

WHITE PAPER ON ASTHMA

Chapter One: What is Asthma?

Most people who suffer from asthma are all too familiar with its symptoms and its causes. Amazingly enough, however, there are many people with asthma who don't realize it -- who chalk their symptoms up to allergies and leave it at that. There are also rare but very serious cases of asthma that can cause prolonged, chronic illness or, in a worst-case scenario, death.

So what *is* asthma? How can you tell the difference between, say, asthma, bronchitis, and allergies? All three of these overlap, and although you're unlikely to confuse a bout of bronchitis with asthma, you may mistake bronchial-induced asthma as prolonged bronchitis symptoms long after you've recovered from the disease. Confused yet? Don't be. Let's take this one step at a time.

There are many causes of asthma, and in our modern world, it affects up to 25% of urban children. Part of the reason, asthma is so often confused with other illnesses or symptoms is because allergies, bronchitis, and even common colds can trigger a reaction (commonly known as an asthma attack).

What Happens During an Asthma Attack?

During an asthma attack, the airway gets inflamed and constricts. Mucus production increases, and breathing becomes very difficult -- like breathing through a straw. Asthma sufferers notice anything from slight discomfort to wheezing to burning lungs. The one common current is that they can't get enough air.

Think of this, another way. Imagine your airway as a bathtub drain. When the drain is working properly, you pour water into the tub; pull the plug, and it all flows away -- plain and simple. But what happens if the drain gets clogged? Most of the time, it's not enough to stop water from draining, it just slows it down. And so instead of draining in less than a minute, you might have to wait a long time for that large volume of water to vanish from your tub.

During an asthma attack, your airway gets clogged just like that drain. You're still taking in air, but not as much. It's going to take a lot longer for your body to process the volume of air it would in a normal space of time. That can lead to the symptoms mentioned above. In addition, some people have a strong panic reflex. Their bodies panic because, quite simply, they aren't getting enough air. Ironically enough, that makes it even harder to breathe (we've all had the experience: you get nervous enough and your breath comes in short, shallow gasps, right? That's a problem when you're already struggling to breathe).

What Asthma Looks Like

One of the main things that sets asthma apart from colds, allergies, and other respiratory infections is that it's *chronic*: that is, it doesn't go away. Of course, some people have recurring seasonal allergies without having asthma, and some people have asthma primarily triggered by seasonal allergies. An important distinction, though, is that seasonal allergies tend to have good days and bad. Asthma tends to react strongly to the same stimulus every time.

Some people have constant struggles with asthma. These people have trouble breathing when they exert themselves physically. They're the ones who need to carry inhalers at all times. They usually aren't sure what triggers their asthma, and asthma attacks are a constant, unpleasant part of their day.

Others live completely normally in between periodic bouts of asthma. In other words, what asthma looks like varies from person to person, from case to case. As you can see, it's very difficult to pigeonhole a definition of asthma. There's no fine, dividing line that says, "this is asthma" and "this is allergies." The bottom line tends to be that if it gets severe enough that normal measures don't help, you're looking at asthma -- and this is a distinction only individual patients together with their doctors can make.

Chapter Two: What Causes Asthma?

There are many answers to this question. Unfortunately, asthma is a highly individual illness. What triggers an asthma attack in Patient A might have no affect whatsoever on Patient B, even though Patient B's asthma is more severe than Patient A's. If this sounds confusing, it's because it is! Doctors still aren't 100% clear on what causes asthma. They do, however, have some ideas, and there are definite patterns in terms of *triggers* -- i.e., what sets asthma off.

Theories about Asthma

As with any unsolved scientific problem, doctors are struggling to uncover why some people become asthmatic and others don't, even when exposed to the same conditions. They have found that:

- asthma tends to be genetic. Some people have a strong genetic disposition towards asthma while others come from a background of strong lungs.
- there are definite environmental factors that influence the onset of asthma, but researchers aren't confident explaining what they are. That's because not everyone exposed to a certain environment gets asthma. Some environments, though, seem much more likely to produce asthmatics than others.

- because an inflamed airway is basically your immune system gone a little overboard, people who are prone to asthma also seem prone to respiratory infections like bronchitis and pneumonia. After suffering one of these illnesses, some people have recurring asthmatic episodes even though they were perfectly healthy before.

Environmental Factors

Many doctors believe that environmental factors are the primary causes of asthma. Some of these include:

Poor Air Quality

People, especially children, who live in urban areas where they are exposed to pollution and smog are far more likely to develop asthma than those who live in rural areas. Air pollution, especially high ozone levels, seems to be prime contributors to asthma.

Cigarette Smoke

This one is, unfortunately, not just for smokers. True, smokers are more likely to develop asthma than nonsmokers, which makes sense if you think about what tobacco does to your lungs. Unfortunately, though, people -- especially children -- who live with smokers are even *more* likely to develop asthma. And infants born to smoking mothers (i.e., mothers who smoke during pregnancy) almost inevitably have some sort of respiratory damage, the least of which is asthma.

Allergens

When you have an allergic reaction, your body is basically doing the right thing at the wrong time. You've probably noticed how similar allergy symptoms are to cold symptoms. Maybe sometimes, you can't even tell the difference. There's a reason for that.

When you get a cold or flu, your body activates your immune system. It:

- detects the malignant bacteria or virus
- increases mucus production to protect your respiratory system
- may increase your body temperature in an effort to kill off the germs
- may make you sneeze or cough in an effort to get rid of the foreign invaders

When you have an allergic reaction, your body is doing the exact same thing. The allergen -- the thing you're allergic to -- enters your body and your body, for whatever reason, interprets it as a malignant bacteria or virus. It immediately sends your immune system a message to start working and kill off those nasty germs -- even though none exist.

Because a key aspect of the immune response is increasing mucus production, coughing, and wheezing -- also symptoms of asthma -- serious allergic reactions can lead to asthma in some individuals.

Things You'd Never Expect

So far, we're pretty old hat: most people realize that pollution, allergies, and infections contribute to asthma. But did you know that many researchers now believe that medical advances do the same thing? Some of these include:

Antibiotics

People, who take a lot of antibiotics, especially at a young age, show an increased risk of asthma. Scientists theorize this is because the antibiotics change the nature of your immune system.

Birth

Were you born by a Caesarian section? You're 20% more likely to get asthma than if you'd been born through a vaginal birth. As with antibiotics, scientists believe this has something to do with the way your bacteria, and subsequently your immune system, changes when you're exposed to the outside world before you're body would choose naturally.

Stress

There are two types of stress that can increase your risk of asthma. If a mother experiences strong bouts of emotional stress during pregnancy, this seems to increase her child's risk of asthma. But stress in children and adults themselves can also lead to asthma. Symptoms of panic attacks include shortness of breath, wheezing, coughing, and chest pain -- all symptoms associated with asthma. In other words, high stress levels can give you an illness!

But let's face it: if you suffer from asthma, it doesn't matter that much where it came from. What matters is what triggers it and how you can handle your reaction. So let's talk about it.

Chapter Three: What Triggers Asthma

There are as many asthma triggers as there are asthmatics, but we can make a few generalizations. For example, almost everyone who experiences asthma has some form of seasonal allergy. Figuring out what causes your asthma attacks can help you take steps to prevent them!

In order to do that, you're going to have to keep track of your asthma. Notice if it seems worse at certain times of the day, week, month, or year. If you only seem to have asthma in the spring, you're probably dealing with a seasonal allergen trigger. If you wake up every morning feeling wheezy and asthmatic, on the other hand, you might want to consider a hypoallergenic mattress cover. Regardless, understanding your asthma is the first step to treating it.

Common Asthma Triggers

1. Dust

Dust. It's everywhere, even in the most meticulously maintained home or office. And unfortunately, it's one of the most common asthmatic triggers. Remember, you're breathing this stuff in. It can clog your airway all by itself, or your immune system might interpret it as a foreign agent. Either way, it spells trouble.

2. Chemical Fumes and Odors

If you work in an environment where you're regularly exposed to chemical fumes and odors -- including tobacco smoke -- you might notice your asthma getting worse. This operates on the same principle as the dust: your body (correctly, in this case) interprets the chemical fume as harmful and shoots into overdrive, resulting in an asthma attack.

3. Pollution

Like chemical fumes and odors, pollutants can trigger asthma in many people. If you live in a large urban area, air pollution may be contributing to your attacks.

4. Weather Changes

Weather changes often release pollen and other allergens into the air. Many people find their allergies most active when seasons change or storms are coming.

5. Seasonal Allergies

Seasonal allergies are difficult because you can hardly eliminate pollen, trees, and grass from your immediate environment. They often require creativity and/or medication to control.

6. Indoor allergies

Although indoor allergies might seem more troublesome than outdoor since they're in your actual house, it's actually a lot easier to control them than it is to control seasonal allergies. We could be talking about pets, dust mites, mildew, mold, or any number of things lurking in places you'd never suspect: under the couch, on top of light fixtures, or even in your mattress.

Obviously, you can't eliminate all of these triggers. However, it's worth your while to figure out what triggers your asthma and take any reasonable steps to eliminate the source. For example, if your beloved pet dog gives you frequent bouts of wheezing, at least try to keep him out of your bedroom. If your mattress seems to be the problem, consider having it cleaned. Only you can control your immediate environment.

Chapter Four: Medicine and Doctors

Thousands of people rely on medication to control their asthma. There are three different types of asthma medication:

1. Long Term
2. Quick Relief
3. Allergy Symptoms

Long Term

People who suffer extreme bouts of asthma that seriously affects their ability to function usually take a daily medication to control the illness. These can be inhaled or oral, and are often a form of steroid combined with an anti-inflammatory.

Inhaled Corticosteroids: Some people hear the term "steroids" and immediately panic. Don't worry: you're thinking of anabolic steroids, which are often abused by athletes. Corticosteroids are extremely useful in fighting asthma. Because you inhale them directly into your airway, they are quickly effective and don't involve many side effects. Many people consider inhaled corticosteroids the most effective way of combating asthma.

The one caveat involves children: any type of steroid has the potential to stunt growth. If your child is on a corticosteroid, regularly monitor their growth and development.

Long Acting Beta 2 Agonists: These medications are sometimes prescribed in conjunction with inhaled corticosteroids -- never on their own. They are specifically designed to prevent nighttime symptoms by opening your airways.

Be very careful with these medications, as the FDA has issued a warning that they can actually increase the severity of asthma attacks. This doesn't necessarily mean they're worthless: many antidepressants actually increase the risk of depression in some people. It does mean, though, that if you're on one of these medications and experience an asthma attack, you should quickly contact your doctor.

Leukotriene Modifiers: These are sometimes prescribed in addition to corticosteroids. They are only prescribed on their own for people with mild asthma who want to dodge steroids.

Cromolyn and Nedocromil: These are similar to leukotriene modifiers: you use them to prevent mild asthma attacks. Sometimes they can also help people who find exercise triggers their asthma.

Theophylline: This is an oral pill that can help control asthma, especially nighttime bouts. However, it comes with a long list of side effects, so it's not right for everyone.

Quick Relief Medication

Quick relief medications are to be taken when you sense the beginnings of an asthma attack. You can also obtain devices (peak flow meters) that warn you when an asthma attack is in the making. Most people, though, become very familiar with their own warning signs.

Short Acting Beta 2 Antagonists: Remember long acting beta 2s? These aren't at all the same. Long acting are to prevent the onset of asthma symptoms; short acting immediately relieve them, but don't stop them from coming back.

Ipratropium (atrovent): This is another quick acting symptom-reliever.

Oral and intravenous corticosteroids: These are not the same as long-term corticosteroids and come with a long list of side effects. Make sure you fully understand them before you take them. Your doctor should provide you with details and help you decide what's right for you.

Allergy Relief

Antihistamines: If your allergies are relatively mild, over the counter antihistamines may relieve your symptoms.

Immunotherapy: In other words, allergy shots. The idea is to gradually desensitize you to the allergen through a series of injections, each containing a higher dose of the allergen. This is a good option for people with extremely severe allergies or those who can't avoid the allergen (like that pet you won't get rid of...).

Anti-anti-bodies: These injections prevent your body from releasing the antibodies in response to the allergen. They are usually used as a last resort because they carry the risk of extremely serious side effects, and you should explore all other options first.

Although medications are necessary to control many people's asthma, there are a lot of asthma sufferers who don't relish the idea of being on corticosteroids for the rest of their lives. Fortunately, there *are* other options for asthma relief, including homeopathic remedies and ways to minimize your contact with allergens. We'll explore some of these in the next chapter.

Chapter 5: Homeopathic Remedies

These days, many people have returned to more natural remedies: herbs, diet changes, etc. There are certain homeopathic remedies that seem to assist people. These remedies don't work for everyone, and if you suffer from severe asthma, they probably won't be able to take the place of medication. However, they may prevent frequent attacks, limit their severity, or improve your quality of daily life.

1. Honey: Some people find that the combination of honey and oxygen has a relaxing affect on the airway, causing it to open. This is a quick relief medication, not a long term or allergy controlling solution. Proponents recommend placing an open jar of honey under your nose when you begin to sense an asthma attack coming on. If you have an inhaler, though, you should probably keep it nearby -- just in case the honey doesn't work.

2. Figs: Figs seem to absorb mucus and phlegm, which can relieve some of an asthma sufferer's symptoms.

3. Lemons: Like figs, lemons have a high acidic content that seems to reduce phlegm and inflammation. Your best bet? LEMONADE! Make it with real lemons and small amounts of sugar, and even if it doesn't make your asthma better, it'll taste good!

4. Bitter Gourd Root: This is a natural remedy you can get in health food stores and homeopathic locations (chiropractors often carry natural remedies). It has proven very effective in treating asthma.

5. Arsenicum: Don't worry; it's not arsenic. This is another natural remedy that has proven effective in people whose asthma seems to worsen around early afternoon and again just after midnight.

6. Blatta Orientalis: This is a natural quick relief medication. You take it at the first symptoms, but it does require follow-up and other treatments in between attacks.

7. Kali Carbonicum: If your asthma seems to get worse when exposed to dust, you might find this natural remedy helpful.

Chapter Six: Prevention

All of these treatments, though, are nothing compared to controlling your own asthma through *prevention*. There are many ways to prevent asthma attacks and maintain your own health. It's impossible to engage in all of them, so your best bet is to figure out what triggers your asthma, then pick a few small lifestyle changes you can make to reduce your attacks.

Self-Awareness

One of the most important aspects of prevention is becoming familiar with your asthma. Definitely involve your doctor, who can help you figure out what changes might make your life easier. You should also:

- **Keep an asthma journal.** Track your attacks, when they happen, and what seemed to trigger them. Keep track of times you feel wheezy or short of breath too, not just actual attacks.
- **Develop an action plan.** You need to know what you're going to do if you wind up having an asthma attack. Do you have an inhaler? Where is it? Are you going to get caught without it? It's important that you and those close to you understand how to handle your asthma.
- **Act fast.** When you begin to notice symptoms coming on, do not under any circumstances try to ignore them. Take steps to stop the attack before it happens. If you think you can get it under control by moving aside and calming yourself down, do that, but be ready to go for your medication or whatever else you need to stop the attack.

Diet

Whether you have asthma or not, a diet that's high in fat and leads to obesity is going to result in shortness of breath and difficulty with physical exertion. If you have asthma, so much the worse. It's extremely important that you take care of yourself -- eat properly, get plenty of sleep, and try to avoid excessive stress.

Some people also advocate a lactose-free diet for asthma sufferers. No one has proven the link between dairy products and asthma, but many people, including doctors, have found that eliminating dairy from your diet can make a serious difference as to your asthma. These days there are many rice and soy alternatives to milk (and they taste good, so don't judge before you try!) so it might be worth giving the lactose-free diet a try.

Eliminate Allergens

Eliminating allergens could be a book on its own. There are so many different allergies out there that it's impossible to make a generalization about how to eliminate them. We can, however, make recommendations about some of the more common allergies.

1. Season allergies

If you're allergic to pollen or, as some people would say, the spring, you can take steps to control that. Try not to go outside on windy days. Keep your windows closed whenever possible. Get someone else to take care of yard work, especially mowing the lawn. And if you know you're going to be outdoors, take an antihistamine ahead of time.

2. Pets

The experts would say, get rid of the allergy-inducing animal, but some people are foolish about their pets. If you must keep Fido, at least bar him from your bedroom. You might also look into a HEPA filter, which can very effectively filter pet hair out of the air.

Many people find allergenic mattress covers very effective as well. If your pet isn't allowed in your bedroom, you put a HEPA filter in there, and you invest in a good mattress cover specifically designed for asthmatics and allergy sufferers, you'll probably find you can keep your pet after all. You might also look into rubs or shampoos and foods that are designed to reduce the amount of allergens your pet produces.

3. Dust

The obvious answer here is to dust regularly. Use a static-driven duster or a furniture spray; otherwise, you're just moving the dust around. Ideally, someone else should handle this chore; if that's impossible, you might want to cover your mouth and nose.

Many of the same things that apply to pets apply to dust. A HEPA filter can be extremely helpful in dealing with dust. A hypoallergenic mattress cover can also provide a lot of relief from dust mites and other asthma induced allergies.

You'd be amazed at how much dust is lurking around your bedroom, especially in your bed. Keep your bedding clean, and your mattress too. Your mattress should be cleaned almost as often as your bedding. You can do it yourself by vacuuming (outside, so you don't raise a cloud of dust) or have it done professionally.

You should also make sure that your mattress is high quality. That may sound foolish, but there are two very important reasons why:

1. A high quality mattress provides a better rest, and lack of sleep and high stress are essential to controlling asthma.
2. An old mattress probably contains all kinds of dust mites and allergens and who-knows-what.

Remember, your bed is the only thing you actually lie down on and breathe in for eight hours every single night. It could be the single most important aspect of controlling your asthma. If you keep your mattress, bedding, and pillow clean and invest in a good quality mattress cover to control your allergies, you may be surprised at the change in your asthma.

Asthma can be painful, annoying, or even deadly, but it doesn't have to disrupt your life. With attention and care, you can live a perfectly normal life, taking steps to eliminate or at least control your asthma. Don't let asthma rule you a second longer! Take control of your own life and positive changes are bound to ensue.