

Psst!

Plan to Stay in Shape Today



ASTHMA

ASTHMA

Breathing is a reflex. You do it without thinking—a run-of-the-mill process that makes it possible to do things like perceive smells, calm ourselves down, and, most importantly, live. But sometimes parts of our breathing apparatus let us down. In Canada, asthma is the most common breathing problem, affecting some 2.5 million people.

This guide is designed to demystify asthma and show how important it is to properly manage and control it on a day-to-day basis. If someone close to you has asthma, reading this guide will raise your awareness and show you what you can do to optimize the environment to help all asthma sufferers breathe easier.

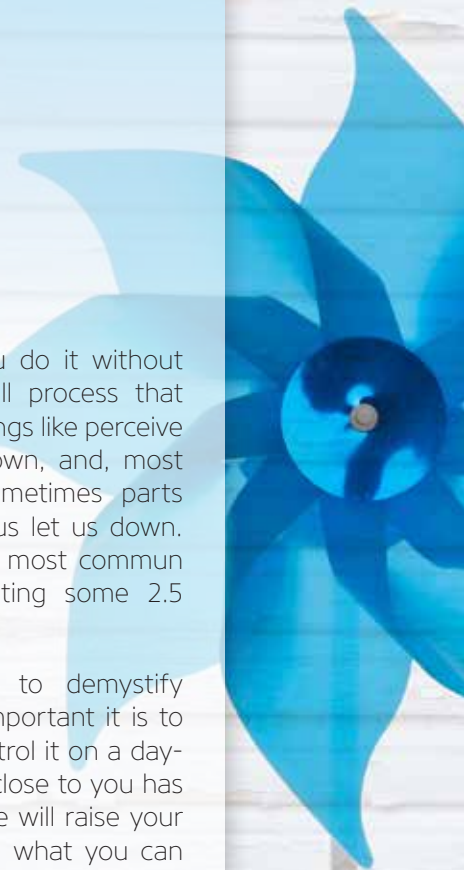




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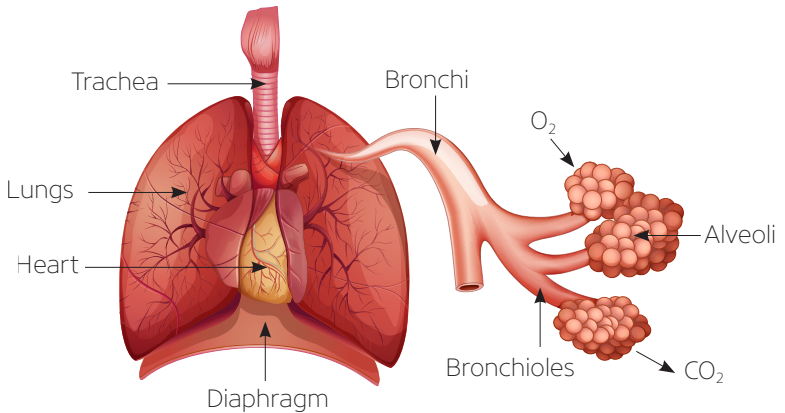
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WHAT IS ASTHMA?

Asthma is a chronic inflammatory disease of the lungs that can make it harder to breathe if it's not controlled. It can start at any age and seems to affect slightly more women than men when all ages are taken into account.

The thing to understand is that the respiratory system of someone who has asthma works differently than someone who doesn't.

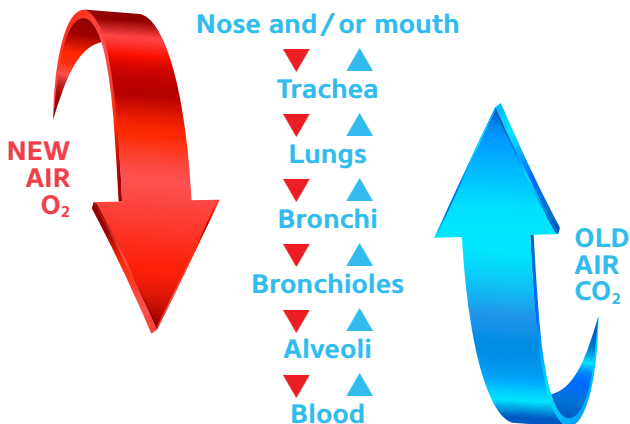
THE RESPIRATORY SYSTEM MADE EASY



We breathe to supply air to our lungs so they can filter it. Your respiratory system carries in the oxygen (O₂) your body needs and takes away the waste gases it produces, such as carbon dioxide (CO₂).

Air enters the system through the nose and mouth and travels through the trachea to the lungs. From there it makes its way into the bronchi as they fork into the multiple tiny branches called bronchioles. Eventually the air comes to the end of the line in the alveoli. That's where the oxygen in the air is transferred to the blood, trading places with the body's waste carbon dioxide, which journeys back up the system to be breathed out.

THE AIR'S PATHWAY IN BREATHING



If a person has asthma, the bronchi and trachea are highly sensitive to certain factors called *triggers*—and they react to them.

The triggers themselves may vary from one individual to the next, but what they trigger is **inflammation of the bronchi, secretions of mucus, and contractions of the muscles surrounding the bronchi**. The effect is to make the airway narrower, which makes it hard to breathe.

The two pictures below will give you an idea of how much harder it is to get air to the alveoli through a blocked bronchus than a healthy one.



Healthy bronchus



Bronchus with contracted muscle and mucus

SYMPTOMS OF ASTHMA

Now that you know what the bronchi of an asthmatic person look like if the disease isn't controlled, you'll understand why asthma causes specific symptoms. A person with asthma may present with any of the following:

- Wheezing
- Difficulty breathing
- Shortness of breath
- Cough
- Tightness in the chest

As yet there's no cure for asthma, but it can be controlled very effectively.

Asthma ranges in severity from mild seasonal asthma and asthma that only appears during intense physical activity to forms that require daily treatment with multiple medications. It may also vary over a person's lifetime.

THE CAUSES OF ASTHMA

We still don't know exactly what causes asthma. We do know however that certain **hereditary and environmental factors strongly influence its appearance.**

We know for instance that if both of your parents have asthma or allergies, you're more likely to be asthmatic yourself. It seems you have about an 80% chance of being asthmatic if both your parents are asthmatic, and roughly 40% if only one of them is.

There are also many **environmental factors** that can contribute to someone's developing asthma, including the following:

- Allergens (such as dust, dust mites, pollen, animal dander)
- Workplace sensitizers (such as animal, chemical, and toxic sensitizers)
- Infectious respiratory agents (such as viruses and bacteria)

These factors are called **inducers** because they seem to contribute to the **development of asthma.**

TRIGGERS

As we've already mentioned, there are specific things that trigger asthma. A *trigger* is something that tends to cause asthma symptoms to flare up in a person with asthma, **according to the degree of reactivity of that person's bronchi**. We know that asthma may present in different ways depending on its origin, cause, and type. (Some of these types are *allergic*, *occupational*, and *exercise-induced*.)

Every individual has different triggers, so it's critical if you have asthma to figure out what yours are. Avoiding your triggers is one of the best ways to get your symptoms under control and will pay big dividends in quality of life.

Now we'll look at some of the more common triggers, with a list of tips for dealing with each one so it doesn't ruin your day.

Important distinction:

ASTHMA INDUCERS:
Factors that contribute to the development of asthma

ASTHMA TRIGGERS:
Factors that cause a flare-up of asthma symptoms

CIGARETTE SMOKE

Cigarette smoke often causes asthma to get worse by **irritating the bronchi**. Second-hand smoke gets into clothes, curtains, and furniture where it keeps on aggravating asthma symptoms long after the last smoker has butted out.

TIPS AND TRICKS

- If you smoke, quit! No two ways about it—quitting is guaranteed to make you healthier.
- At home and other places where you spend your time, get family and friends to smoke outside.
- Stick to nonsmoking locations.

DID YOU KNOW?

People with asthma who are exposed to second-hand smoke wind up in the emergency room much more often.



COLD AIR

Normally when you breathe in through your nose, the air is warmed and humidified in your nostrils before going on to the bronchi. But there are times when cold or dry air gets through to the bronchi, particularly in winter or when you're panting through your mouth during exercise. When that happens, the muscles around the bronchi tend to contract (known as a *bronchospasm*), making your asthma get worse.

TIPS AND TRICKS

- Breathe through your nose as much as possible.
- Wear a scarf over your mouth and nose in winter. It gives the air a chance to pick up some water vapour and heat on the way through.
- Find ways to exercise indoors when it's cold out.



EXERCISE

Exercise can trigger asthma attacks, particularly in people whose asthma isn't well controlled. **But don't let asthma cramp your style. The fact is that exercise makes your respiratory system work better.** It is however recommended that you get your asthma under control before starting a new exercise program. So talk to your healthcare professional and get that asthma under control right away!

TIPS AND TRICKS

- > Warm up before you start your workout and take some time to recover afterwards.
- > Increase the length and intensity of your sessions gradually.
- > Before, during, or after your session, it's possible to use your inhaler to dilate your bronchi to let air through more easily. However, frequent inhaler use can be a sign that your asthma isn't properly controlled. There will be more details in the "Treatment Possibilities" section on page 19, but in the meantime it's recommended that you check with your healthcare professional if you use your inhaler more than you should during exercises.

ALLERGENS

An *allergen* is the molecule that someone is allergic to. Allergens are also common asthma triggers, although only for people who are allergic to them. Every allergic person has their own set of allergens they react to. Let's look at the most common asthma triggers.

POLLEN

Certain plants use the wind to spread their pollen. And those are the ones that make life miserable for people with allergies, filling the air with an abundance of allergens. Among the most common pollens are those of trees, grass, and ragweed.



TRICKS AND TIPS FOR REDUCING POLLEN EXPOSURE

- > Avoid drying laundry outdoors where it could get pollen on it.
- > Keep an eye on the daily pollen index (posted online with the weather forecast).
- > Keep windows closed so pollen can't get in.
- > Stay inside with the air conditioner on when the weather's hot.
- > If you've been exposed to or are highly sensitive to pollen, you might try rinsing your hair before going to bed at night. This keeps any pollen that got in your hair from ending up on your pillow.
- > Some people may need to take antihistamines to control their symptoms. Ask your healthcare professional for help in choosing the best one for the symptoms you're experiencing.

What about desensitization? Does it work?

One way of treating allergies, known as **immunotherapy**, desensitizes the immune system to make allergies less acute. It involves injecting a small dose of the allergen and very gradually increasing the dose as the body gets used to it. Unfortunately this doesn't work for all allergies and can take many years.

It's also not 100% effective, although it works better on some allergens than others. It's estimated that roughly 80 to 85% of patients treated with immunotherapy for pollen allergies experience an improvement.

Immunotherapy has to be carefully administered and supervised. Check with your healthcare professional for more information.

PETS

Many people develop allergies to pets (mostly cats and dogs), which in turn aggravate their asthma. The actual allergens are proteins found in the pet's fur, saliva, or urine.

TRICKS AND TIPS FOR REDUCING EXPOSURE TO PET ALLERGENS

- > However inconceivable it may be for some people to say goodbye a beloved pet, the fact is that removing the pet from the home remains the most effective way to control pet-triggered asthma.
- > If you decide to keep your pet, don't let it into your bedroom and keep it off the furniture.
- > Designate someone to give your pet a bath, a brushing, or both every week.
- > If you need to be around a pet temporarily, taking an antihistamine a few hours beforehand can help keep your allergies from getting out of hand. Your healthcare professional can provide you with further information on antihistamines.



DUST MITES

Dust mites are tiny creatures that feed on dead skin cells shed by humans. They like to live in warm, damp places where there's a lot to eat, including bedding, mattresses, pillows, carpets, stuffed animals, and armchairs. A protein in their droppings is an allergen for many people, and since they're one of the main constituents of household dust, their potential for causing asthma flare-ups is high.

TRICKS AND TIPS FOR REDUCING EXPOSURE TO DUST MITES

- Put mattresses and pillows in mite-proof covers.
- Control the humidity in your home.
- Wash bedsheets in hot water and dry them in a dryer once a week.
- Don't have carpets or rugs in your home or vacuum often and steam clean regularly.
- Keep as few stuffed toys and dolls as possible in kids' rooms. They tend to get dusty.
- Dust your home at least once a week.

OTHER ASTHMA TRIGGERS

We've looked at cigarette smoke, cold air, exercise, and allergens, but there are other potential asthma triggers. Here are some of them:

- Stress
- Chemical fumes (e.g., cleaning products, paint)
- Perfumes
- Certain foods
- Air pollution
- Moulds
- Colds and infections
- Certain medications

Also, if you're asthmatic, you should check with your healthcare professional to make sure you're not taking any medications that could aggravate your asthma.

DID YOU KNOW?

Viral infections like colds and flu can make asthma worse. That's why it's strongly recommended that people with asthma get a flu shot every year.



TREATMENT POSSIBILITIES

Trigger management is invariably the **cornerstone of asthma treatment**. People with asthma try as much as possible to stay away from or get rid of the irritants, allergens, or pollutants that trigger their asthma attacks or make their asthma worse. Environmental control is part and parcel of asthma management.

Understanding the disease is another big aspect of managing asthma. A guided self-management program that includes education on the disease, regular medical exams, self-assessment, and a written plan of action can reduce hospitalizations, emergency room visits, and missed work or school days while helping both children and adults breathe easier.

Drugs too play an important role in asthma treatment as you will see in the following pages.

As we explained at the beginning of this guide, asthma is based on two basic responses: the bronchi that become inflamed, and the muscles around them that contract. With that in mind, you can understand that asthma medications work in essentially two ways:

- > **Inhaled anti-inflammatories:** These are corticosteroids inhaled through the mouth and absorbed by airways (bronchi and lungs). They're used as a **daily treatment**.
- > **Bronchodilators:** These are drugs that relax the bronchial muscles so that the bronchi open up and let air get through. They're sometimes described as **rescue medications** and come in short-acting and long-acting types.



BASIC DAILY TREATMENT

Many people with asthma stop using their inhalers when they stop experiencing symptoms, which is a mistake. **Basic asthma care involves using corticosteroids inhalers regularly.** Doing so reduces inflammation, which prevents attacks and damage to pulmonary function. For some patients, the anti-inflammatory inhaler will be combined with a long-acting bronchodilator, a medication in pill form, or both.

It's essential to take the daily treatment medications every day as prescribed. Asthma is a chronic condition, so it's still there even when symptoms aren't.

WARNING! When you use your corticosteroid inhaler, some of the tiny particles of the drug that are supposed to go to your bronchi invariably end up in your mouth and throat.

And in there they may throw off the natural balance of bacteria and fungi in your mouth. Fungi may take over and turn into a yeast infection known as **oral thrush**. Thrush generally shows up as a fine white rash on the inside of your cheeks and on your tongue and palate, sometimes spreading back into your throat.

Thrush is treatable with the right drugs, but it's also preventable if you're conscientious about oral hygiene. It's recommended that users of inhaled corticosteroids rinse their mouths out every time they use their inhaler. Rinsing and gargling thoroughly with water is generally enough, but be sure to do it every time.

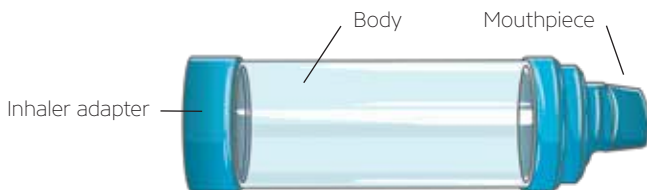
Using your inhalers regularly is important, but you also have to use them properly.

Your healthcare professional will show you how it's done when you get your first inhaler and keep tabs on your technique to make sure you get the full benefit of your medication. And of course you can always check in and make sure you've got it right if you ever wonder. Just ask—your asthma control depends on it!

Your doctor or pharmacist might also suggest a **spacer** (or *aerosol-holding chamber*) to go with your puffers. It turns out that using a puffer isn't easy—you have to coordinate breathing in and pressing the top of the puffer in a way that can be quite a challenge, particularly for children and elderly people.

A spacer is a plastic tube that holds the medication for a moment so you have more time to breathe it in. Spacers have either a mouthpiece or mask, but either way they tend to keep medication from getting stuck in your mouth and throat so more makes it to your lungs.

SPACER



WARNING! Spacers need to be washed in a particular way. Ideally they should be cleaned every week and replaced after a year.

Follow the manufacturer's instructions. Generally they will say something like this:

- 1** Remove the adaptor where you put in the inhaler. If there's a mask, don't remove it and avoid getting in contact with the valves.
- 2** Soak the two sections in warm, soapy water for 15 minutes.
- 3** Remove from water and drain.
- 4** Allow to air dry standing up. Never dry the inside of the tube with a dishtowel, because this creates static electricity that can make the medication stick to the inside of the tube.
- 5** Put the adaptor back on when everything is completely dry.

EMERGENCY TREATMENT FOR ASTHMA ATTACKS

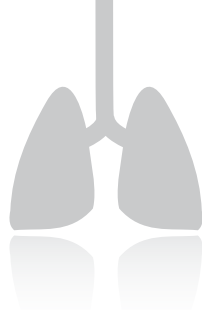
Sometimes asthma gets out of control, even for people with good puffer technique who even avoid their triggers as much as possible. It's easy to tell when someone's having an asthma attack. They have to fight to get air in and out of their lungs. Their **chest feels tight**, and they **wheeze** and **cough**.

In an asthma attack, the person needs to use a short-acting bronchodilator. **Short-acting bronchodilators** work almost instantaneously to open the airways and restore normal breathing.

IMPORTANT NOTE! Frequent use of relievers is a sign of asthma that's not under control, because short-acting bronchodilators are rescue medications that should only be used in case of an emergency.

However for a person whose asthma is well controlled, it is normal to use his or her bronchodilator before exercising. Vigorous physical activity tends to trigger asthma attacks. The use of a short-acting bronchodilator before exercising opens up the bronchi to prevent the attack.

ASTHMA ACTION PLAN



It's not always easy to tell whether your asthma is under control, which makes it even harder to manage your medication. One thing that can really help is to get together with your doctor and draw up an **asthma action plan**. Having an asthma action plan will give you clear criteria for deciding whether your asthma is "under control," "getting worse," or "dangerous," and how to take it from there. It can help you control your asthma, learn to manage it, and prevent attacks.

WHEN YOUR ASTHMA IS CONTROLLED

Your asthma is well controlled when you can say all the following:

- I haven't had any or hardly any daytime asthma symptoms (less than four days a week).
- I haven't woken up during the night with asthma symptoms.
- I haven't had to limit or stop any activities because of shortness of breath, wheezing, or coughing.
- I haven't missed work or school because of asthma.
- I haven't used my short-acting bronchodilator more than three times a week (including before exercise).

Having your asthma well controlled doesn't mean you can stop taking your medication. To keep your asthma under control, you need to take your controller medications **every day** as prescribed.

WHEN YOUR ASTHMA IS GETTING WORSE

Your asthma is getting worse if you can say any of the following:

- I used my rescue treatment (short-acting bronchodilator) more than three times in a week (including before exercise).
- I had to miss work or school because of my asthma.
- I had to go to the emergency room because of asthma.
- I had to restrict my physical activities because of asthma.
- I woke up during the night because of coughing, wheezing, or chest tightness.

Worsening symptoms might call for a higher dose of your controller medication for a while. Or perhaps you need to add on a different controller. You and your healthcare professional will work out what to do to stop your asthma from getting worse.

WHEN YOUR ASTHMA IS DANGEROUS

If any of the following are true of you, you're in danger and need help:

- I used my rescue puffer but I still can't breathe.
- It's so hard to breathe I can barely walk or talk.
- I can't do some type of activity.

It's an **EMERGENCY**! Go to the hospital or **DIAL 911** for an ambulance.



DID YOU KNOW?

More than half of all asthmatics don't have their asthma under control, whether they know it or not.

How does pregnancy affect asthma?

It's estimated that around one out of three women will find that their asthma gets worse during pregnancy, while the others will either experience no change or even an improvement. In most cases, asthma treatment is continued during pregnancy, because the benefits far outweigh the risks. Talk to your healthcare professional about asthma treatment during pregnancy and draw up your action plan for pregnancy together.



IMPORTANT!

Action plans are essential for anyone with asthma, but they're even more important for pregnant women, because an asthma attack during pregnancy can cut off the oxygen supply to the baby.

BREATHING TESTS

Some breathing tests that measure lung function are used as part of the diagnosis of asthma. Generally the preferred test of this type is *spirometry*. Spirometry measures how fast you can blow the air out of your lungs and how much you blow out. Spirometry is done in a medical office by a qualified professional.

You can also check daily whether your asthma is under control and watch for declines in your ability to breathe by tracking your peak expiratory flow (PEF). You can measure PEF at home with an easy-to-use meter and keep a diary of the daily results. Ask your healthcare professional.

Travelling with asthma, is it possible?

Travel is no problem if your asthma is under control. But find out all you can about your destination and, if necessary, adjust your asthma management accordingly on arrival. Here are some things that might make your asthma worse, because they affect your respiratory system:

- High elevation
- High levels of smog or air pollution
- Big temperature changes
- Arriving in the pollen season

It's also important to make sure you have enough medication, that your vaccinations are up to date, and that you have a clear action plan with you. Always check with your travel healthcare professional.

THINGS TO REMEMBER

- Asthma is a chronic condition. Never discontinue treatment, even if all is well and you're symptom free.
- Know and avoid the specific things that trigger your asthma symptoms.
- Draw up an action plan with your doctor and follow it.
- Exercise! Physical activity is not optional.
- Make sure you know what each of your inhalers is for and that you're using them correctly.
- See your healthcare professional regularly to check your puffer technique and monitor whether your asthma is controlled.

CONCLUSION

Managing asthma is a constant concern. Bear in mind that by understanding the disease, what triggers it, and how and when to treat it, you and everyone with asthma can enjoy life to the fullest. Be sure to take advantage of the resources you have available!

SOURCES AND USEFUL LINKS

Association of Allergists and
Immunologists of Quebec

<http://www.allerg.qc.ca/>

Canadian Lung Association

www.poumon.ca

Familiprix

www.familiprix.com

Public Health Agency of Canada

www.phac-aspc.gc.ca

Quebec Lung Association

www.pq.poumon.ca



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Only pharmacists are responsible for the professional activities of the pharmacy practice. They use various tools such as the Psst! (Plan to Stay in Shape Today) program.