpiece and make a tight seal. Press down on the MDI. This puts one puff of medicine into the spacer.



5 To breathe in that one puff of medicine, **TAKE A SLOW, DEEP BREATH.** Breathe in as much air as you can. Try to fill up your lungs completely. It is important that the breath be **SLOW** and **DEEP.**



6 Remove the mouthpiece from your mouth. **HOLD** your breath for 10 seconds. If you cannot hold your breath for 10 seconds, hold your breath as long as you can.



7 If you need to take another puff of medicine, wait 1 minute. After 1 minute, repeat steps 3-6.



8 Recap the MDI. Rinse your mouth with water after you have taken your last puff of medicine. Make sure you spit the water out, do not swallow it. *Rinsing is only necessary if the medicine you just took was a corticosteroid, such as Flovent®, Beclovent®, Vanceril®, Aerobid®, or Azmacort®.*

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Using Your Diskus®

Patient Education Guide

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To make your breathing better, you **MUST** take your medicine as explained below. Following these instructions puts more of the medicine into your lungs. This will open your air passages and help you breathe easier and feel better.



1 Hold Diskus® in one hand, and put the thumb of your other hand on thumb grip.



2 Push your thumb away from you as far as it will go. The mouthpiece will appear and will click into place.



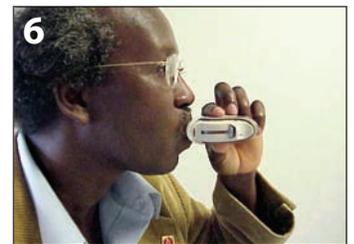
3 Hold Diskus® level with mouthpiece facing you.



4 Slide lever away from you as far as it will go. You will hear a click. The medicine is now ready for you to breathe in. **DO NOT TIP YOUR DISKUS®. YOU MAY LOSE THE DOSE OF MEDICINE.**



5 Turn your head and breathe out normally. **NEVER BREATHE OUT INTO THE DISKUS®.**



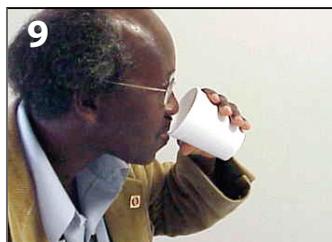
6 Put mouthpiece between your lips and make a tight seal. **BREATHE IN FAST AND DEEP.**



7 Remove Diskus® from mouth. **HOLD** your breath for 10 seconds. If you cannot hold your breath for 10 seconds, hold your breath as long as you can. Turn your head, and breathe out.



8 Put your thumb on the thumb grip, and slide it back toward you as far as it will go. You will hear a click. The Diskus® is now closed.



9 Rinse your mouth with water. Spit the water out; do not swallow it. *Rinsing is only necessary if the medicine you just took was a corticosteroid, such as Flovent®.*



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ASTHMA ACTION PLAN

Date _____ Patient name _____ DOB _____

MD _____ MRN _____ Reviewed with: guardian/patient Verbalized understanding yes no

- Breathing is easy
- No coughing
- No wheezing
- No shortness of breath
- Can work, play, and sleep easily
- Using quick-relief medication less than twice a week
- **PEAK FLOW**
80% – 100% of personal best
_____ - _____



Avoid these asthma triggers: _____

Take **CONTROLLER** medication: _____

Take **QUICK-RELIEF** medication:

- Before exercise: _____
- Before exposure to a trigger: _____

Keep ORAL STEROIDS on hand in case you fall into STEP 3 of the yellow zone or into the red zone.

- Using quick-relief medication more than twice a week*
- Coughing
- Wheezing
- Shortness of breath
- Difficulty with physical activity
- Waking at night
- Tightness in chest
- **PEAK FLOW**
50% – 80% of personal best
_____ - _____



STEP 1: Add QUICK-RELIEF medication:

STEP 2: Monitor your symptoms:

- If symptoms GO AWAY quickly, return to the green zone.
- If symptoms CONTINUE or return within a few hours:
 Add _____

STEP 3: Continue monitoring your symptoms:

- If symptoms **CONTINUE** after step 2 treatment:
 Add _____
oral steroid medication
- Call your healthcare provider: _____

* You might need a change in your treatment plan

- Medication is not helping
- Breathing is very difficult
- Cannot walk or play
- Cannot talk easily
- **PEAK FLOW**
Less than 50% of personal best



Call your healthcare provider: _____
If you can't reach your healthcare provider quickly, go to the nearest hospital emergency room or call 911 immediately.

Go to the hospital emergency room or call 911 immediately.

- If you have an oral steroid at home, take _____ mg of _____ as you leave for the hospital.
- Continue to use your quick-relief medication _____ as you go to the emergency room.

Asthma symptoms can get worse quickly. When in doubt, seek medical help.