Living Well with Asthma

A Self-Care Guide
**Table of Contents**

**Chapter 1: Your Role in Controlling Your Asthma**
- What Is Asthma? ........................................... 3
- Your Diagnosis and Evaluation
  - Lung Function Tests .................................. 4
  - Words You May Hear ................................ 4
  - Working with Your Healthcare Team .......... 5
  - Contact Information ................................ 5

**Chapter 2: Learning About Your Lungs**
- Healthy Lungs ............................................ 6
- When You Have Asthma:
  - Chronic Inflammation ............................... 7
- When You Have Asthma:
  - Moderate Flare-Ups ................................ 8
- When You Have Asthma:
  - Severe Flare-Ups .................................. 9

**Chapter 3: Controlling Your Triggers**
- What Are Triggers? .................................... 10
- What Are Your Asthma Triggers? ................ 10
- If You Have Allergies
  - Allergy Testing ..................................... 11
  - Allergy Shots ........................................ 11
- Controlling Your Triggers: Irritants
  - Smoke .................................................. 12
  - Smog ................................................... 12
  - Strong Odors ........................................ 13
  - Other Irritants ..................................... 13
- Controlling Your Triggers: Allergens
  - Dust Mites ........................................... 14
  - Animals .............................................. 14
  - Mold .................................................. 15
  - Pollen ............................................... 15
  - Cockroaches ....................................... 15
- Controlling Your Other Triggers
  - Weather .............................................. 16
  - Food Additives ..................................... 16
  - Colds, Flu, and Sinus Infections .............. 16
  - Medications ......................................... 17
  - Emotions ........................................... 17
  - Exercise ............................................ 17

**Chapter 4: Asthma Medications**
- Taking Medications
  - Long-Term Control Medications ............. 18
  - Quick-Relief Medications ...................... 18
  - Using Inhaled Corticosteroids ............... 18
- Tips for Taking Medications ..................... 19
- Working with Your Healthcare Provider .... 19
- Asthma Medications: Types,
  Examples, Possible Side Effects .......... 20
- Using Inhalers
  - Using Metered-Dose Inhalers (MDIs) with Spacers 22
  - Using MDIs Without Spacers .................. 22
  - When to Replace Your MDI ..................... 23
  - Using Dry-Powder Inhalers (DPIs) .......... 23
  - Using Nebulizers ................................ 23

**Chapter 5: Self Monitoring**
- Using a Peak Flow Meter ......................... 24
- Determining Your Personal Best .............. 24
- My Asthma Symptom Diary ...................... 25

**Chapter 6: Making Treatment Work**
- Why You Need to Take Control .............. 26
- What Is an Asthma Action Plan? .............. 26
- Two Questions to Ask Yourself .............. 26
- Your Asthma Action Plan ....................... 27

**Chapter 7: Asthma and Exercise**
- Choosing Activities ................................. 28
- Asthma and Athletes ............................... 28
- Exercise Tips ......................................... 29
- My Exercise Plan .................................... 29

**Chapter 8: Living with Asthma**
- Lifestyle Factors ................................. 30
- Chronic Health Conditions .................... 30
- Asthma and Pregnancy ......................... 30
- What Lies in the Future? ....................... 31
- The Changing Nature of Asthma ............ 31
- Your Family and Friends ....................... 31
- Staying In Control ................................. 31
- Resources for Asthma ......................... 32

This workbook is not intended as a substitute for professional medical care. Only your doctor can diagnose and treat a medical problem.
Using This Workbook
As you take steps to control asthma, use this workbook as a guide. You may need to focus on some topics and tools more than others. Go at your own pace, and refer to the workbook as needed. Topics covered include:

- Avoiding or controlling asthma triggers
- Understanding your medications, when to take them, and why
- Monitoring your asthma control
- Developing an action plan so you know what to do when you have symptoms
- Exercising and improving your overall health

My Goals
Having goals gives you something to shoot for. It also helps you know whether treatment is solving problems in your life caused by asthma. Check off the goals that apply to you. Write others below. Keep your goals in mind as you use this book.

I want to:

- [ ] Miss fewer school or work days.
- [ ] Take part in sports and other activities without having asthma symptoms.
- [ ] Sleep well.
- [ ] Not have flare-ups that send me to the emergency room.
- [ ] Not have my parents, spouse, or friends worry about me.
- [ ] Feel better all or most days.
- [ ] Prevent flare-ups.
- [ ] Understand what to do when I have a flare-up.
- [ ] Not feel that asthma controls my life.
- [ ] Be able to travel or go on vacation without asthma getting in the way.
- [ ] Not feel that asthma makes me different.

When my asthma is in control I will be able to:

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________
Chapter 1: Your Role in Controlling Your Asthma

This workbook is designed to help you control asthma. You can use it to learn more about this condition and how it affects you. It can help you work with your healthcare providers to find a treatment plan that meets your needs. And it can help you keep a positive outlook: You can control asthma! This will take effort on your part. But the results are worth it.

What Is Asthma?

Asthma is a condition that inflames the airways in the lungs, causing them to swell. This narrows the tubes that air passes through. You may have symptoms such as shortness of breath, chest tightness, and wheezing. With asthma, airways can be inflamed even when you feel fine. If the airways become so narrowed that you have trouble breathing, it’s called an asthma flare-up (or “asthma attack”). Flare-ups can occur at any time—even when you’re asleep.
Your Diagnosis and Evaluation

You’ve probably already had an evaluation. Most likely this included questions about your symptoms, triggers, and any family history of asthma or allergies. You may also have had a physical exam and lung function tests. This information helps your healthcare provider learn more about your health and design a treatment plan.

Lung Function Tests

Lung function tests help measure how well your lungs are working. One common test involves blowing into a spirometer. This device measures the amount of air you breathe out (exhale). It also measures how long it takes for you to exhale completely. To diagnose asthma, spirometry and other tests are done before and after you take certain medications. If your lung function improves with medication, this indicates asthma. These tests are also used to find out whether your asthma gets worse with exercise. Over time, lung function tests can help you and your healthcare providers see how well your treatment is working.

Words You May Hear

Lung function tests measure how much air you can exhale, and how quickly. There are several types of lung function graphs that show data from the tests. Some of the things that tests measure include:

- **FVC** (forced vital capacity). This is the total amount of air you can exhale in a single, prolonged breath.
- **FEV₁** (forced expiratory volume in one second). This is the amount of air you exhale in the first second. FEV₁ is often expressed as a percentage of FVC.
- **FEV₁/FVC**. This is the amount of air exhaled in the first second compared to the total amount of air exhaled. It’s given as a ratio (fraction) or a percentage. In general, the higher the FEV₁/FVC, the better.
- **PEF** (peak expiratory flow). This is a measure of how fast you can exhale. It can be tested with spirometry or a peak flow meter.
Working with Your Healthcare Team

The job of controlling asthma is mostly up to you. Your healthcare team can provide you with the tools you need. You may work with some or all of the professionals below.

- Your **primary care provider** guides your overall care and treatment. If needed, he or she can also refer you to asthma specialists.
- **Respiratory therapists** administer lung function tests and breathing treatments. They often teach patients about lung function and asthma.
- **Nurses** and **health educators** teach about tools and methods for controlling asthma.
- Specialists, such as an **allergist** or a **pulmonologist**, help evaluate your asthma and adjust treatment to get better control.
- An **asthma care manager** coordinates your care to help the members of your team work together.

Contact Information

You can keep track of contact names and phone numbers here. Make copies to keep by your phone and other handy places.

<table>
<thead>
<tr>
<th>Primary care provider’s name</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asthma care manager’s name</td>
<td>Phone</td>
</tr>
<tr>
<td>Asthma specialist’s name</td>
<td>Phone</td>
</tr>
<tr>
<td>Pharmacy</td>
<td>Phone/website</td>
</tr>
</tbody>
</table>

Who to call in an emergency:
Chapter 2: Learning About Your Lungs

When your lungs are healthy, you breathe without effort. Fresh (oxygen-rich) air flows into your lungs. Waste (oxygen-poor) air flows out steadily—without your having to think about it. Asthma narrows the airways within the lungs. During an asthma flare-up, getting waste air out and fresh air in becomes a problem.

Healthy Lungs
Inside the lungs there are branching airways made of stretchy tissue. Each airway is wrapped with bands of muscle. The airways get smaller as they go deeper into the lungs. The smallest airways end in clusters of tiny balloonlike air sacs (alveoli). These clusters are surrounded by blood vessels.

When You Breathe
When you breathe in (inhale), air enters the lungs. It travels down through the airways until it reaches the air sacs. When you breathe out (exhale), air travels up through the airways and out of the lungs. The airways produce mucus that traps particles you breathe in. Normally, the mucus is then swept out of the lungs to be swallowed or coughed up.

What the Lungs Do
The air you breathe in contains oxygen, a gas your body needs. When this air reaches the air sacs, oxygen passes into the blood vessels surrounding the sacs. Oxygen-rich blood then leaves the lungs and travels to all parts of the body. As the body uses oxygen, carbon dioxide (a waste gas) is produced. The blood carries this gas back to the lungs through the blood vessels. Carbon dioxide then leaves the body with the air you breathe out. The process of getting oxygen into the body and carbon dioxide out is called gas exchange.
When You Have Asthma: Chronic Inflammation

When you have asthma, your airways are always slightly inflamed. The airways may not always be narrowed enough for you to notice breathing problems. But this **chronic** (long-lasting or recurring) inflammation makes your airways more sensitive than those of other people. As a result, certain things can trigger your airways to inflate even more, causing an asthma flare-up.

**Symptoms**
You may not notice any symptoms. Or, you may have mild symptoms such as:

- A cough
- Chest tightness
- Shortness of breath
- Wheezing
- Low energy

**Effects of Chronic Inflammation**
Over time, chronic mild inflammation can lead to permanent scarring of airways and loss of lung function. Permanent breathing problems can result. This is one reason asthma needs to be treated even if there are no symptoms.

Chronic inflammation makes airways more sensitive to triggers.
Chapter 2: Learning About Your Lungs

Asthma Flare-Ups

You know how an asthma flare-up feels. But what causes it? A flare-up occurs when sensitive airways react to a trigger. This leads to swelling and tightening of airways. Lung function decreases. It becomes difficult to empty waste gas from the lungs, and it is harder to pull in fresh air. The vital process of getting oxygen into the bloodstream is impaired.

When You Have Asthma: Moderate Flare-Ups

When sensitive airways are irritated by a trigger, the muscles around the airways tighten (bronchospasm). This squeezes the airways so that they become even more narrow. The lining of the airways swells. Thick, sticky mucus increases and begins to clog the airways. All of this makes it more difficult to exhale—breathe out. You have to work hard to keep breathing and getting needed oxygen into the lungs.

Symptoms

- Coughing, especially at night
- Getting tired or out of breath easily
- Wheezing (a whistling noise, especially when breathing out)
- Chest tightness
- Fast breathing when at rest

During a moderate flare-up, the muscles tighten and squeeze the airway. Along with swelling and mucus, this narrows the airway.
When You Have Asthma: Severe Flare-Ups

A life-threatening flare-up is due to severe muscle spasm, severe swelling, and large amounts of thick, sticky mucus. Together, these block the airway. Lung function is severely decreased. Waste gas is trapped in the alveoli, and gas exchange can’t occur. As a result, the body does not get enough oxygen. Without oxygen, body tissues, especially brain tissue, begin to die. If this goes on for long, it can lead to brain damage or death.

Symptoms

Call 911, or have someone call for you, if you have any of these symptoms:

- Severe difficulty breathing
- Being too short of breath to speak a full sentence or walk across a room
- Lips or fingers turning blue
- Feeling as though you are about to pass out

The airway is blocked due to mucus, swelling, and muscle spasm.
Chapter 3: 
Controlling Your Triggers

Triggers are substances or conditions that trigger your asthma. Some triggers you can avoid completely. Others you can anticipate and adjust to. Use this section of the workbook to help you identify and control your triggers.

What Are Triggers?
Triggers irritate your lungs and lead to flare-ups. They include:

- **Irritants**, such as tobacco smoke or air pollutants. These are a concern for all people with asthma.
- **Allergens** (substances that cause allergies). If you have allergies, being exposed to your allergens can trigger a flare-up.
- **Special conditions**, such as being ill with a cold or the flu, or certain kinds of weather. These differ from person to person.
- **Exercise**. This can trigger asthma in some people. But it’s the one trigger you don’t want to avoid! If you have exercise-induced asthma, you can learn ways to exercise safely.

### What Are Your Asthma Triggers?

Some triggers are common to most people with asthma. Others affect only some people. Which of these common triggers cause you problems? Check all that apply. The page number points you to tips for controlling each trigger.

<table>
<thead>
<tr>
<th>Irritants</th>
<th>Allergens</th>
<th>Other Triggers</th>
</tr>
</thead>
<tbody>
<tr>
<td>These are problems for almost everyone:</td>
<td>These are triggers only if you are allergic to them:</td>
<td></td>
</tr>
<tr>
<td><strong>Smoke</strong> ............ page 12</td>
<td>□ Dust Mites. ..... page 14</td>
<td>These vary from person to person:</td>
</tr>
<tr>
<td>□ Tobacco smoke</td>
<td>Animals ............page 14</td>
<td>□ Weather .................... page 16</td>
</tr>
<tr>
<td>□ Smoke from fireplaces</td>
<td>□ Cats</td>
<td>□ Cold air</td>
</tr>
<tr>
<td><strong>Smog</strong> ............. page 12</td>
<td>□ Dogs</td>
<td>□ Hot air</td>
</tr>
<tr>
<td>□ Vehicle exhaust</td>
<td>□ Other furry animals</td>
<td>□ Weather changes</td>
</tr>
<tr>
<td>□ Smog</td>
<td>□ Birds</td>
<td>□ Food Additives ........... page 16</td>
</tr>
<tr>
<td><strong>Strong Odors and Other Irritants</strong> . page 13</td>
<td>□ Mold ............page 15</td>
<td>Certain food additives, such as sulfites used in wines, beer, and dried fruit</td>
</tr>
<tr>
<td>□ Aerosol sprays</td>
<td>□ Pollen ............page 15</td>
<td>□ Illness: Colds, Flu, and Sinus Infections ... page 16</td>
</tr>
<tr>
<td>□ Other air pollutants</td>
<td>□ Cockroaches ...page 15</td>
<td>□ Medications ............ page 17</td>
</tr>
<tr>
<td>□ Strong odors, such as perfume, incense, or cooking odors</td>
<td></td>
<td>Certain over-the-counter and prescription medications</td>
</tr>
<tr>
<td>□ Household cleaners, such as ammonia or bleach</td>
<td></td>
<td>□ Emotions ............ page 17</td>
</tr>
</tbody>
</table>

Emotions, such as laughing, crying, or feeling stressed

□ Exercise ............ page 17
If You Have Allergies

People with asthma often have allergies. An allergic reaction can trigger a flare-up. If you have allergies, or suspect you have them, talk with your healthcare provider about testing and treatment options. Testing can often show what you need to avoid, and can open the door to possible treatments.

Allergy Testing

Allergy testing can determine exactly which allergens affect you. Types of tests include:

- **Skin tests.** A small amount of each allergen is applied to the skin. Sites are then examined for an allergic reaction (redness, swelling, or itching). In general, the greater the reaction, the stronger the allergy.

- **Blood tests.** An allergen is added to a blood sample. If allergy antibodies develop to attack the allergen, it shows sensitivity to the allergen.

Allergy Shots (Immunotherapy)

Exposing a person to gradually increasing amounts of an allergen can help the body build up a tolerance. This is the purpose of immunotherapy. For this therapy, injections are given over a period of 3 to 5 years. At first, injections containing a very small amount of allergen are given about once a week. As treatment continues, the amount of allergen is gradually increased to a maintenance level. Eventually, injections are given less often. This therapy can take up to a year to start working, but can be very effective for long-term management of certain allergies.
Controlling Your Triggers: Irritants

Irritants (air pollutants) are common asthma triggers. Anybody who has asthma needs to watch for these. But there’s more to air pollution than smoke and car exhaust. These two pages can help you identify which irritants are likely to affect you. The tips can help you avoid them. Check off the tips that are most useful for you.

Smoke

Smoke from cigarettes, cigars, pipes, barbecues, and fireplaces irritates your lungs.

☐ Don’t smoke. And don’t let people smoke in your home or car.

☐ When you travel, ask for nonsmoking rental cars and hotel rooms.

☐ Sit in the nonsmoking section when eating out.

☐ Avoid fireplaces and wood stoves. If you can’t, sit away from them. Make sure the smoke is directed outside.

☐ Don’t burn incense indoors.

☐ Move away from smoky outdoor cooking grills.

Smog

Vehicle exhaust and other air pollutants combine to create smog. This can be a trigger for flare-ups.

☐ Read or listen to local air quality reports. These let you know when air quality is poor.

☐ Stay indoors as much as you can on smoggy days. If possible, use air conditioning instead of opening the windows.

☐ In your car, set air conditioning to recirculate air, so less pollution gets in.
Strong Odors

Strong odors from items such as room fresheners, perfume, mothballs, incense, deodorizers, and insect sprays can trigger asthma symptoms.

☐ Use scent-free products, such as scent-free deodorant and lotion.

☐ Avoid using bleach and ammonia for cleaning. Instead, make a cleaning solution by mixing water with white vinegar or baking soda.

☐ Use exhaust fans while cooking. This helps reduce odors.

☐ Store clothes in boxes with lids. Don’t use mothballs or cedar chips.

☐ Avoid perfumes, air fresheners, potpourri, and other scented products.

Other Irritants

Dust, aerosol sprays, and fine powders can irritate your lungs.

☐ Wear a mask while doing tasks like sanding, dusting, sweeping, and yardwork.

☐ Use pump spray bottles instead of aerosol cans when possible. Make sure your work areas are well ventilated.

☐ Pour liquid cleaners instead of spraying them.

Write in other ideas or special instructions here:

Note: Carry your quick-relief medication with you at all times. If you can’t avoid an area with irritants, watch for symptoms. If you have symptoms, leave the area and use your quick relief inhaler as directed.
Controlling Your Triggers: Allergens

For many people with asthma, inhaling allergens leads to inflamed airways. To help stop problems before they start, do your best to avoid allergens that trigger your asthma. The tips below reduce your exposure to allergens. Don’t try all the tips at once. Check off a few from the lists below, and start with those.

Dust Mites

Dust mites are tiny bugs too small to see or feel. But they can be a major trigger for asthma symptoms. Dust mites live in mattresses, bedding, carpets, curtains, and indoor dust. They thrive in warm, moist environments.

- Wash bedding in hot water (130°F) each week. This kills the dust mites.
- Cover mattress and pillows with special dust-mite-proof cases called hypoallergenic casings.
- Don’t use upholstered furniture in the bedroom.
- Use allergy-proof filters for air conditioners and furnaces. Follow manufacturer instructions for maintaining and replacing filters.
- If you can, replace wall-to-wall carpets with wood, tile, or linoleum floors—especially in the bedroom.

Animals

Animals with fur or feathers often produce allergens. These are shed as tiny particles called dander. Dander can float through the air or stick to carpet, clothing, and household furniture.

- It’s best to choose a pet that doesn’t have fur or feathers, such as a fish or a reptile.
- Keep pets with fur or feathers out of your home. If you can’t do this, be sure to keep them out of your bedroom.
- Wash your hands and clothes after handling pets.
Mold

Mold grows in damp places, such as bathrooms, basements, and closets.

☐ Clean damp areas weekly to prevent mold growth. This includes shower stalls and sinks.
☐ Run an exhaust fan while bathing. Or, leave a window open in the bathroom.
☐ Repair water leaks in or around your home.
☐ Have someone else cut grass or rake leaves, if possible.
☐ Don’t use vaporizers, humidifiers, or evaporative (swamp) coolers. These put water into the air and encourage mold growth.

Pollen

Pollen from trees, grasses, and weeds is a common allergen. (Flower pollens are generally not a problem.)

☐ Try to learn what types of pollen affect you most. Pollen levels vary depending on the plant, the season, and the time of day.
☐ Use air conditioning instead of opening the windows in your home or car. Set the dial to recirculate the air, so less pollen gets in.
☐ Have someone else do yardwork, if possible.

Cockroaches

Cockroaches are a common household pest. They also produce allergens.

☐ Keep your kitchen clean and dry. A leaky faucet or drain can attract roaches.
☐ Remove garbage from your home daily.
☐ Store food in tightly sealed containers. Wash dishes promptly.
☐ Use bait stations or traps to control roaches. Avoid using chemical sprays.
Controlling Your Other Triggers

You may find there are other things that trigger your asthma. These include weather changes, illness, exercise, and other conditions or situations. If any of these trigger asthma symptoms, check off the tips below that can help. Then, give the tips a try.

Weather

Certain types of weather can trigger asthma or contribute to other triggers such as allergies. Of course, you can’t control the weather! But you can take more care at times when weather may be an issue.

☐ Keep track of which types of weather affect you most: cold, hot, humid, or windy. This varies from person to person.

☐ Limit outdoor activity during the type of weather that affects you.

☐ Protect your lungs by wearing a scarf over your mouth and nose in cold weather.

Food Additives

Food additives can trigger asthma flare-ups in some people. Check food labels for “sulfites,” “metabisulfites,” and “sulfur dioxide.” These are often found in foods such as wine, beer, and dried fruit. Avoid foods that contain these additives.

Colds, Flu, and Sinus Infections

Illnesses that affect the nose and throat (upper respiratory infections) can irritate your lungs. You can’t prevent all illness, but you may be able to prevent some:

☐ Wash your hands often with soap and warm water or use a hand sanitizer.

☐ Get a yearly flu shot.

☐ Take care of your general health. Get plenty of sleep—and eat your vegetables.
Medications

Certain medications cause symptoms in some people with asthma. These include aspirin and aspirinlike products such as ibuprofen and naproxen. They also include certain prescribed medicines such as some beta-blockers.

- Tell your healthcare provider if you suspect that certain medications trigger symptoms. Ask for a list of products that contain those medications.
- Check the labels on over-the-counter medicines. Medicines for colds and sinus problems often contain aspirin or aspirinlike ingredients.

Emotions

Laughing, crying, or feeling excited are triggers for some people. You can’t avoid these normal emotions, but you can learn ways to slow your breathing and avert a flare-up.

- Try this breathing exercise: Start by breathing in slowly through your nose for a count of 2 seconds. Then pucker your lips and breathe out for a count of 4 seconds.
- Try to focus on a soothing image in your mind. This will help relax you and calm your breathing.
- Remember to take your daily controller medications. When you’re upset or under stress, it’s easy to forget.

Exercise

For some people, exercise can trigger asthma symptoms. This is called exercise-induced asthma. Don’t let exercise-induced asthma keep you from being active. If your asthma is in control, you should be able to exercise without triggering symptoms. These tips (and your doctor’s advice) can help:

- Take quick-relief medication a few minutes before exercise, as prescribed.
- Always carry your quick-relief inhaler with you when you exercise.
- Stop and follow your action plan if you notice asthma symptoms.

See pages 28 to 29 for more tips on exercise.
Chapter 4:
Asthma Medications

Medications play a key role in controlling asthma. Some medications help reduce chronic inflammation. Other medications are used to treat symptoms when they occur. This workbook section will help you learn to use your medications the right way so you get the right kind of help. You’ll also learn tips for using your inhaler correctly.

Taking Medications

Medications are one of your most important tools for controlling asthma. Always take your medications as prescribed. Know the names of your medications and how and when to use them.

Long-Term Control Medications
Long-term control (also called “maintenance” or controller) medications help reduce swelling and inflammation of the airways. This makes the airways less sensitive to triggers and less likely to flare up. These medications:

- Are taken on a schedule—for most people, every day. They are taken even when you feel fine.
- Help keep asthma under control so you’re less likely to have symptoms.
- Will NOT stop a flare-up once it has begun.

Quick-Relief Medications
Quick-relief (also called “rescue”) medications work by relaxing the muscles that tighten around the airways. This helps ease symptoms such as coughing, wheezing, and shortness of breath. Keep your quick-relief inhaler with you at all times—even if you feel okay. Quick-relief medications:

- Are inhaled when needed.
- Start to open the airways within a few minutes after you use them.
- Can help stop a flare-up once it has begun.
- Can help prevent flare-ups triggered by exercise.

Using Inhaled Corticosteroids
Inhaled corticosteroids are safe for long-term use. They are not the “steroids” that you hear about athletes abusing. The usual prescribed doses of corticosteroids most often cause no side effects. That’s because they’re inhaled directly into the lungs, where they’re needed. So, they have little effect on the rest of the body. The chance of side effects can be lowered even more if you:

- Make sure you always use a spacer if using a metered dose inhaler.
- Rinse your mouth, gargle, and spit out the water after using the inhaler.
- Work with your healthcare provider to find the lowest dose that controls your asthma.
Tips for Taking Medications

Remembering to take medication each day can be hard for anyone. It can be even harder to remember when you don’t have symptoms. Try these tips for keeping on track:

• Develop a routine. For example, take long-term controllers as part of getting ready for bed.

• Make sure you understand what long-term controllers do and don’t do.

• Make sure to refill your prescriptions on time, or even ahead of time, so you don’t run out.

• Use your inhaler before brushing your teeth. This helps make rinsing your mouth afterward become automatic.

• When you travel, make sure you have enough medication to last for your entire trip.

• When traveling by air, keep your medications with you, not packed in your luggage.

Working with Your Healthcare Provider

By working with your healthcare provider, you can get the most benefit from your medications and reduce side effects. This helps ensure you’re getting the best treatment. Don’t make medication changes without talking to your healthcare provider. Issues to work on with your healthcare provider include:

• **Getting to the right dose.** Over time, your healthcare provider may raise or lower the dose of controllers. The goal is to find the amount of medication to keep asthma in control, without taking more than is needed.

• **Finding the right medications for you.** Each person is unique. It may take a few tries to find the right medication or combination of medications for you. If one medication doesn’t work well for you, another may work better.

• **Minimizing side effects.** If you have side effects, don’t just stop taking your medication. Instead, call your healthcare provider. A new medication or a dosage change may solve the problem—but you won’t know unless you ask!
Asthma Medications*

These pages will help you learn more about the specific medications used to control asthma. Learn the names of your medications and how they work. Use them according to your action plan. And be sure to take only the medications that are prescribed for you. Keep in mind that medications are used to control asthma. They can’t cure it.

## Types of Medications

<table>
<thead>
<tr>
<th>Long-Term Controllers (Maintenance) For daily use</th>
<th>Steroidal anti-inflammatories</th>
<th>Long-acting bronchodilators</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Prevent or reduce airway inflammation.</td>
<td>• Relax muscles that tighten around the airways.</td>
</tr>
<tr>
<td></td>
<td>• Protect the airways from irritants and allergens.</td>
<td>• Cannot stop a flare-up in progress (not to be used for quick relief).</td>
</tr>
<tr>
<td></td>
<td>(These medications use corticosteroids. They are not the same as anabolic steroids that bodybuilders may use. They also do not have the same side effects.)</td>
<td>• Work longer, but more slowly, than short-acting bronchodilators.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Help prevent nighttime flare-ups or flare-ups caused by exercise.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Should be used along with a corticosteroid inhaler.</td>
</tr>
<tr>
<td>Other long-term controllers</td>
<td>• Help prevent asthma symptoms caused by exercise.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Block the asthma response to some triggers (leukotriene modifiers; IgE blocker).</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Are often used with a corticosteroid inhaler.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Quick-Relief (Rescue) For use as needed</th>
<th>Short-acting bronchodilators</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Relax muscles that tighten around the airways.</td>
</tr>
<tr>
<td></td>
<td>• Help stop flare-ups once they’ve started.</td>
</tr>
<tr>
<td></td>
<td>• Help prevent asthma symptoms caused by exercise.</td>
</tr>
</tbody>
</table>

| Anticholinergics | Are a type of bronchodilator that may be added to a short-acting bronchodilator to stop a severe flare-up. |
|                 | Relax muscles that tighten around the airways. |
|                 | Take longer to work than other short-acting bronchodilators. |

<table>
<thead>
<tr>
<th>Steroid Burst For severe asthma episodes</th>
<th>Swallowed corticosteroids</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Are used for flare-ups or severe asthma episodes.</td>
</tr>
<tr>
<td></td>
<td>• Are taken in addition to controller and quick-relief medications.</td>
</tr>
<tr>
<td></td>
<td>• Help reduce swelling and mucus production in airways.</td>
</tr>
<tr>
<td></td>
<td>• Are usually prescribed for short courses of 3 to 10 days.</td>
</tr>
<tr>
<td></td>
<td>• Are used in rare cases as long-term therapy to control severe asthma.</td>
</tr>
</tbody>
</table>
This table is not a complete list of asthma medications and does not imply endorsement of any type or brand. It also does not include all actions, adverse reactions, precautions, side effects, or interactions for these medications. Only your healthcare provider can prescribe these medications. Talk to your healthcare provider or pharmacist about the possible side effects and drug or food interactions of any medication you use.

<table>
<thead>
<tr>
<th>Examples of Medications</th>
<th>Possible Side Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>INHALED:</strong> beclomethasone dipropionate (QVAR); budesonide (Pulmicort); flunisolide (Aerospan HFA); fluticasone propionate (Flovent HFA); fluticasone propionate plus salmeterol xinafoate (Advair)</td>
<td>Hoarseness, dry mouth, thrush (yeast infection in the mouth), and headache. After inhaling, rinse your mouth with water, gargle, and spit.</td>
</tr>
<tr>
<td><strong>INHALED:</strong> formoterol fumarate (Foradil); salmeterol xinafoate (Serevent); budesonide plus formoterol fumarate (Symbicort) <strong>SWALLOWED:</strong> theophylline (Elixophyllin, Theo-24, Theochron, Theolair)</td>
<td><strong>INHALED OR SWALLOWED:</strong> Headache, dizziness, insomnia, nervousness, nausea, muscle twitches, muscle cramps and spasms, and fast or irregular heartbeat. For swallowed medications, your blood may be monitored. This can help prevent serious side effects. Be sure your healthcare provider knows all other medications you are taking.</td>
</tr>
<tr>
<td><strong>INHALED:</strong> cromolyn sodium <strong>SWALLOWED:</strong> montelukast sodium (Singulair); zafirlukast (Accolate); zileuton (Zyflo) <strong>INJECTED:</strong> omalizumab (Xolair)</td>
<td><strong>INHALED:</strong> Side effects are rare, but may include dry throat, nausea, and unpleasant taste. <strong>SWALLOWED:</strong> Headache, dizziness, and nausea. <strong>INJECTED:</strong> Anaphylaxis (severe allergic reaction).</td>
</tr>
<tr>
<td><strong>INHALED:</strong> albuterol sulfate (ProAir HFA, Proventil HFA, Ventolin HFA); levalbuterol HCl (Xopenex HFA); metaproterenol sulfate; terbutaline sulfate</td>
<td>Shakiness, nervousness, dizziness, fast or irregular heartbeat. If you need to use these medications more often than prescribed, talk with your healthcare team.</td>
</tr>
<tr>
<td><strong>INHALED:</strong> ipratropium bromide (Atrovent HFA)</td>
<td>Dry mouth, headache, and blurred vision. Avoid getting it in your eyes. Can worsen glaucoma, and may cause urinary retention in some persons.</td>
</tr>
<tr>
<td><strong>SWALLOWED:</strong> methylprednisolone (Medrol); prednisolone (Prelone); prednisolone sodium phosphate (Pediapred, Orapred); prednisone (many brand names)</td>
<td>Short courses generally have few side effects. If these medications are used for a long time, more serious side effects may occur. These include acne, increased appetite, weight gain, mood changes, high blood pressure, fluid retention, bruising, sleep problems, and stomach, eye, or bone problems.</td>
</tr>
</tbody>
</table>
Using Inhalers

To control asthma, you need to use your medications the right way. Some medications are inhaled using a device called an inhaler. The inhaler helps you take a measured dose of medication into your lungs. These pages discuss common types of inhalers. But not all types work the same way. So talk with your healthcare team. Have them show you how to use and care for the type you’re given.

Using Metered-Dose Inhalers (MDIs) with Spacers

Metered-dose inhalers use a fine spray to dispense medication. You may be asked to use a spacer (holding tube) with your inhaler. The spacer helps make sure all the medication you need goes into your lungs.

1. Remove the caps from the inhaler and spacer. Shake the inhaler well and attach the spacer. If the inhaler is being used for the first time or has not been used for a while, prime it as directed by its maker.
2. Breathe out normally. Put the spacer between your teeth and close your lips tightly around it. Keep your chin up.
3. Spray 1 puff into the spacer by pressing down on the inhaler. Then slowly breathe in as deeply as you can. This should take 3 to 5 seconds. (If you breathe too quickly, you may hear a whistling sound in the spacer.)
4. Take the spacer out of your mouth. Hold your breath for a count of 10. Then slowly breathe out. If a second dose is prescribed, wait at least 30 seconds before taking the next puff.

Using MDIs Without Spacers

Inhalers work best with spacers. But if you don’t have your spacer with you, these tips will help:

1. Shake the inhaler and remove the cap. Breathe out through your mouth.
2. Put the inhaler mouthpiece in your mouth and close your lips tightly around it. (Or, hold the inhaler 1 to 2 inches from your open mouth if told to do so by your healthcare provider.) Keep your chin up.
3. Spray 1 puff by pressing down on the inhaler while breathing in deeply through your mouth for about 5 seconds. Hold your breath for a count of 10. Then breathe out slowly.
When to Replace Your MDI

Each inhaler contains only a certain amount of medication. But some MDIs appear to work even after all the medication is used up. So be sure to replace your MDI regularly. Check your inhaler to see how many puffs it contains when it’s full. Then keep track of how many puffs you use. Refill your prescription on time, so you’ll have a new inhaler ready when the old one is used up.

- If you use your MDI only once in a while, use the card at right to keep track of puffs. Be sure to check your MDI’s expiration date.
- If you take a certain number of puffs each day, divide that number into the total number of puffs in the inhaler. This tells you how many days the inhaler will last. Then mark on a calendar the date the inhaler will run out.

Using Dry-Powder Inhalers (DPIs)

Some inhalers use tiny grains of powder to dispense medication. Sometimes, these inhalers don’t require spacers. And they often have counters that track how many doses you use. Keep in mind that dry-powder inhalers don’t all work the same way. So be sure you know how to use yours properly.

1. Load the prescribed dose of medication by following the instructions that come with the inhaler.
2. Breathe out normally, holding the inhaler away from your mouth. Hold your chin up.
3. Put the mouthpiece between your lips. Breathe in quickly and deeply through the inhaler—not through your nose. You may not feel or taste the medication as you breathe in. This is normal.
4. Take the mouthpiece out of your mouth. Hold your breath for a count of 10.
5. Breathe out slowly—but do not breathe out through the inhaler. Moisture from your breath can make the powder stick inside the inhaler. Also, be sure to close the inhaler and store it in a dry place.

Using Nebulizers

A nebulizer is another device used to inhale medication. It works by turning medication into a fine mist. Using a mouthpiece or mask, you breathe in this mist over a period of several minutes. This helps make sure enough medication reaches your lungs. If you need a nebulizer, your healthcare provider can show you how to use one.
Chapter 5: 
Self-Monitoring

Self-monitoring helps you determine how well your treatment plan is working. This section includes tools for monitoring your asthma. Checking your peak flow is one way to monitor your asthma. Another way is to keep track of how often you have symptoms, when or why, and what works to control them.

Using a Peak Flow Meter

The meter measures how fast you can push air out of your lungs. It can help warn you of a flare-up, even before you have symptoms. Your healthcare team will tell you how often to monitor your breathing.

1. Move the marker to 0, or to the lowest number on the scale. Stand up. If you can’t stand, sit up straight in a chair. Be sure you’re in the same position each time you do this test.

2. Take as deep a breath as you can. Put the mouthpiece of the meter between your teeth. Close your lips tightly around it. Be sure your tongue does not block the opening. Blow into the mouthpiece once, as hard and as fast as you can. Then take the meter out of your mouth.

3. Check where the marker has moved to on the numbered scale. Write this number down. Move the marker back to 0. Repeat the test 2 more times. Circle the highest of the 3 numbers. This is your peak flow number.

Determining Your Personal Best

Your personal best is your highest peak flow number during 2 weeks with no symptoms. Other peak flow results are compared to the personal best. This helps show how you’re doing over time. To find your personal best:

- Step 1: Keep track of peak flow numbers during a period of 2 to 3 weeks. Do this when you feel healthy and are not having any asthma symptoms.

- Step 2: Monitor at least twice a day—when you wake up and between 6 p.m. and 8 p.m., or as directed by your healthcare provider.
**My Asthma Symptom Diary**

Keep track of symptoms with the chart below. (Make some copies first.) Show your records to your healthcare provider at your visits. As your asthma control improves, you should have fewer episodes of symptoms to record.

<table>
<thead>
<tr>
<th>Date</th>
<th>Symptoms</th>
<th>Possible triggers</th>
<th>Action taken</th>
<th>Results</th>
</tr>
</thead>
</table>
| Example: 3/3 | **Wheezing**  
**Peak flow 75%** | **Cold air** | **2 puffs albuterol, went inside** | **Symptoms gone in 20 min.** |
Chapter 6: Making Treatment Work

By now, you understand the basic tools and methods for controlling asthma. The next step is to create an action plan. This is a set of clear guidelines for what to do when you have symptoms. The action plan is a key tool for controlling asthma. Once the plan is in place, you can begin to see whether it’s working to control your asthma.

Why You Need to Take Control

Problems caused by asthma won’t go away on their own. You need day-to-day control of the inflammation in your lungs. You also need to control symptoms when you have them. These are lifelong tasks. But the more you stay in control, the better you’ll feel. If you don’t stay in control:

- Asthma symptoms can affect your life. You may miss school, work, or activities that you enjoy.
- Asthma flare-ups can be dangerous, even deadly.
- Uncontrolled asthma may cause permanent damage to your lungs.

What Is an Asthma Action Plan?

Your healthcare team will help you design a personal action plan to control your asthma. It includes all the steps you need to care for yourself. This will help remind you how to manage your asthma so you can feel your best. The action plan tells you what to do when you are in each of the three asthma zones:

- **Green = good control.** You have no asthma symptoms. Peak flow is normal or near normal. With asthma in control, you are in the green zone all or most of the time.
- **Yellow = poor control.** Peak flow is lower or you have mild symptoms. A flare-up is beginning. Quick action may prevent or stop it. If you are often in the yellow zone, the treatment plan needs to be revised.
- **Red = out of control.** Symptoms are moderate to severe and your peak flow is very low. This is a serious flare-up. Get medical attention now!

Two Questions to Ask Yourself

The questions at right can help you assess your symptoms and medication usage. If you answer yes to either question, asthma is not well controlled. Talk to your healthcare team. If you’re already following your action plan closely, you may need to adjust your medications.

1. Do you use your quick-relief inhaler more than 2 times a week (other than before exercise)?

2. Do you wake up at night with symptoms more than 2 times a month?
Your Asthma Action Plan

Fill out this action plan form with your healthcare provider. Then make extra copies of the completed form to post where you need it.

<table>
<thead>
<tr>
<th>Name ____________________________</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal Best Peak Flow ____________</td>
</tr>
<tr>
<td>Date ____________________________</td>
</tr>
</tbody>
</table>

### Green Zone

Peak flow is greater than \( \underline{\text{____________}} \) \((80\%)\).

No asthma symptoms. Asthma doesn’t get in the way of work, school, activities, or sleep.

Asthma-control medication(s) to take daily:

- 
- 
- 
- 

Take medication(s) \underline{_________} minutes before exercise:

- 
- 
- 

Other medications:

- 
- 
- 

Medical appointments:
See \underline{________________} every \underline{________} months.

Telephone number:
(______)

### Yellow Zone

Peak flow is between \underline{____}(50\%) and \underline{____}(80\%).

Yellow Zone symptoms:
- Coughing
- Wheezing
- Shortness of breath
- Chest tightness
- 
- 

Quick-relief medication(s). Take:

- 
- 

Daily asthma-control medication(s). Increase for \underline{______} days.

Other medication(s):
Take for \underline{______} days

Call healthcare provider’s office if in yellow zone for \underline{______} hours.

Telephone numbers:

Office (______)
After hours (______)

### Red Zone

Peak flow is less than \underline{____}(50\%).

Red Zone symptoms:
- Constant coughing or wheezing
- Symptoms that start suddenly during the night
- Trouble breathing at rest
- More severe symptoms (listed below under Call 911)

Quick-relief medication(s). Take:

- 

Daily asthma-control medication(s). Increase for \underline{______} days.

Other medication(s):
Take for \underline{______} days

Call healthcare provider’s office if you have any red zone symptoms. Call 911 if you have any of the following:
- Severe difficulty breathing
- Shortness of breath so extreme you cannot walk across a room or finish a sentence
- Lips or fingers turning blue
Chapter 7: Asthma and Exercise

Controlling your asthma will give you the freedom to take part in any sport or activity. And whether or not you have exercise-induced asthma, regular exercise can help improve your health. So don’t stay on the sidelines. Some of the tips on these pages apply to everyone, with or without asthma. Other tips can help you prevent exercise from triggering symptoms.

Choosing Activities

There are many ways to be active:

- **Aerobic activity** is exercise that gets your heart and lungs working harder. Examples include jogging, swimming, bicycling, or walking. Your exercise plan should include at least one type of aerobic activity.

- **Strength training** uses weights or resistance to build muscles.

- **General activity** includes things like gardening, playing a game of catch, or using the stairs instead of the escalator. These activities may not make you sweat, but they can help you stay in shape. Get in the habit of being active each day.

If You Have Exercise-Induced Asthma

- Swimming can be a good choice because the air is usually warm and moist and may be less likely to trigger a flare-up. Be aware, though, that chlorine fumes are a trigger for some people.

- Indoor exercise is good for days when weather could trigger symptoms. Try exercising at a gym or at home.

- Yoga stretches and strengthens muscles. It can also relax your breathing and help you feel less stressed.

Asthma and Athletes

As long as your asthma is under control, there’s almost no limit to what you can do. So if you’re an athlete, talk with your healthcare team about a treatment plan that suits your needs. Then go for it! It may help to know that many pro athletes and Olympic gold medal winners have asthma. They can perform because their asthma is in control. The same is true for you. So work to stay in control, and keep reaching for your goals!
Exercise Tips

Start by choosing activities you enjoy. If you like company, exercise with a friend. If you like time alone, put on your earphones and have an hour to yourself. Either way, the tips below will help you get the most out of exercise.

• Warm up with light exercises, such as walking, for at least 5 to 10 minutes. This helps get your heart and muscles ready to go, and reduces your chances of having symptoms.

• Drink plenty of water when you exercise. This keeps your body from losing too much fluid.

• Take it easy when you have a cold.

• Cool down after your workout for at least 5 minutes. Move at a slower pace. Then finish by stretching.

• Be cautious in cold weather. You may need to increase the length of your warm-up. To play it really safe, exercise indoors when it’s cold out.

My Exercise Plan

Work with your healthcare team to create an exercise plan. A common goal is to exercise 30 or more minutes per day.

My regular exercise is: ___________________________________________________________

_________________________________________________________________________

How often I exercise: __________________________________________________________

☐ I have exercise-induced asthma.

My quick-relief medication is: __________________________________________________

I take my medication: _________________________________________________________
Chapter 8: Living with Asthma

Certain health problems or habits can affect your asthma control. Managing these conditions can help you control asthma. So if you’re overweight, smoke, or have chronic health problems, talk to your healthcare provider about what you can do to be healthier.

Lifestyle Factors
Your lifestyle can affect asthma control. Factors that can have an impact include:

• **Smoking.** Tobacco smoke is bad for everyone. It’s even worse for people with asthma. So if you smoke, make quitting your priority. Ask your healthcare provider to help you make a plan to quit. He or she may point you to a local stop-smoking class or support group. Aids such as medications or nicotine-replacement products may also be an option. See page 32 for more resources.

• **Being overweight.** Excess weight may put stress or pressure on airways, making breathing more difficult. It can also worsen some conditions that trigger asthma, such as GERD. To lose weight, you need to eat fewer calories and burn more calories with exercise. Ask your healthcare provider for advice on getting started.

Chronic Health Conditions
Certain health problems can worsen asthma control. They include:

• **Sinusitis.** Sinus infection (sinusitis) can be a chronic problem, especially if you have allergies. It can irritate airways and trigger asthma flare-ups. Medication is often used to control symptoms or fight infection. Irrigating (rinsing) nasal passages may help prevent infection. In some cases, surgery can drain sinuses or fix anatomical problems that lead to infection.

• **Gastroesophageal reflux disease (GERD).** This condition (also called “acid reflux”) occurs when stomach acid escapes through the valve at the top of the stomach. The acid can travel up as far as the throat. This can cause coughing, or it may cause no obvious symptoms. In some people, GERD worsens airway inflammation and triggers asthma flare-ups. Treatment options include medications, certain lifestyle changes, and losing excess weight. Surgery may be needed to fix the problem valve.

Asthma and Pregnancy
During pregnancy, asthma symptoms may get better, get worse, or stay the same. In any case, if you’re pregnant or planning a pregnancy, keep following your asthma treatment plan. Most asthma medications are safe to use during pregnancy. In fact, it’s more harmful to you and your baby if you skip medications and have a flare-up. If changes are needed, your healthcare provider can help you adjust your treatment plan.
What Lies in the Future?

Change is a fact of life. And many of life’s changes can have an impact on asthma control. Your healthcare providers can help you adapt. That way, whether a change is expected or unexpected, welcome or unwelcome, you’ll have the resources to stay in control.

The Changing Nature of Asthma

Over time, asthma symptoms and triggers may change. You may move, go to a new school, or start a new job. Your family or household may change. If you’re in your teens, your personal best peak flow will most likely increase as you grow and mature. These changes, and many others, can affect asthma control. Using an asthma action plan can help you cope with some changes. If it isn’t working anymore, you need to adjust the plan. Your healthcare provider can help you fit your plan to your new situation. He or she can also help make sure you know about new medications and tools that could make your life easier.

Your Family and Friends

Better asthma control makes daily life go more smoothly for you, and for the people in your life. Here are some ways your family and friends can help you control asthma:

• **If they smoke, they should quit.**
  Page 32 lists resources that may help. If friends and family can’t or won’t quit, ask them not to smoke around you, or in your home or car.

• **They can help you control triggers.**
  Controlling triggers often means making changes around the house. So get your family involved!

• **They should know the signs of a severe flare-up and what to do in an emergency.** When asthma is in control, flare-ups and emergencies are unlikely. Still, your friends and family should know what to do, just in case. You’ll be safer, and everyone will feel more secure.

Staying in Control

If you’re in control—great! Ongoing medical care can help you stay in control. Keep in touch with your healthcare provider. Have checkups and lung-function tests as often as your healthcare provider suggests. Refer back to this workbook when you need to. And keep up the good work!
Resources for Asthma

There’s no single way to manage asthma that works best for everybody. It may take time and effort to find what works best for you. The more you know about asthma, the easier it will be for you to stay in control. So take an active role in your treatment. The organizations listed below can also help you learn more about asthma and what you can do to breathe better. They can also help you find support groups in your area.

**Allergy & Asthma Network–Mothers of Asthmatics**
800-878-4403 | www.aanma.org

**American Academy of Allergy, Asthma & Immunology**
www.aaaai.org/patients.stm

**American Lung Association**
800-586-4872 | lung.org

**Asthma and Allergy Foundation of America**
800-727-8462 | www.aafa.org

**National Heart, Lung, and Blood Institute**
301-592-8573 | www.nhlbi.nih.gov

**National Lung Health Education Program**
www.nlhep.org

**Smokefree.gov**
877-448-7848
www.smokefree.gov

**YourLungHealth.org**
972-243-2272
www.yourlunghealth.org
You Did It!

Now that you have finished this workbook, you should have the tools you need to stay in control. You should be able to answer YES to each of the questions below. If you answer NO to any of them, go back and review that section of the workbook. If you have questions, talk to your healthcare provider.

**Chapter 2**

Do you understand what asthma is?  
Yes  No

Do you know how to recognize signs of a flare-up?  
Yes  No

**Chapter 3**

Do you know your asthma triggers?  
Yes  No

Do you know how to control or avoid them?  
Yes  No

**Chapter 4**

Do you understand what your medications do?  
Yes  No

Do you know why and when to use them?  
Yes  No

**Chapter 5**

Do you know how to monitor whether your asthma is in control, even if you don’t feel symptoms?  
Yes  No

**Chapter 6**

Do you have an action plan so you can prevent symptoms and know what to do when you have symptoms?  
Yes  No

**Chapter 7**

Do you have a plan to get regular exercise?  
Yes  No

Do you know how to prevent exercise-induced asthma?  
Yes  No

**Chapter 8**

Have you talked to your healthcare provider about any other health issues you have?  
Yes  No

Do you keep in regular touch with your healthcare provider?  
Yes  No
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