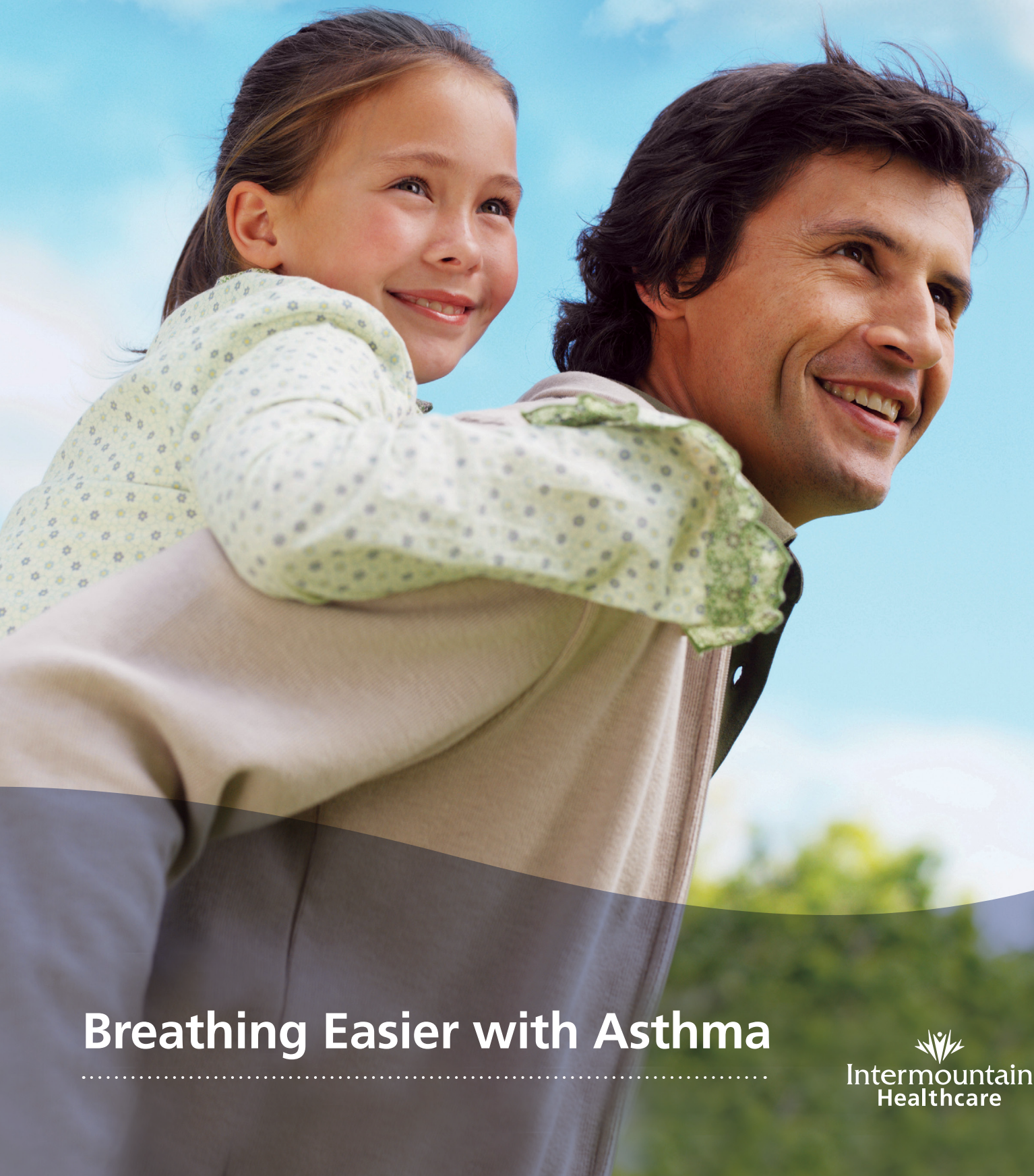


Patient Education
intermountainhealthcare.org/asthma



Breathing Easier with Asthma


Intermountain[®]
Healthcare



A persistent cough.



A whistling sound when you breathe...



Tightness in your chest, or
trouble catching your breath...

When your asthma symptoms flare up,
you might feel that your asthma is controlling you.
You don't have to feel that way.

You can learn to control your asthma
and breathe easily again.



What's Inside:

.....

UNDERSTANDING ASTHMA	4
What happens when you breathe?	4
What happens with asthma?.....	6
What causes asthma?	7
How is asthma diagnosed?.....	8
CONTROLLING ASTHMA	9
Know your symptoms	10
Avoid your triggers	12
Take your medicine correctly	18
Types of asthma medicine	18
Medicine delivery devices	20
How to use an MDI.....	21
How to tell if your inhaler is empty	22
How to use a nebulizer	23
Tips for parents.....	25
Follow your Asthma Action Plan every day	30
Check your asthma control regularly	32
Childhood Asthma Control Test for children ages 4 to 11 years.....	33
Take the Asthma Control Test® (ACT) for people 12 years and older	34
RESOURCES FOR ASTHMA	35



“Now, after two months of treatment, I feel a big sense of relief. No more waking up at night. No more fear that every head cold could leave me gasping for breath. I see now that asthma is something you can deal with if you take time to learn and practice what you’ve learned.”

— *Cara*, newly diagnosed with asthma

INTRODUCTION

Asthma is a serious — and sometimes life-threatening — disease of the lungs and airways. It’s also a common disease. About 25 million Americans have asthma, and the number continues to grow every year.

Fortunately, our ability to treat asthma is also growing. Today, you can expect that with a little knowledge and discipline, you can completely control your asthma. You can expect to do all the things you enjoy doing.

This booklet provides information and tools to help you live a better, healthier life with asthma.

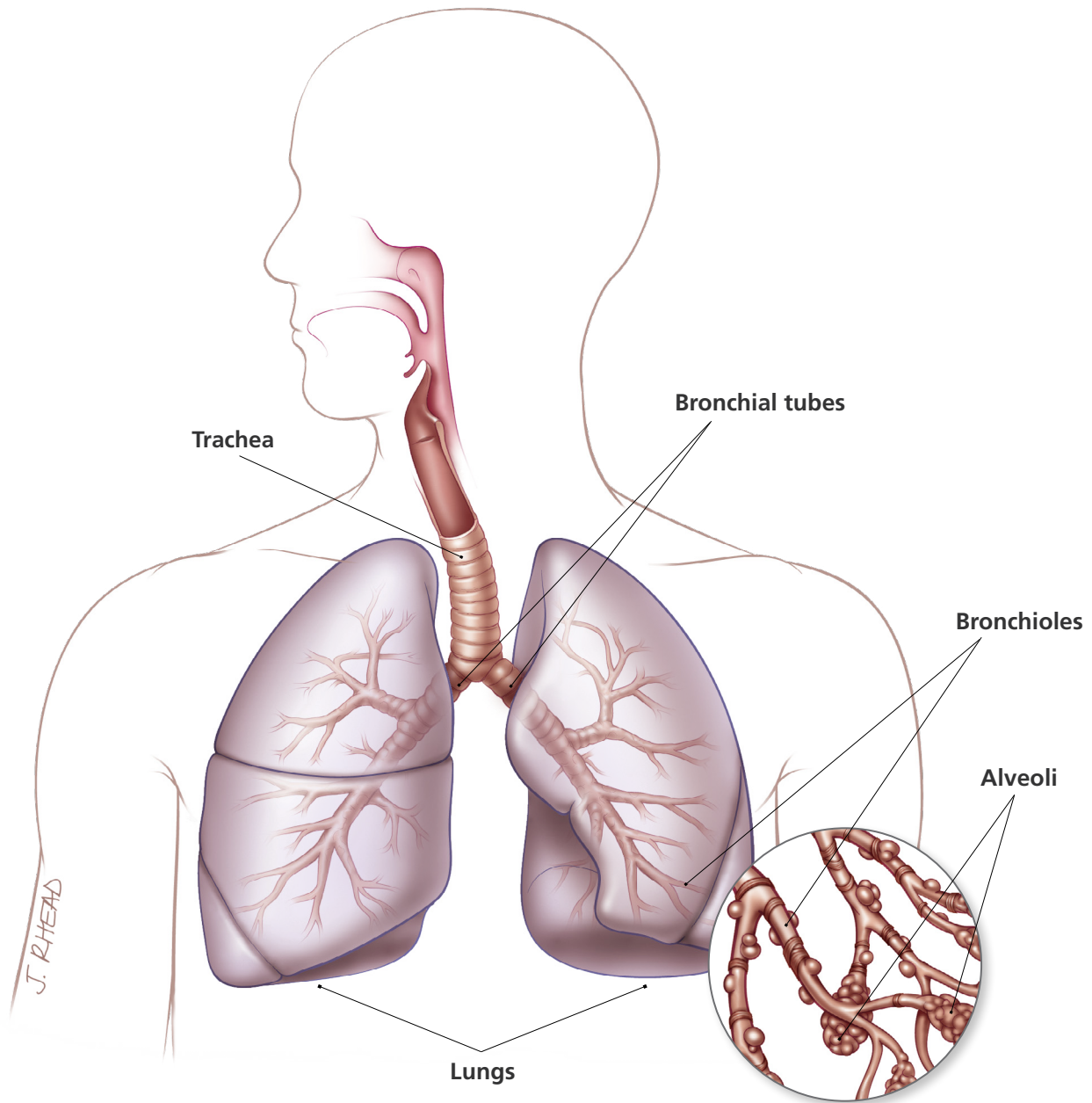
Note: if you’re a parent reading this to help understand and control your child’s asthma, please substitute “your child” for “you” in the text.

Understanding Asthma

To learn to control your asthma, you first need to understand how your lungs and airways work and what happens with asthma.

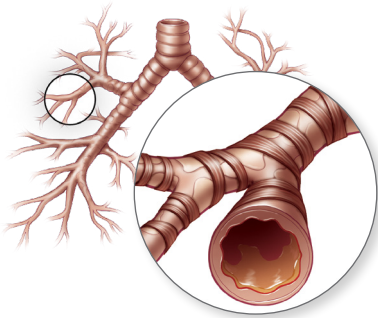
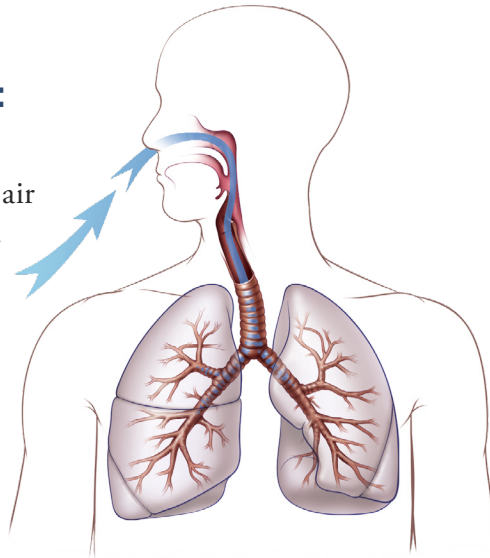
What happens when you breathe?

When you breathe, you absorb oxygen from the air. You also get rid of carbon dioxide, a gas that's produced when your body's cells use up oxygen. This exchange takes place in your **lungs**, two sponge-like organs in your chest.

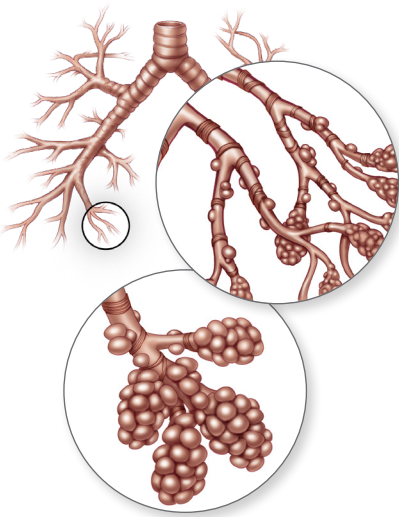


Here's how it works:

- 1 When you take a breath in, air flows down your throat and windpipe (**trachea**).

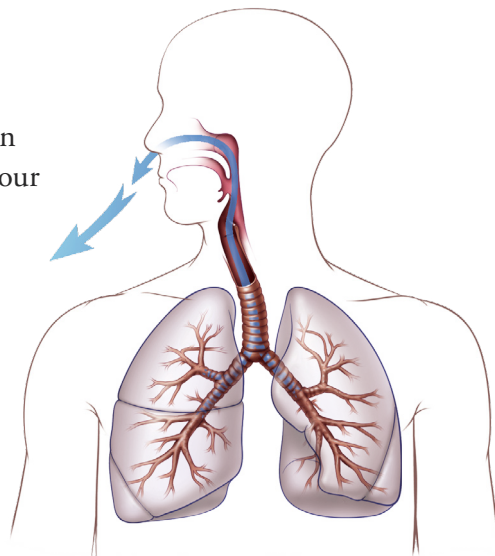


- 2 From the trachea, air flows into large, tubular airways (**bronchial tubes**). The bronchial tubes branch as they extend into your lungs.



- 3 From the bronchial tubes, air goes deeper into the lungs through smaller and smaller branches. These smaller airways are called **bronchioles**.
- 4 At the end of this maze of little branches are tiny air sacs called **alveoli**. These sacs take oxygen from the air you breathe and pass it into your bloodstream. They also collect carbon dioxide from the bloodstream for you to breathe out.

- 5 When you breathe out, air — now carrying carbon dioxide — travels out of your lungs the way it came in.



YOUR AIRWAYS, INSIDE AND OUT

Inside:

The inner lining of your bronchial tubes produces **mucus**, a sticky fluid that helps keep airways moist and lubricated.

Outside:

The outer walls of your airways are surrounded by bands of muscle.



UNDERSTANDING INFLAMMATION

Inflammation is your body's reaction to injury, infection, or irritation. Anyone who's ever had a mosquito bite has seen inflammation in action. It's the swelling, redness, heat, and pain where the mosquito has bitten you. And if you're the type to scratch your mosquito bites, you know something else about inflammation — it tends to get worse quickly if you irritate the affected area.

You can't see the inflammation that happens with asthma. Asthma inflammation is deep inside your lungs, in your airways. Yet just as with a mosquito bite, treatment means reducing the existing inflammation — and working to avoid things that will irritate your lungs even more.

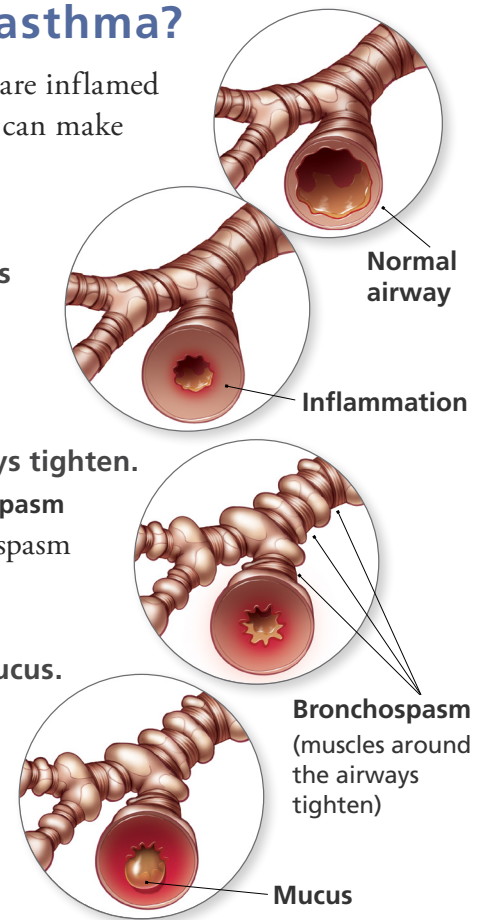
What happens with asthma?

When you have asthma, your airways are inflamed much of the time. This inflammation can make breathing difficult for three reasons:

1 The inside lining of the airways swells inward. This narrows the space inside your airways.

2 The muscles around the airways tighten. This tightening is called **bronchospasm** (or bronchoconstriction). Bronchospasm also narrows your airways.

3 Your airways produce more mucus. Excess mucus clogs the airways, narrowing the space for air to pass through.



With your inflamed airways narrowed by swelling, bronchospasm, and excess mucus, air doesn't move as easily into and out of your lungs. It can be like trying to breathe through a narrow straw — you have to work extra hard to get air in and out. When you have other asthma symptoms, like coughing, wheezing, and chest tightness, you're having an **asthma flare-up** (also called an asthma "attack").

Since asthma interferes with your breathing, it's a serious condition. Uncontrolled asthma causes people to miss work or school, go to the hospital, or even die. Fortunately, people can learn to control their asthma and avoid serious problems.

INFLAMMATION, ALL THE TIME?

If you have asthma, your airways are inflamed much of the time. Even when you have no symptoms, you might still have inflammation in your airways. For this reason, your doctor will assess two aspects of your condition:

- Current impairment: Your symptoms and how they affect your life right now
- Future risk: Your chance of having an asthma flare-up in the future

Your treatment must treat both your symptoms and your risk. Some people have a high risk of a serious asthma flare-up, even with few daily symptoms.

What causes asthma?

Scientists don't know for sure what causes asthma. They think it is probably caused by a combination of genetics (what you inherit from your family) and your environment (the places you live, learn, work, or play). However, doctors and scientists **do** have a good understanding of what causes asthma to flare up now and then.

What brings on an asthma flare-up?

If you have asthma, your inflamed airways are “twitchy”— they overreact to irritants in your environment. These irritants are called **triggers**, and they include anything that sets off (triggers) an asthma flare-up.

Different people have different triggers. Some common asthma triggers are allergies, chest colds, pollution, and exercise. To control your asthma, you have to find out what your triggers are and learn how to deal with them.

Who tends to get asthma?

Although anyone can get asthma at any age, studies have shown the following trends:

- Asthma often starts in childhood, and is more common in children than in adults. Still, asthma affects people of all ages, and studies show an increasing number of asthma cases in older people.
- More boys than girls have asthma. But in adulthood, more women than men have asthma.
- People who have allergies or whose family members have allergies, are more likely than other people to have asthma.
- Asthma tends to run in families. If your mother, father, or siblings have asthma, you're at an increased risk for the disease.
- People who smoke or who are around a lot of secondhand smoke are also more likely to get asthma.



For some people, an illness — especially a cold or flu — can trigger an asthma flare-up.

Myth:

“Children usually outgrow asthma.”

Truth:

How asthma affects children throughout their lifetimes varies. In some children, symptoms get worse over time. In other children, symptoms seem to go away as the lungs develop. Still, people who seem to have “outgrown” childhood asthma often have their symptoms reappear in adulthood. The bottom line? Even if symptoms go away, the tendency toward asthma is still there. That's why people diagnosed with asthma — children and adults alike — should work with a doctor to match their treatment plan to their current condition.



COMMON ASTHMA SYMPTOMS

To diagnose and treat your asthma, your doctor will ask you about the following symptoms:

- Coughing
- Wheezing (a whistling sound when you breathe)
- Chest tightness
- Shortness of breath

Symptoms can be mild or severe. For more information on asthma symptoms, see page 10.

How is asthma diagnosed?

Here's what your doctor may do to gather information before an asthma diagnosis:

- During the **medical history**, your doctor will ask questions about your symptoms and what seems to trigger them. Your doctor will pay particular attention to repeated symptoms. Try to provide as many details as possible, even if they seem unrelated.
- During your **physical examination**, your doctor may listen to your breathing and heartbeat, and check your body for signs of allergies. (Allergies are common asthma triggers.)
- **Pulmonary function testing (PFT)** helps your doctor know how well your lungs are working. There are several different types of PFTs. One of the most common is **spirometry**, which measures the amount and speed of air you can breathe in and out. In addition to other readings, spirometry can determine your forced expiratory volume, or **FEV₁** — the volume of air you can blow out in one second. This is a useful measure both for diagnosing asthma and for checking asthma control later on. Note that for young children — who often can't perform pulmonary function tests correctly — doctors often rely on a medical history and physical exam to diagnose asthma.
- Your doctor may need to gather more information about your lungs, your breathing, and your asthma triggers by doing other tests. Blood tests or skin prick tests can check for allergies that might cause your asthma symptoms. A chest x-ray may be needed to check for lung problems other than asthma that could be causing your symptoms.



“ Our son, Ruben, had been coughing at night for months. We even had several trips to the hospital when chest colds brought on breathing problems. The doctors there mentioned asthma, but we didn't pay much attention. Most of the time, Ruben seemed fine.

Luckily, our pediatrician followed up. She ran some tests, and then showed us how she arrived at her diagnosis. Once we saw the list of symptoms, it was pretty obvious: Ruben has asthma. ”

— *David*, father of a 5-year-old with asthma

Controlling Asthma

Although no one is happy to get an asthma diagnosis, knowing that your symptoms come from asthma is helpful. It means that instead of being controlled by your asthma symptoms, you can begin to take charge of your health by controlling your asthma.

How can you control your asthma? Work with your asthma care team to:

- Know your **symptoms**.
- Avoid your **triggers**.
- Take your **medicine** correctly.
- Follow your **Asthma Action Plan** every day.
- Check your **asthma control** regularly.

This section gives more information about each of these topics.



“ I thought that if you had asthma, you just had to learn to live with a few symptoms. But my new doctor disagreed. And after a few weeks on a new treatment plan, I see that she was right. I really can control my asthma. ”

— *Lisa*, a long-time asthma patient

Myth:

“Asthma treatments don’t work.”

Truth:

Actually, asthma treatments are remarkably effective.

The key is making sure you’re doing the right things the right way. Talk to your healthcare provider if you’re having trouble controlling your asthma. Before adjusting your medicine, they might follow the **ICE** formula to check for problems:

Inhaler:

Is your inhaler technique correct?

Compliance:

Are you taking your medicines as directed?

Environment:

Has something in your environment changed?

It often takes some experimenting to get your treatment working well for you. Don’t give up — keep working with your healthcare provider until you find what works best for you.



EARLY WARNING SIGNS?

People with asthma sometimes say that they can tell when their asthma is starting to flare up — even before they get one of the classic symptoms like coughing or wheezing.

Here are some of the “early warning signs” that people have reported:

- Sighing a lot
- Getting “the look” — a tense, worried face or circles under the eyes
- Having a “tickle” in the throat, clearing the throat a lot
- A “full” feeling in the chest, and difficulty taking a deep breath

Pay attention to your body. You might be able to pick up on one of your own early warning signs of a flare-up. This can help you begin treatment early, and prevent more serious symptoms.

Know your symptoms

To control your asthma, you first need to be able to recognize your symptoms. This section tells you what you need to know to do this.

Asthma symptoms: from bad to worse

Below are some common asthma symptoms, described as you might have them as an asthma flare-up worsens:

- **Coughing — particularly at night or after exercise.** The first thing you may notice is a persistent (ongoing) cough. Coughing at night and coughing after exercise are especially common in people with uncontrolled asthma.
- **Wheezing.** You may hear a high-pitched whistling sound as you breathe. This sound, called wheezing, means that the air is having trouble moving through your airways. Wheezing usually happens when you breathe out. But as your asthma worsens, you might also hear wheezing when you breathe in.
- **Difficulty breathing, chest tightness.** As your breathing becomes more difficult, you can feel pain or tightness in your chest. Children are more likely to say that their chest hurts.
- **Shallow breathing.** You may find it difficult to take a deep breath. Your breaths become smaller and more shallow as your condition worsens.
- **Fast breathing.** As your breathing becomes more shallow, it also becomes faster as your body tries to get more oxygen into your lungs. “Fast” breathing for young children is 50 or more breaths a minute while at rest. Adults and older children are breathing fast if they’re taking 30 or more breaths a minute while at rest.
- **Retractions.** As an asthma flare-up worsens, the skin and muscles between the ribs and at the base of the throat may pull in or “retract” with each breath in. This is most often seen in children and is a sign that they are really struggling to breathe.
- **Life-threatening symptoms.** If an asthma flare-up becomes very severe, you won’t be able to work hard enough to breathe in. At this point, your retractions and wheezing may actually begin to go away. Your breathing will become very shallow. And, because your body isn’t getting enough oxygen, your face and lips may turn slightly blue. Symptoms like these are very dangerous and require immediate emergency care.

How symptoms can vary

Asthma symptoms vary from person to person and from time to time. As you try to understand how asthma affects you, consider these factors:

- **Type:** What type of symptoms do you usually have? For some people with asthma, breathing becomes difficult. Yet for many others, coughing is the only symptom.
- **Time:** When do you have symptoms? You may experience symptoms only at night. Or, you may only notice symptoms at certain times of the year. Do you get them when you're active or at rest?
- **Duration:** How long do symptoms last, and how often do you have them? Your symptoms may last only for a few minutes or continue for a few days. You might have them every day, or they may flare up unexpectedly and get worse quickly.
- **Severity:** How do your symptoms affect your life? Are they just a bother, or do they stop you from doing the things you want to do?

Myth:

"Asthma isn't serious," or "Mild asthma doesn't require treatment."

Truth:

You should always take asthma seriously. It's a chronic (long-lasting) condition that has no cure. Its symptoms can come on suddenly and get worse quickly — and may even become life-threatening. In fact, many deaths from asthma occur in people who previously thought that their asthma was mild. **Follow your Asthma Action Plan.** You might not need to take medicine every day. But you DO need to take care of yourself to help avoid and treat dangerous flare-ups and to keep living an active, healthy life every day.



MEASURING PEAK FLOW AND FEV₁

As part of monitoring your symptoms, you may be asked to check your peak flow. **Peak flow** measures how quickly you can blow air out of your lungs. It can be a helpful indication of how well your lungs are working and how well your asthma is controlled.

If your healthcare provider recommends that you monitor your peak flow, you'll need to use an inexpensive, handheld device called a peak flow meter. (Some of the newer meters can give you your FEV₁ reading as well as a peak flow.)

KNOWING THE SCORE

Peak flow and FEV₁ scores are best (higher) when your large airways are clear. They're lower when your airways are narrowed.





TRIGGERS:

Take them personally

Different people have different triggers. Work with your asthma care team to identify your personal triggers and learn how to avoid them.

Avoid your triggers

A trigger is anything — a condition, a substance, an activity — that causes inflammation in your sensitive airways. A trigger makes your asthma worse or keeps it from getting better. As you read through the next few pages, put a next to the things that make your asthma worse and put a next to the things you'll do to control your asthma.

TRIGGER	TIPS for avoiding or eliminating a trigger
<p><input type="checkbox"/> RESPIRATORY INFECTIONS</p> <p>Colds, influenza (the flu), sinus infections, and other illnesses can trigger an asthma flare-up. These illnesses tend to last longer if you have asthma.</p> 	<p>Preventing illness is the key.</p> <ul style="list-style-type: none"><input type="checkbox"/> Take care of yourself: Get plenty of rest, eat a healthy diet, and exercise regularly. If possible, avoid being around people who are sick.<input type="checkbox"/> Get a flu shot once a year in the fall.<input type="checkbox"/> Wash your hands often to prevent the spread of germs.
<p><input type="checkbox"/> EXERCISE</p> <p>Exercise is one of the most common triggers of asthma symptoms. In many people, exercise brings on coughing, wheezing, or shortness of breath during or after exercise. Still, exercise is the one trigger you should NOT avoid. When your symptoms are well controlled, exercise is good for your lungs.</p> 	<p>You should be able to be active without symptoms.</p> <p>If exercise is one of your triggers, talk to your doctor. Your doctor may recommend the following strategies:</p> <ul style="list-style-type: none"><input type="checkbox"/> Take your medicine 5 to 10 minutes before you begin exercise.<input type="checkbox"/> Warm up for 10 minutes before exercise to help your body adjust to changes in breathing and temperature.<input type="checkbox"/> Get some aerobic exercise every day. Aerobic exercise is anything that gets your heart pumping a little faster.

TRIGGER

IRRITANTS IN THE AIR

Such as smoke, pollution, odors, fumes, and sprays

The air we breathe — both indoors and out — contains pollutants that can irritate lungs and cause asthma symptoms.

Among the worst of the airborne irritants is tobacco smoke from cigarettes, pipes, and cigars. Smoke from wood-burning fireplaces, kerosene heaters, and gas stoves can also cause problems for people with asthma. Other airborne irritants include industrial and exhaust fumes, aerosol sprays, perfumes, and fumes from paint, glues, and household cleaning products.

Wintertime air in Utah and Idaho can become dangerous because of inversions. During an inversion, a layer of warm air traps a layer of cold air below it. This causes smoke and exhaust to get trapped in the cold air. Inversions that last for several days often increase asthma symptoms, sending many people to the emergency room.



TIPS

The best strategy is to avoid airborne irritants whenever possible.

- Get rid of your evaporative (swamp) cooler — use central air conditioning. If this isn't possible, at least use an air conditioner in your bedroom.
- Watch the news for pollution alerts (high ozone days), and be ready to step up your treatment if necessary.
- If you smoke, quit. Ask family members to quit smoking, too.
- Don't allow smoking in your home.
- Be sure no one smokes at your child's day care center.
- Don't use wood burning stoves, fireplaces, or kerosene heaters to heat your home.
- Avoid perfumes and perfumed products such as talcum powder, candles, and hair spray.
- Reduce strong cooking odors by using an exhaust fan and opening windows when you cook.
- Don't stay in your home, school, or work site if it's being painted.
- If gas fumes irritate your airways, have someone else pump your gas for you.
- If you can't get rid of irritants in the ways described above, use an indoor air-cleaning device. A HEPA (high-efficiency particulate air) purifier is a good one to try.



OZONE NOTES

Ozone is created when the sun's heat and light act on gases and pollution in the air. It's bad to breathe, especially for people with asthma. and especially during May to September — the "ozone season" when ozone levels are highest.

Protect your health by following these tips when ozone levels are high:

- From May to September, get your outdoor physical activity before noon or after 6:00 PM.
- If you are physically active between noon and 6:00 PM, stay indoors or keep your physical activity light to moderate (walk instead of run).
- Keep track of the air quality in your area by checking these websites:
 - In Utah: airquality.utah.gov
 - In Idaho: deq.idaho.gov/air-quality.aspx

TRIGGER

TIPS

- ❑ **ALLERGENS** *such as animal dander, pollen, molds, dust mites, cockroach droppings, and certain foods and food additives*

Allergens are things that cause you to have an allergic reaction. In some people, allergens can also trigger asthma symptoms.



Everyone with persistent asthma should have allergy testing to determine if allergies are a factor in their asthma.

Once you know your allergens, the best strategy is to avoid or reduce your exposure to them whenever possible.

- ❑ Get rid of your swamp cooler. Use central air conditioning. If this isn't possible, at least use an air conditioner in your bedroom. This can help protect you from a variety of airborne allergens.
- ❑ If possible, use a central vacuuming system. This will pull allergens out of the house. Or, use a vacuum cleaner with a HEPA filter.
- ❑ For allergens you can't avoid or reduce, consider "allergy shots" (called immunotherapy). Allergy shots have been shown to help asthma that is triggered by allergies. Discuss this possibility with your healthcare provider, who can give you a referral to an allergist.

- ❑ **Animal dander.** Contrary to what many people think, it's not the animal's fur that people are allergic to. The culprit is actually a protein found in pet's **dander** (flakes of skin) and saliva. Even if you have a short-haired animal or an animal that doesn't shed — and even when you keep animal hair cleaned up — a lot of the dander will remain behind.

- ❑ If possible, remove the animal from your home, and avoid visiting family or friends with pets.
- ❑ At a minimum, keep pets off of the bed and out of the bedroom.
- ❑ Block heating vents, or place filters over them.
- ❑ When possible, remove cloth-covered furniture from your home.
- ❑ Replace carpets with solid surface flooring.
- ❑ If you have a pet, consider a HEPA filter to clean the air in your home. (HEPA filters help pick up the small, fine dander that cats produce. They may be less effective in picking up dander from dogs.)

- ❑ **Pollen.** Pollens are powder-like substances produced by blooming trees, grasses, and weeds. Pollens usually cause seasonal allergies, sometimes called "hay fever." If you tend to have sneezing or an itchy nose or eyes at certain times of the year, you might be allergic to pollen. Another sign that pollen may be a trigger for you is if your asthma worsens at particular times of the year.

- ❑ Keep windows in your house and car closed.
- ❑ During allergy seasons, limit outdoor activities on windy days and when pollen counts are high.
- ❑ Keep lawns short (no more than 2 inches high) to minimize flowering. Make sure your yard is free of weeds such as pigweed and ragweed.
- ❑ Use central air conditioning — or at least a room air conditioner — to stay cool indoors. If you can't get rid of your swamp cooler, a HEPA filter may help reduce pollen.

TRIGGER

- ❑ **Molds.** Molds that grow in warm, damp, and poorly lit places — like your bathroom, closets, basement, and even behind wallpaper — may cause asthma symptoms.

In dry areas of the West, mold is mostly a problem in homes with swamp coolers or humidifiers or homes that have been water-damaged.



TIPS



- ❑ Use central air conditioning (not a swamp cooler) during the summer months. Don't use a humidifier.
- ❑ Increase ventilation in damp areas (kitchen, bathrooms, etc.) by installing exhaust fans.
- ❑ Regularly clean mold-prone areas with a cleaner that has bleach in it.
- ❑ Limit the number of house plants you keep in your home.
- ❑ Shake excess water off of shower curtains. Don't let water collect in dish drainers, plant trays, or refrigerator drip pans.
- ❑ If your home has persistent mold growth from water damage, you'll need to replace the damaged area. For example, you may need to replace damaged wallboard inside a wall.

- ❑ **Dust mites.** Dust mites are tiny insects — too small to be seen with the naked eye — that feed on human skin. Even if your home is clean, there's still enough dust to support millions of dust mites.

Dust mites thrive in warm, humid environments. They're usually not a problem in dry areas of the West (but might be if you have a swamp cooler). Dust mites especially love places like mattresses, pillows, carpets, curtains, stuffed animals, and furniture upholstery.

If you test positive for dust mite allergy:

- ❑ Wash bed linens and stuffed toys at least once a week in HOT water to kill dust mites. The temperature of the water must be hotter than 130°F to kill the mites. (Everything on the bed should be washable with hot water — sheets, pillowcases, any stuffed animals — or have a special allergy cover.)
- ❑ Put airtight covers on mattresses, box springs, pillows, and comforters.
- ❑ If possible, replace wall-to-wall carpeting with solid surface flooring and washable throw rugs.
- ❑ Regularly wipe furniture with a damp cloth each month during the winter season. Place filters over heater vents.
- ❑ When possible, replace upholstered furniture with wood, leather, and vinyl furniture that can be easily wiped clean.
- ❑ Keep indoor humidity to less than 50%. In dry areas of the West, this is usually easy to do (unless you have a swamp cooler or humidifier).

TRIGGER	TIPS
<ul style="list-style-type: none"> ❑ Cockroach droppings. Droppings and remains from cockroaches may cause an allergic reaction and asthma symptoms in some people. Cockroaches aren't common in the Intermountain West, although reports suggest that their numbers are increasing. 	<ul style="list-style-type: none"> ❑ Keep food covered and out of the bedroom. ❑ Remove garbage from your house daily. ❑ Keep counter tops and oven tops clean. ❑ Set bait traps, or use professional pest control services. Spray insecticides but only when the person with asthma is out of the house.
<ul style="list-style-type: none"> ❑ Certain foods and food additives. Foods that most frequently trigger allergic reactions in children include eggs, milk, wheat, soy, fish, corn, and peanuts. ❑ In adults, fish, shellfish, and nuts are common allergens. ❑ Asthma can also be triggered by sulfites, an additive found in processed foods and drinks (such as dried fruits, fruit juices, vegetables, and wines). 	<ul style="list-style-type: none"> ❑ Avoid the food that's causing your allergic symptoms. ❑ Read ingredient labels. ❑ Ask questions at restaurants. ❑ Ask your healthcare providers what to do in case you are accidentally exposed to food allergens. (You may need to carry special medication in case of an exposure.)
<ul style="list-style-type: none"> ❑ WEATHER <p>A sudden blast of cold air, excess heat and humidity, and dry climates can all trigger asthma symptoms.</p> <div style="display: flex; justify-content: space-around; margin-top: 20px;">   </div>	<p>Protect your body from extremes in temperature and humidity.</p> <p>In cold weather:</p> <ul style="list-style-type: none"> ❑ Dress appropriately. Wear a scarf over your nose and mouth to keep your breath warm and moist. You can also wear one of the special masks made for people with asthma. ❑ Breathe in through your nose rather than your mouth to help warm the air before it reaches your lungs. <p>In hot, humid environments:</p> <ul style="list-style-type: none"> ❑ Use air conditioning in your home and in your car. ❑ Drink plenty of fluids.

HAVING TROUBLE WITH YOUR TRIGGERS? KEEP A RECORD.

If you're not sure which triggers affect you, make a note each time an asthma flare-up occurs. Keep track of the following:

- Where you were (at work, school, in your home, outside)
- What you were doing (running, vacuuming, petting the cat)
- When it happened (at night, after eating, during or after exercise, when stressed or excited)

As you build your record, you should start to notice patterns that may help you identify your triggers.



TRIGGER	TIPS
<p> EMOTIONAL STRESS</p> <p>Emotions don't cause asthma. But strong emotional reactions (like laughing, crying, and sighing) may trigger symptoms, especially if your asthma isn't under control.</p> <p>Family and job-related stresses can bring on asthma symptoms in adults. In children, asthma symptoms may be triggered by a divorce, a death in the family, or even the start of a new school year.</p>	<p>Try to remain calm.</p> <ul style="list-style-type: none"> Take deep breaths. Consciously slow your breathing by counting while you breathe in and out. Do any activity that distracts and relaxes you. 
<p> SLEEP</p> <p>For many people, asthma symptoms occur at night. This is called nocturnal asthma. Nocturnal asthma can be brought on by a number of factors — allergens in the bedroom, a drop in body temperature, and heartburn (or GERD — gastroesophageal reflux disease).</p> 	<p>Try to find out why your asthma is worse at night, and then eliminate those causes.</p> <ul style="list-style-type: none"> Keep your bedroom clear of allergens and follow your Asthma Action Plan. Treat GERD. If you often have asthma symptoms at night, your asthma is not controlled. Contact your doctor to adjust to your treatment plan.
<p> MEDICINES</p> <p>Some medicines, especially those that contain aspirin, may cause asthma symptoms. Medicines called beta blockers, which are used to treat a variety of conditions, can also make asthma worse.</p>	<ul style="list-style-type: none"> Consult with your healthcare provider or pharmacist before you take medicines other than the ones that have been prescribed for your asthma. 

Take your medicine correctly

To get the most out of your asthma medicine, you need to:

- Understand the different types of asthma medicine and when to take them.
- Use your medicine delivery device — your inhaler or nebulizer — correctly.
- Establish good habits for staying on schedule with your medicine.

This section gives some basic information to help you do these things.

Types of asthma medicine

There are two basic types of asthma medicines — **quick-relief** and **controller** medicines.



Quick-relief medicine

can STOP symptoms

Also called “rescue medicine”

When you should use them

- **Use when you first notice asthma symptoms.** Quick-relief medicine can stop an asthma flare-up from getting worse.
- **Use before you encounter one of your asthma triggers.** For example, if exercise is a trigger for you, your doctor may recommend taking quick-relief medicine before you play or work out.

What they do, what they don’t do

- Quick-relief medicines can relieve severe asthma symptoms or symptoms that come on fast (sudden onset symptoms). They work immediately — usually within 5 to 10 minutes — to help open airways during an asthma flare-up.
- Quick-relief medicines **DO NOT** prevent future symptoms.

What to watch out for

Do you use quick-relief medicine more than 2 times a week to stop asthma flare-ups? This may be a sign that your treatment plan isn’t working. Talk to your doctor.

Examples of quick-relief medicines:

- **Short-acting beta2-agonists** (inhaled):
 - albuterol (Proair HFA, Proventil HFA, Ventolin HFA)
 - levalbuterol (Xopenex)



Myth:

“Steroids aren’t safe.”

Truth:

The steroids used to treat asthma are different from the anabolic steroids that some bodybuilders use to build muscle. They won’t make you more muscular or more violent. Used correctly, they WILL help you control your asthma.

It is possible for any medicine to cause side effects. But the benefits for asthma control outweigh the risks. By following directions carefully (for example, rinsing your mouth after using an inhaled steroid), you can help lessen side effects. The goal is to always use the least amount of medicine needed to keep asthma under control. Go to all appointments with your healthcare provider so your medicine can be adjusted or stopped, if needed.



WHAT ABOUT ORAL STEROIDS?

In addition to the inhaled corticosteroids used as a controller medicine, your doctor may prescribe a second corticosteroid for you (usually taken as a pill or liquid). These oral steroids are usually used for only 3 to 10 days to help control a flare-up that isn’t responding to quick-relief medicine. If you have a prescription for oral steroids, your Asthma Action Plan will tell you when you need to take them.



Controller medicines

can PREVENT symptoms

Also called “maintenance medicines”

	When you should use them	What they do, what they don’t do	What to watch out for
	Use every day. Controller medicines are usually prescribed for people with persistent asthma. For these medicines to work, you must take them every day on a regular basis, even when you’re symptom-free and feeling well.	Taken regularly, controller medicines help prevent asthma flare-ups. Controller medicines CAN NOT stop a sudden or severe asthma flare-up. For flare-ups, use your quick-relief or oral steroid medicine as directed in your Asthma Action Plan.	Still having symptoms while taking your controller medicines? Talk to your healthcare provider. Your goal is to stay symptom-free most of the time.

Examples of controller medicines:

- **Corticosteroids (inhaled):**
 - beclomethasone (Qvar)
 - budesonide (Pulmicort)
 - fluticasone (Flovent)
 - mometasone (Asmanex)
- **Leukotriene modifiers** (pills taken by mouth):
 - montelukast (Singlair)



- **Combination medicines, corticosteroid + long-acting beta2-agonist (inhaled):**
 - budesonide/formoterol (Symbicort)
 - fluticasone/salmeterol (Advair)
 - mometasone/formoterol (Dulera)
- **Long-acting muscarinic antagonist (LAMA) (inhaled):**
 - tiotropium bromide (Spiriva Respimat)



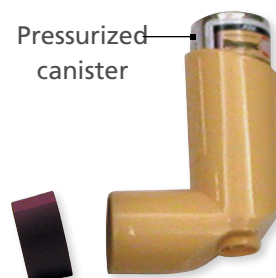
Medicine delivery devices

There are several different devices used to help people inhale (breathe in) asthma medicine and send it right into the lungs, where it's needed.

Inhaler

Many asthma medicines come in small, hand-held devices called inhalers. There are two main types:

- **Metered dose inhalers, or MDIs**, deliver medicine in fixed, measured amounts. Some inhalers have a pressurized canister that sprays out medicine when you press down on it.
- **Dry-powder inhalers** contain powdered medicine that's released when you breathe in through a mouthpiece. There are many different types of dry-powder inhaler devices. Always follow the instructions provided with your prescription.



Spacer

A **spacer** is a special tube that attaches to the inhaler. Your doctor may recommend a spacer to help you get more of the medicine deep into your lungs. A spacer can be used with a mouthpiece (best for most patients) or mask (for young children or others who have difficulty using the mouthpiece).



Nebulizer

A **nebulizer** is a device that turns asthma medicine into a fine mist that you can easily breathe into your lungs. Although inhalers with spacers are preferred for most patients, doctors prescribe nebulizers for people who have trouble using inhalers, for young children using some inhaled corticosteroids, and for people who may not be able to breathe in deeply enough to use an inhaler. As with an inhaler, it's important to work with your doctor or asthma educator to make sure you're using your nebulizer correctly.



THE RIGHT MEDICATION, THE WRONG WAY?

If your symptoms don't improve with medicine, it might be because you're not using the device the way you're supposed to.

For example, if you aren't using your inhaler correctly, most of the medicine will end up in your mouth and throat, instead of in your lungs where you need it to work.

To make sure you're getting the most from your asthma medicine:

- Always follow the instructions for your specific brand of inhaler or nebulizer.
- Have your doctor or asthma educator check to make sure you're using your device correctly.

How to use an MDI (a metered dose inhaler)

Follow the first 5 steps for any inhaler type. The remaining steps are specific to the type of inhaler shown in the pictures.

- 1 Remove the cap from the inhaler and from the spacer if necessary.
- 2 If necessary, prime the inhaler (squirt a puff into the air). Check the package insert for specific instructions. Some MDIs don't need to be primed, but others need one, two, or more priming puffs.
- 3 If you're using a spacer, insert the inhaler into the rubber end of the spacer.
- 4 Shake the inhaler well immediately before each puff to mix and warm the contents.
- 5 Breathe out.



If you're using a spacer with a mouthpiece:

- 6 Place the mouthpiece fully into the mouth between the teeth, holding the inhaler upright and closing the lips around the mouthpiece.
- 7 Press the canister down to release a puff of medicine.
- 8 Breathe in deeply and slowly — for 3 to 5 seconds — through your mouth.
- 9 Hold your breath for 10 seconds.
- 10 Remove the spacer from your mouth, and breathe out slowly.
- 11 Repeat steps 4 through 10 for each inhalation prescribed by your doctor.



If you're using a spacer with a mask:

- 6 Place the mask over the child's mouth and nose, with the inhaler upright. Maintain the seal between the face and mask.
- 7 Press the canister down to release a puff of medicine.
- 8 Encourage the child to breathe in deeply and slowly — for 3 to 5 seconds — when possible.
- 9 Maintain the seal for 5 breaths (or at least 2 breaths) while the child breathes in. Then, remove the mask from the face.
- 10 Repeat steps 4 through 9 for each inhalation prescribed by the doctor.



If you're using the open-mouth technique:

- 6 Position the canister mouthpiece about 1½ to 2 inches in front of your OPEN mouth. Do not place the mouthpiece in your mouth with your lips closed around it.
- 7 Start breathing in deeply and slowly — for 3 to 5 seconds — through your mouth while pressing the canister down to release a puff of medicine.
- 8 Hold your breath for 10 seconds. Then, breathe out slowly.
- 9 Repeat steps 4 through 8 for each inhalation prescribed by your doctor.

Note: if you're using an inhaler with a steroid, RINSE YOUR MOUTH WITH WATER after each use.

CLEANING YOUR INHALER AND SPACER

Clean your inhaler and spacer at least once a week to help keep medicine from building up.



Clean the inhaler thoroughly and frequently

Different inhalers need to be cleaned in different ways. Always follow the specific instructions that come with your inhaler. The steps below apply to the MDIs for ProAir, Proventil, Ventolin, and Xopenex:

- 1 Remove the metal canister, and cleanse the plastic case and cap by rinsing thoroughly in warm, running water. Be sure to clean off any medicine that is built up on the spray nozzle.
- 2 Thoroughly dry the plastic case and cap.
- 3 Gently replace the canister in the case with a twisting motion, and put the cap back on the mouthpiece.



Clean the spacer before the first use and regularly after that:

All spacers need to be cleaned regularly. Check the packaging information for your spacer. Different spacers have slightly different instructions for cleaning.

How to tell if your inhaler is empty

Is there any medicine left in your MDI? Shaking it or “puffing” it won’t tell you. An inhaler will still feel full or puff even when the medicine is gone. (Some of the propellant used to push out the medicine will stay in the canister.) Trying to float the canister won’t work either. The only way to know how much medicine is left is to track your doses. (see the tips below.)

IF YOUR INHALER HAS A BUILT-IN COUNTER....

Many MDIs — and most dry-powder inhalers — have counters like the one shown at right. In this case, it’s easy to tell if there’s medicine inside: just look at the numbers. The numbers show how many puffs or actuations are left. Each time you use your inhaler, the counter goes down — so when you get to 000, stop using the inhaler and start using a new one.



IF YOUR INHALER DOESN'T HAVE A COUNTER....

When there’s no counter on your inhaler, you’ll need to track the puffs yourself. You’ll have slightly different methods depending on whether you’re tracking daily controller medicine (you take the same dose, every day) or your quick-relief medicine (you take it as needed). Follow the steps below.



For daily controller medicines

- 1 Check the canister label to see how many puffs (metered doses) it contains. $\frac{\text{_____}}{\text{(number of puffs in canister)}}$
- 2 Figure out how many puffs you will take per day (for example, 2 puffs, 2 times a day = 4 puffs a day). $\div \frac{\text{_____}}{\text{(number of puffs to take per day)}}$
- 3 Divide your answer from step 1 by your answer from step 2. $= \frac{\text{_____}}{\text{(number of days the inhaler will last)}}$

EXAMPLE:

$$\begin{array}{r} \text{Canister contains 120 puffs} \\ \text{You take 2 puffs, 2 times a day} \\ \text{(so 4 puffs per day)} \end{array} \begin{array}{r} \div \\ = \end{array} \frac{\frac{120}{4}}{30} \begin{array}{l} \text{(number of days the} \\ \text{inhaler will last)} \end{array}$$

- 4 On the canister, write the date that you start the inhaler. Also write the date you should discard it (based on your calculations).
- 5 When you reach the “discard date,” throw away the canister and start a new one. If you keep an empty canister lying around, you’re likely to get it mixed up — and then you won’t have medicine when you need it.



For quick-relief medicines

Since quick-relief medicines aren’t usually taken on a regular basis, the guidelines above won’t work. Instead, place a blank mailing label or piece of adhesive tape on the inhaler, and mark off each dose you use, including any priming puffs.

How to use a nebulizer

A **nebulizer** uses forced air to turn asthma medicine into a fine mist so that it can easily be breathed into the lungs. For some people — and with some medicines — nebulizers are the most effective way of delivering inhaled medicines.

A nebulizer consists of the following components:

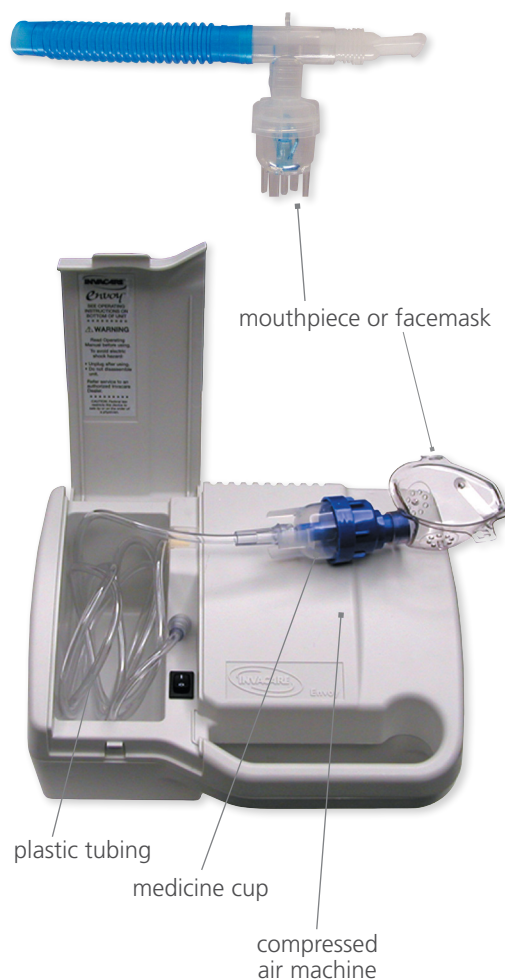
- A **compressed air machine**
- A medicine **cup** to contain the medicine
- Thin **plastic tubing** that connects the medicine cup to the compressed air machine
- A **facemask** or **mouthpiece** used to breathe in the mist

Using a nebulizer with either a facemask or a mouthpiece — and following the directions provided here — will help ensure that you or your child receive as much of the medicine as possible.

Instructions

If a nebulizer is recommended for you or your child, your doctor or asthma educator will provide specific instructions for using it. Here are some general instructions:

- 1 Fill the medicine cup with the prescribed amount of medicine(s).
- 2 Connect the tubing.
- 3 Sit upright to make deeper breaths possible.
- 4 Holding the medicine cup upright, insert the mouthpiece or put the mask up to the face.
- 5 Turn the machine on.
- 6 If possible, breathe deeply and slowly through your mouth.
- 7 Tap the medicine cup if the contents begin to sputter before the medicine is gone.



A snug-fitting facemask should be used if the person receiving the treatment is unable (or unlikely) to breathe only through the mouth during the treatment.



A mouthpiece can be used for all other people.



HELPING YOUR CHILD ADJUST TO A NEBULIZER WITH A MASK

Young children are the most common users of nebulizers with masks. To help children adjust to the mask, try the tips:

- Invite the child to explore the mask and practice having it over their face or to pretend giving it to a doll or parent.
- When appropriate, encourage the child to help hold the mask during the treatment.
- If the child has difficulty holding still while using the mask, provide a small incentive or distraction.

If the preceding tips do not work, you may need to gently hold the child while using the mask.

PERSISTENCE PAYS!

Children who resist the mask at first will eventually cooperate if treatments are given consistently. If children sense that treatments are optional, they will likely continue to resist.

Blow-by technique — do not use!

“Blow-by” refers to the practice of directing the mist stream of the nebulizer toward the mouth and nose of the person receiving the treatment. As the name suggests, most of the medicine blows right by and never reaches the patient. Even if the outlet of the nebulizer is placed ½-inch from the mouth and nose, most of the medicine is lost to the surrounding air. If your child resists using a mask, try the tips at left.

CLEANING AND MAINTENANCE

The parts of the nebulizer need regular cleaning and inspection. Clean the various parts of the nebulizer with each use, and replace them according to the manufacturer’s recommendations. Sometimes the company that provides you with the equipment will check your equipment for you.



“ At first, I’d skip doses all the time. Taking any kind of drug made me feel like I was sick. But after a few more flare-ups, my attitude changed. Now I feel like my meds are a healthy thing. If I take them consistently, I hardly ever have problems. ”

— *Damian*, age 28

Tips for Parents

Children have special challenges in taking their daily medicine. Below are some tips to help you and your child establish a good routine and work together to solve problems.

0–3 years

(infants and toddlers)

- **Prepare and practice together.** Give very simple explanations of what you're doing and why ("I'm going to put this mask on you to help you breathe better"). "Practice" the procedure on yourself, a doll, or a stuffed animal. Then, let your child have a turn at practice. Give toddlers as much control as possible by giving them choices (for example, where to have a treatment or whether to sit on the bed or a parent's lap).
- **Help your child relax.** Try swaddling — not just with a blanket, but also with your body. Make a soothing "sh-sh-sh" sound, or talk in a calm, soothing voice. Listen to lullabies or other relaxing music. Try rocking, bouncing, swaying, or walking with your child in your arms.
- **Distract your child.** Offer musical or light-up toys, pop-up books, bubbles, or other distractions while you're giving medicine.
- **Give immediate rewards.** After giving medicine, follow up with a treat such as a special activity or book. Praise your child for taking the medicine (even if it has been a struggle).

3–5 years

(pre-schoolers)

- **Prepare and practice.** Tell your child specifically what they will feel, hear, smell, taste, and see. Practice giving medication to a doll or stuffed animal together. Provide choices about where to take the medicine, whether to sit or stand, and so on.
- **Help your child relax.** Listen to favorite music. Have your child take deep breaths and let toes, fingers, hands, and arms go limp. Tell a joke, or watch a funny cartoon (humor relaxes most of us).
- **Distract your child.** While giving medicine, tell a story, or talk about child's favorite place or thing to do. Read a book, or do a puzzle together.
- **Offer rewards.** Award a token (such as a sticker) each time your child takes medicine easily. Once your child has earned a certain number of tokens, trade the tokens for a treat.



Myth:

"The best time to use an inhaler with your child is when she's crying. More medicine gets into the lungs this way."

Truth:

If you give a treatment while the child is crying, the medicine will only reach the upper airways. It won't go deep into the lungs where it's needed most. Wait to give a treatment until after the child has stopped crying.



HOW ASTHMA-FRIENDLY IS YOUR CHILD'S SCHOOL OR DAY CARE?

The National Institutes of Health (NIH) can help you find out. See the fact sheets available online at www.nhlbi.nih.gov/health/public/lung. Information is in English and Spanish.

6–12 years

(school-age children)

- **Prepare your child.** Just as with younger children, you need to explain why the medicine is needed and what it will feel like to take it.
- **Involve your child.** Let your child have as much control as possible over the process of taking medicine. Talk with your child about how to make taking medicine more fun or easier to remember.
- **Help your child relax.** Listen to music, take deep breaths, or do other things that your child finds calming.
- **Offer rewards.** As long as they are age-appropriate, rewards will work just as well for school-age children as they do for younger kids. You can space the rewards farther apart than with younger children.

13–18 years

(teens)

- **Explain asthma and asthma treatment fully.** Don't assume that your teen knows the whys and hows of taking medicine. Explain why some medicines will be more effective if taken routinely. Also, explain the consequences of NOT taking medicine (for example, your child may risk missing school or a special event).
- **Agree on a plan.** First, work with your teen to create a plan that will help your teen to remember to take medicine. Next, problem solve together. If your teen routinely forgets medicine or resists taking it, try to tackle the problem together. Ask, "What don't you like about taking your medicine?" and "What can we do to make this easier?"
- **Offer rewards if necessary.** Teens don't usually need rewards or treats to take their medicine, but you might try them if your teen is having trouble staying motivated.





"What will my friends think?"

Helping your child adjust to an asthma diagnosis

If having asthma makes your child feel “weird,” you’ll need to address this feeling or risk having your child resist treatment. Here are a few things you can do to help your child adjust:

- Do everything you can to understand your child’s asthma and get comfortable with your child’s treatment. If YOU act like asthma is a tragedy — or if you question the need for treatment — your child will probably do the same.
- Arrange for your child to take medicine at a time, and in a way, that other kids won’t notice.
- Give your child the words for talking to their friends about the need for medicine. For example, your child might simply say, *“I have asthma. It means my lungs get bothered by certain things — so I take medicine to help them work well.”*
- Visit your child’s school, and explain asthma to the students and teachers.



“We really want our 5-year-old, Ruben, to feel okay about taking his medicines — even in front of his friends. So we say that just like Popeye eats a can of spinach to get big muscles, Ruben can sometimes take a puff to get strong. It works! Ruben will take a puff, then make a big muscle...it’s fun. I think maybe his friends even think it’s cool.”

— *David*, father of 5-year-old with asthma



FRIENDLY FOLLOW-UP

As your child gets older, she can take more responsibility for taking her asthma medicine. But don't leave it all up to your child — use the tips at right to make sure your child stays on the right track.

THE “YUCK” FACTOR

Some asthma medicine don't taste very good. Using a spacer with your inhaler will help a lot — so will drinking a good-tasting juice after taking medicine.



Following up

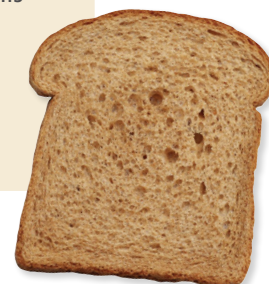
Research shows that over time, most people — both adults and children — tend to become a bit careless about taking medicine. To make sure your child stays on track, try these tips:

- Remind your child to take her medicine. Hand the medicine to her, and watch her take it, if necessary. Be upbeat but firm about the need to take asthma medicine as prescribed.
- Follow up whenever medicines need to be re-ordered. Has your child used up as much medicine as you would expect? If not, they're probably skipping doses.
- If there is one, look at the counter on your child's inhaler. Are the numbers going down regularly?
- Specifically ask your child: “How many times did you take your medicine this week?” Phrasing your question in this specific way encourages a truthful answer.
- Encourage your child to re-establish a good routine by keeping track of their medicine use with a chart for a month to six weeks.
- Stay alert to changes in your child's habits and attitudes. As your children grow, developmental issues and schedule changes can affect their progress. The beginning of the school year may be a good time to talk with your child about asthma. It's also a good time to include a new teacher in your child's asthma team.
- Don't forget to praise and reward your child for following their Asthma Action Plan and taking the Asthma Control Test. (see pages 30 to 33)

Pill practice

- If your child has trouble swallowing pills, try this:
- Start by rolling a tiny piece of bread in a ball and have your child swallow it.
- Slowly work up to larger balls until the bread “pills” are the size of your child's real pills.

Because bread tastes good and won't scratch the throat, this is a great way to teach pill swallowing.





Solving Problems

If you find that your child isn't taking medicine properly, you need to talk about why. Keep the tone positive and encouraging. Start by pointing out what IS working, then go on to explore the following possible problems together:

"I don't WANT to take my medicine!" If your child actively resists taking medicine, find out why. Is he embarrassed? Does the medicine taste bad? Are medicine side effects bothering him? Work with your child and your child's healthcare providers and teachers to find ways to minimize these problems.

"It's too hard." Make sure your child understands when and how to take various medicines. (The Asthma Action Plan on page 31 can help here.) Have your doctor or asthma educator reinforce your child's technique for taking inhaled medicine. If your child has a hard time taking pills, try having them practice by swallowing tiny bread balls to get used to the feeling (see the note on the previous page).

"I don't need medicine." There are lots of reasons why children might think they don't need medicine. First, they might have become used to poor lung function and think that it's normal. They could be practicing "wishful thinking"—deciding that their asthma has gone away. (Just because you don't have symptoms now doesn't mean your asthma is gone!) Or perhaps they're not getting much benefit from their medicine anyway—in which case, they need to have their treatment adjusted. Make an appointment with your child's doctor to review and agree on an Asthma Action Plan.



Myth:

"Asthma means you can't play sports."

Truth:

You should be able to play any sport—even a demanding endurance sport—if you follow a treatment plan to control your asthma. Many top athletes have asthma. Often, they take inhaled corticosteroids as a controller medicine to prevent airway inflammation and help them perform their best. These are NOT the same as the anabolic steroids banned by sports organizations such as the National Collegiate Athletic Association (NCAA) or the International Olympic Committee (IOC).

Follow your Asthma Action Plan every day

The things you do to control your asthma need to be daily habits like brushing your teeth and combing your hair. An Asthma Action Plan can help. The Plan lists symptoms to watch, triggers to avoid, and when and how to take your asthma medicines.

Numerous national and international guidelines recommend using a written Asthma Action Plan to help you recognize, manage, and control asthma symptoms. Complete the Plan on the next page, and follow it every day.

ASTHMA ACTION PLAN

GO Doing well, maintain therapy

CAUTION Asthma is getting worse, step up therapy

STOP Medical alert! get help now

GO 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, Other

CAUTION Coughing, Wheezing, Shortness of breath, Difficulty with physical activity, Waking at night, Tightness in chest, Other

STOP Medication is not helping, Breathing is very difficult, Cannot walk or play, Cannot talk easily, Other

GO Avoid these asthma TRIGGERS: Take CONTROLLER medication: Take QUICK-RELIEF medication before exercise or exposure to a trigger. Keep ORAL STEROIDS on hand: use in yellow and/or red zone as outlined below. Add QUICK-RELIEF medication: Monitor your symptoms and: If symptoms GO AWAY quickly, return to the green zone. If symptoms CONTINUE or RETURN within a few hours: Call your healthcare provider. INCREASE. GO TO AN URGENT CARE CLINIC or HOSPITAL emergency room immediately or CALL 911. As you wait for help: CONTINUE taking quick-relief medication. Continue or ADD mg oral steroids if not already taking. Asthma symptoms can get worse quickly. When in doubt, seek medical help.



“I was worried about having an asthma attack while I was on vacation. We were going during hay fever season! So, I reviewed my treatment with my doctor, and we worked up an Asthma Action Plan. I followed it during my trip, and it worked — I had no problems at all.

I’m still following my Plan. As long as I stick to it, I feel like there’s nothing I can’t do.”

— *Christian*, a long-time asthma patient

Date _____ Patient name _____ DOB _____

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

ASTHMA ACTION PLAN

- Breathing is easy
- No coughing
- No wheezing
- No shortness of breath
- Can work, play, and sleep easily
- Using quick-relief medicine less than twice a week

■ Other: _____



Doing well

maintain therapy

Avoid these asthma TRIGGERS: _____

Take CONTROLLER medicine: _____

Take QUICK-RELIEF medicine before **exercise** or exposure to a **trigger**: _____

Keep ORAL STEROIDS on hand: use in yellow and/or red zone as outlined below.

- Coughing
- Wheezing
- Shortness of breath
- Difficulty with physical activity
- Waking at night
- Tightness in chest

■ Other: _____



Asthma is getting worse

step up therapy

Add QUICK-RELIEF medicine: _____

Monitor your symptoms and:

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

- Call/see your healthcare provider _____
- INCREASE _____
(quick-relief)
- ADD _____
(oral steroids)
- _____

- Medicine is not helping
- Breathing is very difficult
- Cannot walk or play
- Cannot talk easily
- Other: _____



Medical alert!

get help now

GO TO an URGENT CARE CLINIC or HOSPITAL emergency room *immediately* — or CALL 911.

As you wait for help:

- CONTINUE taking quick-relief medicine.
- Continue or ADD _____ mg oral steroids (if not already taking)

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

Check your asthma control regularly

Over time, things can change: your environment, your response to medicines, your sensitivity to certain triggers. All of these changes can affect your asthma control. Yet, **studies show that many people think their asthma is controlled when it's not.** To check control and make sure your treatment is working well for you, follow the schedule below.

- **Every month, take the Asthma Control test.**

This simple test has two versions: one for children age 4 to 11 years and another for people age 12 and older. These tests are on the following pages.

Childhood Asthma Control Test for children 4 to 11 years old. Know the score.

This test will provide a score that may help your doctor determine if your child's asthma treatment plan is working or if it might be time for a change.

How to take the Childhood Asthma Control Test

Step 1 Let your child respond to the first four questions (1 to 4). If your child needs help reading or understanding the question, you may help, but let your child select the response. Complete the remaining three questions (5 to 7) on your own and without letting your child's response influence your answers. There are no right or wrong answers.

Step 2 Write the number of each answer in the score box provided.

Step 3 Add up each score box to the total.

Step 4 Take the test to the doctor to talk about your child's total score.

Have your child complete these questions.

1. How is your asthma today?

Very bad (1) Bad (2) Neither (3) Very good (4)

2. How much of a problem is your asthma when you run, exercise or play sports?

It's a big problem (can't really play) (1) It's a problem (can't play for long) (2) It's a little problem (can't play for long) (3) It's not a problem (4)

3. Do you cough because of your asthma?

Yes, all the time (1) Yes, most of the time (2) Yes, some of the time (3) No, none of the time (4)

4. Do you wake up during the night because of your asthma?

Yes, all the time (1) Yes, most of the time (2) Yes, some of the time (3) No, none of the time (4)

Please complete the following questions on your own.

5. During the last 4 weeks, how many days did your child have any daytime asthma symptoms?

Not at all (1) 1-3 days (2) 4-10 days (3) 11-18 days (4) 19-24 days (5) Every day (6)

6. During the last 4 weeks, how many days did your child wake during the night because of asthma?

Not at all (1) 1-3 days (2) 4-10 days (3) 11-18 days (4) 19-24 days (5) Every day (6)

7. During the last 4 weeks, how many days did your child wake up during the night because of asthma?

Not at all (1) 1-3 days (2) 4-10 days (3) 11-18 days (4) 19-24 days (5) Every day (6)

19 If your child's score is 19 or less, it may be time to talk to your doctor.

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Take the Asthma Control Test™ (ACT) for people 12 years and older. Know your score. Share your results with your doctor.

Step 1 Write the number of each answer in the score box provided.

Step 2 Add up each score box for your total.

Step 3 Take the test to the doctor to talk about your score.

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 home?

None of the time (1) A little of the time (2) Some of the time (3) A lot of the time (4) Most of the time (5)

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

Never (1) Once a day (2) 2-3 times a week (3) Once to twice a week (4) Not at all (5)

3. During the past 4 weeks, how often did your asthma symptoms (wheezing, coughing, shortness of breath, chest tightness or pain) make you get up at night or earlier than usual in the morning?

Not at all (1) 2 or 3 times a week (2) Once a week (3) Once or twice (4) Not at all (5)

4. During the past 4 weeks, how often have you used your rescue inhaler or other medication (such as albuterol)?

2 or 3 times per day (1) 2 or 3 times per day (2) 2 or 3 times a week (3) Once a week or less (4) Not at all (5)

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)

19 If your score is 19 or less, your asthma may not be controlled as well as it could be. Talk to your doctor.

AMERICAN LUNG ASSOCIATION The American Lung Association supports the Asthma Control Test™ and does not endorse products.

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- **Twice a year, follow up with your doctor — and come in any time your asthma is not controlled.**

Your doctor needs to review your treatment at least every six months, even if you're feeling fine and doing well. Beyond these regular visits, your doctor also needs to see you any time your asthma symptoms are increasing. Your treatment may need to be adjusted.

- **At least every two years, get pulmonary function testing.**

Testing can show whether your asthma is as well controlled as you may think it is. If it isn't, your doctor can adjust your treatment and help you:

- Feel better
- Do more
- Prevent flare-ups and ER visits
- Stay out of the hospital

Childhood Asthma Control Test for children 4 to 11 years old. Know the score.

This test will provide a score that may help your doctor determine if your child's asthma treatment plan is working or if it might be time for a change.

How to take the Childhood Asthma Control Test

Step 1 Let your child respond to the first four questions (1 to 4). If your child needs help reading or understanding the question, you may help, but let your child select the response. Complete the remaining three questions (5 to 7) on your own and without letting your child's response influence your answers. There are no right or wrong answers.

Step 2 Write the number of each answer in the score box provided.

Step 3 Add up each score box for the total.





Step 4 Take the test to the doctor to talk about your child's total score.

19
or less

If your child's score is 19 or less, it may be a sign that your child's asthma is not controlled as well as it could be. Bring this test to the doctor to talk about the results.

Have your child complete these questions.

1. How is your asthma today?





 0 Very bad	 1 Bad	 2 Good	 3 Very good
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SCORE





2. How much of a problem is your asthma when you run, exercise or play sports?

 0 It's a big problem, I can't do what I want to do.	 1 It's a problem and I don't like it.	 2 It's a little problem but it's okay.	 3 It's not a problem.
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3. Do you cough because of your asthma?

 0 Yes, all the time.	 1 Yes, most of the time.	 2 Yes, some of the time.	 3 No, none of the time.
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4. Do you wake up during the night because of your asthma?

 0 Yes, all the time.	 1 Yes, most of the time.	 2 Yes, some of the time.	 3 No, none of the time.
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Please complete the following questions on your own.

5. During the last 4 weeks, how many days did your child have any daytime asthma symptoms?

5 Not at all	4 1-3 days	3 4-10 days	2 11-18 days	1 19-24 days	0 Everyday
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6. During the last 4 weeks, how many days did your child wheeze during the day because of asthma?

5 Not at all	4 1-3 days	3 4-10 days	2 11-18 days	1 19-24 days	0 Everyday
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7. During the last 4 weeks, how many days did your child wake up during the night because of asthma?

5 Not at all	4 1-3 days	3 4-10 days	2 11-18 days	1 19-24 days	0 Everyday
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TOTAL



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Take the Asthma Control Test™ (ACT) for people 12 years and older. Know your score. Share your results with your doctor.

Step 1 Write the number of each answer in the score box provided.

Step 2 Add up each score box for your total.

Step 3 Take the test to the doctor to talk about your score.

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

More than once a day	①	Once a day	②	3-6 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 a 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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SCORE

TOTAL



The American Lung Association supports the Asthma Control Test™ and does not endorse products.

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19
or less

If your score is 19 or less, your asthma may not be controlled as well as it could be. Talk to your doctor.



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Resources for Asthma

Learn more about asthma!

Intermountain Healthcare Asthma Online Center
intermountainhealthcare.org/asthma

Allergy and Asthma Network — Mothers of Asthmatics
aanma.org

Asthma and Allergy Foundation of America
1-800-7-ASTHMA
aafa.org

American Academy of Allergy, Asthma, and Immunology
aaaai.org

American Lung Association
1-800-586-4872
lungusa.org

- Visit the **Utah chapter of the ALA** for information on *Camp Wyatt*, asthma camp for kids age 7 to 14.
- Play the interactive game at **lungtropolis.com** to learn about asthma and what you can do to control it.

National Jewish Health
Lung Line: ask an expert
1-800-222-5864
nationaljewish.org

Starlight Children’s Foundation
Play the online asthma game
(English and Spanish) available at:
asthma.starlight.org

Utah Department of Health Asthma Program
health.utah.gov/asthma



To find these and other resources, go to:
intermountainhealthcare.org/asthma



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