


# ASTHMA: YOU'RE THE BOSS



**YOU CAN MANAGE IT**

Five Steps to Take  
Charge of Your Asthma

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You Can Manage It

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Other books by Gary Epler:  
*You're the Boss: Manage Your Disease*  
*BOOP: You're the Boss*

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## What's Asthma? Inflamed Airways and Bronchospasm

**Physicians have recognized** the symptoms of asthma for thousands of years. Ancient Egyptian and Greek doctors described asthmatic patients. The word asthma is from the Greek language, and means to pant or to breathe hard.

We currently define asthma in terms of its symptoms, because there is no blood test or measurement or biomarker that we can point to and say, “Oh yes, that’s asthma.”

Asthma is inflammation of the airways and bronchospasm. The inflammation occurs in the bronchial airways, which are the slender tubes that branch out from your trachea, or windpipe. Bronchospasm is the periodic contraction of the smooth, circular muscles around the bronchial airways. This can quickly narrow your airways and keep them that way for seconds to minutes.

The airway inflammation plugs up the bronchial airways with congestion, and the bronchospasm further decreases the amount of air you can draw into the lungs. These two features account for the typical symptoms

of asthma, such as wheezing, coughing, and chest tightness, which is like someone squeezing you with a bear hug.

The symptoms come and go. They can vary in intensity and how symptoms present themselves, and their effects can be reversed. But a person who has asthma always has asthma, even if symptoms are not there on a given day. Asthma is a chronic condition with intermittent symptoms. Think of it as a vulnerability to inflammation and bronchospasm, as if your bronchial airways are waiting to be provoked. To manage your asthma successfully, you need to address both these underlying features. You need to manage the airway inflammation and the bronchospasm.

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Let's talk about Ben. He knew he had asthma. He'd known for years. He carried an albuterol inhaler, a bronchodilator, and used it whenever he felt his chest tighten or started to wheeze. This happened perhaps once a week or every other week. But lately he had been waking up at night coughing, and using the inhaler much more frequently.

"Why is this happening?" he asked himself. "Why does it feel like my asthma is getting worse?"

"So far," his doctor said, "we've been able to treat your asthma with just the bronchodilator that controls the airway muscle spasm.

"But, now, it sounds like we need to treat the underlying inflammation part of your asthma. Let's get you started on an inhaled steroid. They're safe, because they target the bronchial airways and don't go much farther into the body."

Ben began taking a daily, low-dose, inhaled steroid, and soon he needed his bronchodilator only about once a month. By learning more about both features of asthma – inflammation and bronchospasm – Ben learned how to successfully manage his asthma.

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About 8% of people in the United States have asthma. That's 25 million people, and the worldwide estimate is 300 million people.

The cause of the underlying vulnerability is not known. Research has focused on the immune system cells. The bronchial airways of people with asthma often have eosinophils, which are white blood cells with red granules associated with allergies, and mast cells, which are large tissue cells related to asthma. Eosinophils and mast cells show up in great numbers during allergic reactions in other tissues. They're present in the eyes when someone has itchy eyes or in the nose when someone has a watery nose due to hay fever or high pollen levels. Therefore, the eosinophils and mast cells in the bronchial airways may be one allergic response among a constellation of other allergic responses.

The allergic responses result as our immune system cells respond to a foreign substance. Our genes contain the codes to create our immune system, which means that we may inherit our allergic sensitivities from our parents, and for asthma, it appears to be more commonly inherited from our mothers. If your mother has asthma, you might too. It is not always inherited. For example, asthma develops in about one-third of identical twins who have mothers with asthma. It's not just genetics. How you interact with your environment also matters.

Extensive research has been undertaken to identify the genetics behind the immune system and understand the interaction of environmental factors with the genetic code. For example, why do some people develop eye and nose allergies but not bronchial airways allergies?

Asthma is on the rise in Westernized countries, especially in the cities. Air pollution alone doesn't account for this increase. Some of the increase may be due to the sedentary urban lifestyle. Also, the frequency of asthma and allergies appears to be related to people's weight – the higher the weight, the higher the frequency of asthma.

Other factors that might cause the increase in asthma include the greater concentration of indoor allergens, as people try to restrict the

airflow in and out of their houses to conserve energy and to lower heating and cooling costs.

Despite not knowing the underlying causes, doctors recognize different types of asthma. As we've already learned from Andy, Sue, Pete, Amanda, and Ben, asthma symptoms can vary greatly, in kind and in severity. Before we learn about the specific types, let's hear about Billy Norton's story.

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Billy was healthy but struggling to accomplish his goals. He wanted to go to law school but was frustrated by trying to study for the entrance examination. He needed a high score to get into a prestigious law school. Several years after graduating from college, he was working two full-time jobs with long hours and low pay as he tried to pay off college loans and study for the law exam late at night.

Suddenly, he developed wheezing and shortness of breath.

"What's going on? I don't need this?" he thought.

He didn't have much time to dwell on his problem because his breathing became so labored that he had to get to the hospital emergency room as fast as he could.

The triage nurse rushed him to the acute care ER room and summoned the doctor.

"You're probably having an asthma attack," Dr. Gooden said. "Your airways are clamped shut and we need to give you a breathing treatment to open them up. We'll also start intravenous fluid and give you additional bronchodilator medicine."

"I can't breathe," Billy said, on the verge of panic.

"It's hard to believe at this time, but you have plenty of oxygen," the doctor assured him. "You need to know that you have enough oxygen so you can concentrate on your breathing. Try to slow it down. Breathe through your nose, and out through your mouth. Put your hand on your stomach and feel the tightness as you breathe out."

"I can't do it, I can't," Billy shrieked, breathing so fast that he couldn't talk in a complete sentence and couldn't listen to the doctor.

"Yes, you can," Dr. Gooden said in a soft, firm voice. "Your oxygen level is good and not faltering. Try to slow down your breathing anyway you can."

"I'm-m-m trying," Billy said with a stammer. "My chest is so tight I can't breathe."

The doctor could hear a high-pitched wheeze during each breath. "Keep trying. The medicine will begin to work in a few breaths."

Billy was fighting for each breath, but realized he could slow his breathing.

"Now, breathe in through your nose and out your mouth," the doctor reminded Billy.

"I'm trying," Billy said, continuing to struggle.

Billy had been treated with a nebulizer aerosol and fluids from an intravenous catheter. His vital signs were taken and showed a good blood pressure, but he had a rapid pulse rate and extremely rapid respiratory rate. His temperature was normal, and his oxygen saturation value was normal despite his shallow, ineffective breaths.

"It's working. I'm beginning to breathe again," Billy said, now more calmly.

"Good, let's find out what happened," the doctor said.

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Billy was at the first step. He was going to learn about asthma and had started the process to learn much more. For the next step, he was going to understand the diagnostic process.

Next, we'll learn about the different types of asthma.

# Asthma: You're the Boss

This book tells you how to manage your asthma. You'll learn the five vital steps to take charge.

- Learn everything you can about your asthma.
- Understand the diagnostic process.
- Know your treatment options.
- Monitor your asthma.
- Create a healing environment.

You can manage your asthma better than anyone else. You just need to know how. This patient-friendly book provides five concrete steps. You will meet real people with real health challenges and discover how they used the five steps to successfully manage their asthma.



The author, Gary R. Epler, M.D., has written the critically-acclaimed personalized health book, *You're the Boss: Manage Your Disease*. He believes personalized health allows people to manage their health and disease. Dr. Epler is world-renowned for describing the lung disorder bronchiolitis obliterans organizing pneumonia (BOOP), which spurred international research and study. He has published books about occupational lung diseases, written more than 100 scientific articles, and presented some 350 lectures and seminars worldwide. He discovered a parasite in South America, chronicled the nutritional needs of North African children, and managed the tuberculosis refugee program in Southeast Asia. He is a frequent guest on radio and television. Active in his community, Dr. Epler has coached soccer, hockey, basketball, and baseball. He lives in the Boston area with his wife Joan and his two sons.

Visit Epler Health at [www.eplerhealth.com](http://www.eplerhealth.com) for personalized health information and learn how people can manage their health and disease. Learn as much as you can. Become your own boss and take charge of your asthma.

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