

Asthma

What You Should Know and Do



TWH

Asthma & Airway Centre
Toronto Western Hospital
399 Bathurst Street
Toronto, ON M5T 2S8

What's Inside

	Page
What is Asthma?	2
What are the symptoms of Asthma?	2
Treatment	2
1. Reliever medications.....	3
2. Controller medications.....	3
▪ Inhaler Steroids	3
▪ Combination Therapy	4
▪ Long Lasting Bronchodilators	4
Inhalers and Devices	4
1. How to use a Turbuhaler®	5
2. How to use your Diskus®	6
3. How to use your HandiHaler®	6
4. How to use an Aerosol Inhaler.....	8
5. How to use an Aerosol Inhaler with an Aerochamber Plus®	8
Caring for your Aerochamber Plus®	9
Peak Flow Monitoring	10
How to use your Mini-Wright Peak Flow Meter	11
Common Asthma Triggers.....	11
Non-Allergic Triggers.....	13
Prevention	14
Warning Signs of Worsening Asthma	14
Action Plan.....	14
Points to Remember	15
Smoking Cessation.....	15
Resources	15

This information is to be used for informational purposes only and is not intended as a substitute for professional medical advice, diagnosis or treatment. Please consult your health care provider for advice about a specific medical condition. A single copy of these materials may be reprinted for non-commercial personal use only.

© 2009 University Health Network. All rights reserved.

Author: **Khiroon Kay Khan RN, CAE, NARTC Dipl. in Asthma & COPD. Nurse Educator, Asthma & Airway Centre**

Created: 05/2009

Form: D-3299



University Health Network
Toronto General Hospital Toronto Western Hospital Princess Margaret Hospital

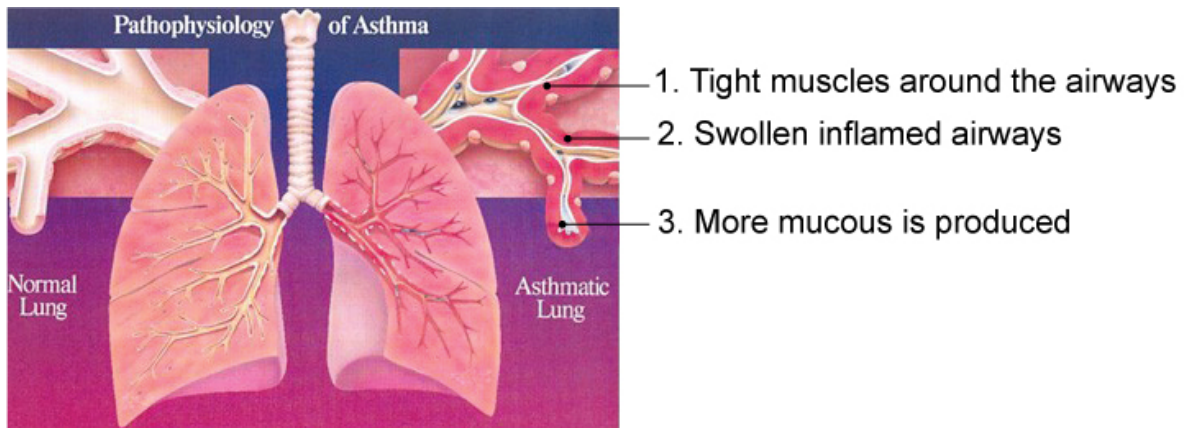
What is Asthma?

Asthma is a chronic lung disease that makes it difficult to breathe. Anyone can get asthma. It can vary from person to person because different things bother different people. Asthma can become severe and people can die from the disease if it's not treated properly. There is no cure for asthma, but effective treatment is available. When asthma is treated properly you should be able to play, exercise, sleep and enjoy normal activities.

Your doctor will examine you and order special tests to confirm that you have asthma. Common breathing tests are Pulmonary Function tests and Methacholine Challenge. These tests will be explained to you if you are asked to do one. Other tests include x-ray (to rule out other lung problems), sputum and blood tests.

What are the Symptoms of Asthma?

Symptoms can include: **tightness in the chest, wheezing, coughing and shortness of breath.**



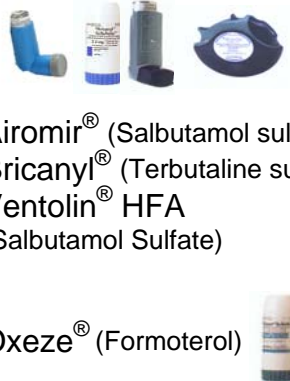
Source: Purdue Frederick Inc.

Treatment

There are 2 main types of asthma medications called **relievers** and **controllers**. Your doctor will choose the medications right for you. Take them as prescribed. Inhaled medication goes directly to the affected airways when used properly.


1. Reliever medications





These medications relax tight airway muscles.

Beta ₂ Agonist (Quick Acting)	Use/Action	Common Side- Effect/Helpful Hints
 <p>Airomir[®] (Salbutamol sulfate) Bricanyl[®] (Terbutaline sulfate) Ventolin[®] HFA (Salbutamol Sulfate)</p> <p>Oxeze[®] (Formoterol)</p>	<ul style="list-style-type: none"> - Quick relief within 3-5 minutes - relax tight airway muscles for 4-5 hours - to be used only when needed or as prescribed <p>Oxeze[®] is quick acting and lasts up to 12 hours</p>	<ul style="list-style-type: none"> - Tremors, dizziness, fast heart rate when first taken - feels nervous - also available in nebulized form.

2. Controller medications

There are different types of controller medications. These medications treat inflamed and sensitive airways preventing asthma symptoms. They should be taken every day as advised by your doctor or health care provider.

Controllers	Use/Action	Common Side- Effect/Helpful Hints
 <p>Pulmicort[®] (Budesonide) Flovent[®] HFA (Fluticasone propionate) Qvar[®] HFA (Beclomethasone dipropionate) Alvesco[®] (Ciclesonide)</p>	<ul style="list-style-type: none"> - treat and prevent swelling in the airways - slow Acting - reduce irritation in the airways 	<ul style="list-style-type: none"> - hoarseness, thrush in throat may occur - rinse mouth after using - may use spacer with an aerosol inhaler

Controllers	Use/Action	Common Side-Effect/Helpful Hints
<p>Combination Therapy</p> <p>Inhaled steroid and Long acting bronchodilator in one inhaler</p>  <p>Symbicort® (Budesonide and Formoterol)</p>  <p>Advair® (Fluticasone and Salmeterol)</p>	<ul style="list-style-type: none"> - reduce and prevent airway inflammation - relax airway muscles for 12 hours - relief from Symbicort® within 3 minutes - relief from Advair® within 15-20 minutes 	<ul style="list-style-type: none"> - rinse mouth and gargle with water after use to prevent hoarseness/ thrush - Symbicort® can be used for quick relief and as maintenance therapy - do not use for quick relief - use for maintenance therapy
<p>Long Acting Bronchodilators</p>  <p>Oxeze® (Formoterol)</p>  <p>Serevent® (Salmeterol)</p>	<ul style="list-style-type: none"> - Oxeze® works within 3-5 minutes and keeps airway muscle relaxed for 12 hours - Serevent® works within 15-20 minutes and relaxes tight airway muscles for 12 hours 	<ul style="list-style-type: none"> - tremors, headache, fast heart rate may occur - do NOT use for quick relief

Other medications to help control asthma symptoms are pills such as anti-Luekotrienes, Singulair®, Accolate®, Theophylline and Prednisone. ImmunoglobulinE (IGE) Blocker for example, Xolair® (omalizumab) is given by injections. These are helpful for more troublesome or poorly controlled asthma. So far there is no cure for Asthma, but current medications are effective in treating and preventing asthma attacks.

Inhalers and Devices

Inhaled medications go directly into your affected airways. Inhalers are made to be used in a certain way and must be used correctly for you to benefit from the medication. The guide below shows you step by step information on different types of inhalers (aerosol and powder). Your doctor or healthcare provider should check that you are able to use your inhalers properly.

1) How to use a Turbuhaler®

The Turbuhaler® contains medications in a powdered form. The medications are Bricanyl®, Oxeze®, Pulmicort® or Symbicort® (*Pulmicort® and Oxeze® in one inhaler*).



1) Unscrew and lift off the cap.



2) Hold the inhaler upright. Twist coloured grip or base to the **right** as far as it will go. Then to the **left** until it clicks.



3) Breathe out away from the inhaler.



4) Seal your lips around mouthpiece. Breathe in deeply and forcefully through your mouth.



5) Remove inhaler from your mouth holding your breath for 10 seconds if you can.

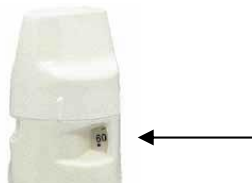
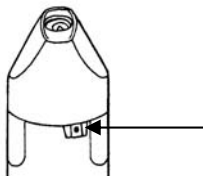


6) Breathe out.

Note: If more than one puff is prescribed, follow steps 2 to 6 for each puff. (**Do not shake the Turbuhaler®**). Replace the cap. Rinse your mouth after using Pulmicort® or Symbicort®.

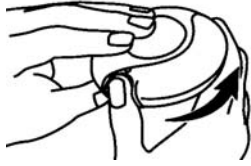
Caring for your Turbuhaler®

- Wipe the mouthpiece with a dry tissue after use
- Do not wash or breathe out into the Turbuhaler®. Keep in a dry place.

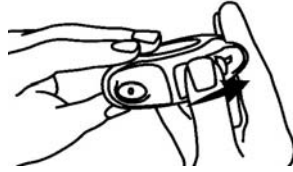


2) How to Use your Diskus[®]

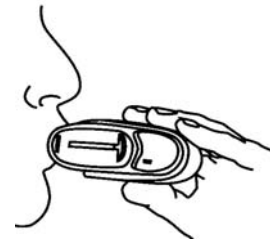
The Diskus[®] contains medications in a powdered form. The medications are Flovent[®] Serevent[®] or Advair[®] (a combination of Flovent[®] and Serevent[®]) in one inhaler.



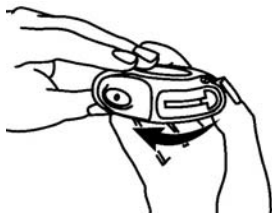
1) To open the Diskus, hold Diskus firmly. Place thumb in thumb grip and push until you hear a click.



2) Slide the lever down until you hear a click. Breathe out away from inhaler.



3) Seal lips around mouthpiece and breathe in deeply and forcefully. Remove the inhaler from your mouth. Hold breath for 10 seconds, then breathe out away from inhaler.



4) To close the cover, slide the grip towards the mouthpiece until you hear a click.



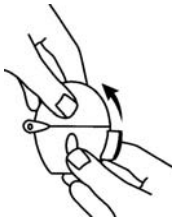
5) Look at the dose indicator to let you know how many doses are left or when your Diskus is empty.

Note: If more than one puff is prescribed for you, repeat steps 1 to 4. Rinse your mouth if using Flovent[®] or Advair[®].

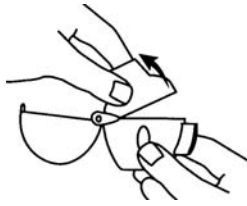
3) How to use your HandiHaler[®]

The HandiHaler is used for a powdered medication in a capsule called Spiriva[®]. It is a long acting once a day bronchodilator to help relieve shortness of breath if you have Asthma and Chronic Obstructive Pulmonary Disease (COPD).

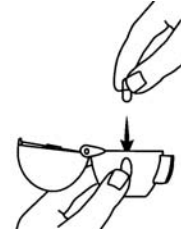
Loading the HandiHaler®



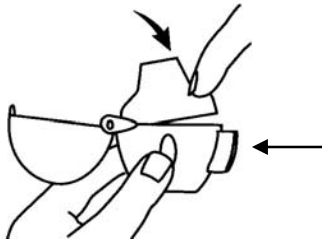
1) To open, lift up the cover.



2) Lift up mouthpiece.



3) Put the capsule in hollowed section.



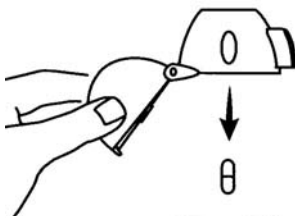
4) Close mouthpiece until you hear a click. **Press and release** the button once to puncture the capsule. Breathe out.



5) Seal your lips around mouthpiece. Breathe in deeply and steadily for a full breath. (You should hear the capsule vibrate). Remove the inhaler from your mouth and hold your breath for 10 seconds. Breathe out. **Repeat this step once to make sure the capsule is empty.**

How to Care and Clean your HandiHaler®

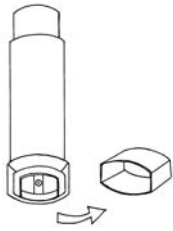
Your HandiHaler should be cleaned once a month or as needed.



1) Empty capsule after each use.

2) Open the lid and lift up the mouthpiece. Push the piercing button up. Rinse the Handihaler in warm tap water. Shake off extra water and let it air dry.

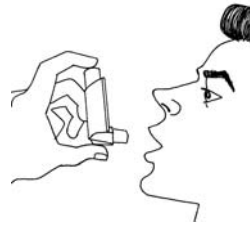
4) How to use an Aerosol Inhaler



1) Remove cap.



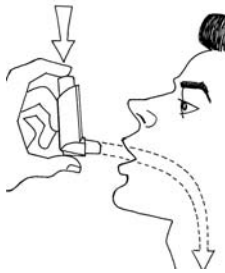
2) Shake the inhaler well.



or



3) Breathe out. Tilt your head back slightly. Hold the inhaler upright 2-4 cm from your open mouth or close your mouth around mouthpiece.



4) Start inhaling slowly and deeply through your mouth. Press down the canister just after you start breathing in and continue breathing in for a full breath.



5) Hold your breath for 10 seconds if you can.

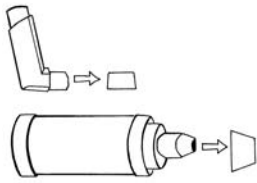


6) Breathe out.

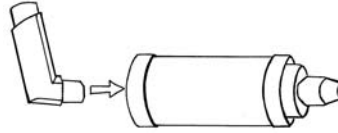
Note: If more you were prescribed more than one puff, wait 1 minute and repeat steps 2 to 6. Replace the cap.

5) How to Use an Aerosol Inhaler with an Aerochamber Plus®

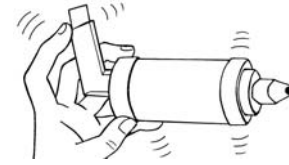
If you are having problems using an aerosol inhaler, you are using inhaled steroids, or may have thrush or hoarseness, your doctor may ask you to use an Aerochamber® or similar spacing chamber. The Aerochamber plus® / spacer device holds the medication particles for a few seconds after depressing the canister before it is inhaled.



1) Remove caps.



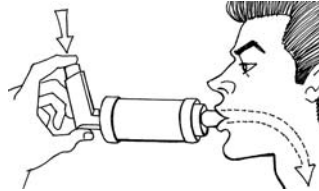
2) Insert inhaler.



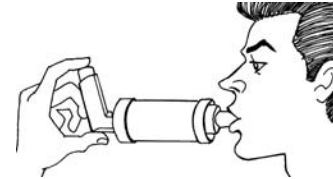
3) Shake well.



4) Breathe out. Tilt your head slightly back.



5) Seal lips around mouthpiece. Press down the canister, then start breathing in slowly and deeply through your mouth.



6) Hold your breath for 10 seconds. if you can then breathe out.

Note: If you are prescribed two or more puffs, wait one minute between puffs then repeat steps 3 to 6. If you are breathless and not able to hold your breath, at step 5, press the canister and breathe in and out as slowly 3 to 4 times through the mouthpiece. Repeat for more puffs. Remove the inhaler from the Aerochamber after you have taken your dose. For children or if you are using an Aerochamber with a mask, place the mask over your nose and mouth, press the canister once and breathe in and out slowly four to six times through your mouth. It's important to choose the right size of Aerochamber for good drug delivery.



Trudell Medical International™

Caring for your Aerochamber Plus®

Powder collects in the Aerochamber after repeated use. So, you should clean your Aerochamber once a week. Remove the rubber ring (inhaler adapter) cap and mouthpiece. Soak all parts in a bowl of warm water with a mild detergent for about 10 minutes, then shake in water to loosen medication residue. (Some research studies suggest not rinsing the chamber to prevent electrical charge buildup that attracts the medication to the walls of the chamber). Shake off the extra water and let air dry if possible overnight before you put it together again.

© 2009 University Health Network. All rights reserved.



University Health Network
Toronto General Hospital Toronto Western Hospital Princess Margaret Hospital

Helpful Hints

- If you are using your Aerochamber correctly you should hear a hissing sound.
- If you are breathing in too fast, you will hear a loud whistling sound. If this happens, try breathing in slowly.
- Replace the Aerochamber as shown by the instructions that come with your spacer.
- Do not insert anything into valve area during cleaning which may affect how the valve works.
- If you are using an Aerochamber with mask, clean as explained above.

Peak Flow Monitoring

A peak flow meter measures the amount of air blown out of your lungs. It is used to find changes in your air passages, check how serious your asthma is or to help in the diagnosis. The measurement is called peak expiratory flow rate (PEFR). There are different reasons when and why peak flows should be done.

For example, it is helpful for those with moderate to severe asthma or for diagnosing exercise induced asthma and job-related (occupational) asthma. If you have job-related asthma, your doctor may ask you to record your peak flows at home and at work.

Your doctor or healthcare provider will show you how to use a peak flow meter and how to record it and explain what the numbers mean. You need your best effort when using a peak flow meter, otherwise you will get the wrong results.

Generally, peak flows should be done early in the morning and in the evening before medications or when you are not feeling well. You may also be asked to record your peak flows before and 15 minutes after a bronchodilator (relief inhaler) to check its effect. Keeping track of your peak flows will help you to know what your personal best figure is when you are well so you can compare the results when you are not feeling well. Your doctor or health care provider will show you how to record your peak flows and use your personal best figure to develop an Action Plan.

There are different types of Peak flow meters available. The one shown on the next page is a Mini-Wright Peak Flow meter.

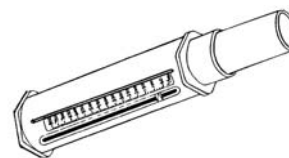


©ADAM

How to Use Your Mini-Wright Peak Flow Meter

Getting ready

1. Stand up or sit up straight.
2. Move the arrow to zero on the scale.
3. Hold the peak flow meter with the mouthpiece horizontal (avoid blocking the gage with your fingers).
4. Take a deep breath.
5. Close your lips around the mouthpiece.
6. Blow as hard and quickly as possible without jerking your head.
7. Look at the level shown on the scale.
8. Repeat steps 2 to 7 two more times.
9. Record the highest number of the 3 attempts.
(It is important to do 3 times).








Bring your recordings to your doctor visits and talk about an action plan. Clean your Peak Flow Meter at least once a month to prevent mould growing on it. Wash it in mild detergent. Rinse well. Shake off the extra water and leave it overnight to air dry. Or follow the instructions that come with your meter. Know what your Peak Flow Levels mean and get specific instructions from your health care provider.

Personal Best Peak Flow _____ L/m
Good Asthma Control _____ L/m (80% - 100%) of personal best
Treatment needs adjustment _____ L/m (50% - 80%) of personal best
Need urgent care _____ L/m less than 50% of personal best






Common Asthma Triggers

Different things can bother your breathing. These are called "triggers." Inflamed airways are more sensitive to triggers. Asthma triggers can be allergic and non-allergic. Try to identify triggers at home, at school and at work. An allergy test can help confirm the things you are allergic to. Managing and avoiding asthma triggers can help to keep your asthma under control. Get advice from your doctor or Asthma Educator.

Allergic Triggers	Common Sources	What you can do
Dustmite 	Carpets, furniture, pillows mattresses, stuffed toys, dusty areas, dirty air filters	<ul style="list-style-type: none"> - clean regularly and do damp dusting - use a zippered dust mite proof cover for mattress and pillows - wash bed sheets in hot water - keep humidity level at 40-50% - clean / change furnace filters
Animals 	Dander (scales or dead cells) and saliva from cats, dogs or other furry animals and birds	<p>It is not possible to get rid of pet dander if pets live in the home.</p> <p>It may help if you:</p> <ul style="list-style-type: none"> - keep pets outside if possible - do not allow pets in your bedroom - bath pets once a week
Moulds 	Found indoors and outdoors Damp areas such as sinks, bathrooms, laundry, garbage cans, humidifiers, damp soil, rotten leaves in lawn	<ul style="list-style-type: none"> - keep the humidity in your house low 40-50% to reduce mold growth - clean and air out rooms - avoid having indoor plants - speak to your doctor if symptoms continue
Pollens 	Trees, grasses and ragweed Pollens are spread by the wind Trees pollen from April to June, Grass pollen from mid May to July, Ragweed pollen from August to October in Ontario	<ul style="list-style-type: none"> - keep doors and windows closed in the pollen season - use central air conditioning if available - talk to your doctor about immunotherapy
Foods 	Foods such as nuts, shellfish, eggs, milk, wheat and chocolate. Additives or food coloring Sulfite in dried preserved fruits, beer, wine or salads Monosodium glutamate (MSG). These can cause asthma symptoms in some people.	<ul style="list-style-type: none"> - avoid known triggers - read labels on food products - ask about ingredients used in restaurants - for severe allergic reactions, talk to your doctor about the need for an EpiPen[®] or Twinjet Auto Injector.

Non-allergic Triggers (irritants)

Tobacco smoke (secondhand smoke) is the most common irritant in the home. It can be a factor in the development of asthma or it can make asthma symptoms worse, including other health problems. Common examples of non-allergic triggers are listed below.

Non-Allergic Triggers	Common Sources	What you can do
<p>Fumes</p> 	<p>Cigarette smoke, fumes from bleach, paints, wood stoves, perfume or chemicals humidity or cold air</p>	<ul style="list-style-type: none"> - stop smoking and avoid smoky areas - avoid strong smelling fumes in the home - use a mask if possible - get plenty of fresh air in work areas - wear a thick scarf over nose and mouth in cold weather
<p>Exercise</p> 	<p>Sports or activities</p>	<ul style="list-style-type: none"> - do not avoid exercise - speak to your doctor about using your relief inhaler 10-15 minutes before exercise - warm up 3-5 minutes before exercise and cool down 3-5 minutes afterwards - choose a sport you enjoy - increase the time of exercise slowly - avoid scuba diving
<p>Emotions</p> 	<p>Excitement, laughing, crying, fear, anxiety or stress</p>	<ul style="list-style-type: none"> - try to relax – don't rush or panic - take slow deep breaths and breathe out slowly through your mouth - get medical help in stressful situations
<p>Infections</p>	<p>Colds, flu, viruses or chest infections</p>	<ul style="list-style-type: none"> - get a written action plan from your doctor so you know exactly what to do - record your peak flows to see if your asthma is getting worse - get yearly flu shots - get help promptly
<p>Medications</p> 	<p>Medications such as Aspirin, some blood pressure pills and eye drops (Beta-blockers)</p>	<ul style="list-style-type: none"> - bring all medications you are taking to your doctor's visit - wear MedicAlert bracelet for allergies
<p>Occupational</p> 	<p>Working areas with fumes, gases, chemicals, metals or dusty areas work exposure to wheat, flour or latex products</p>	<ul style="list-style-type: none"> - wear masks and follow workplace safety - ask your doctor for advice if you think something at work is making your asthma worse

Prevention

Your asthma will be much better if you can avoid the things that you know bother you. If you have exercise-induced asthma your doctor may ask you to use your quick relief inhaler 10 to 15 minutes before exercise.

Keep track of your symptoms and peak flows. This will help you to notice early changes in your asthma, so you can follow your action plan and adjust medications as instructed by your doctor or asthma Educator.

Warning Signs of Worsening Asthma

Contact your doctor if:

- You need your relief inhaler more than 4 times a week.
- You have breathing problems early in the morning or at night.
- Normal daily activities leave you short of breath.
- You have low peak flow levels.

Action Plan

Talk to your Doctor about an action plan.

Get written instructions so you know what to do in an emergency. Tell a family member or friend what to do so they can help in time of crisis. Make a list of all medications and doses you are taking. You should know what they are for and any common side effects.

An **action plan** should include instructions about the following:

- When to start, add or increase the dose of your medication.
- How much to increase the dose and when to stop.
- When to start taking prednisone, how much to take and when to take it.
- When to adjust your medication if you are recording your peak flows.
- When to get emergency help.

Your Asthma is under control when:

- You are not bothered by asthma symptoms.
- You do not need your relief inhaler more than 4 doses a week.
- You have no nighttime symptoms.
- You can tolerate normal daily activities including exercise
- You can exercise (if you have exercise induced asthma you may use one dose of your quick reliever before exercise).

Points to Remember:

- Always keep your quick Reliever inhaler with you.
- You will need more medication to control your asthma if you ignore your triggers.
- Take your Controller medication regularly as directed by your doctor.
- Asthma is a treatable condition. Learn about asthma.
- Asthma can be controlled - don't let asthma control you.
- If you think you have work-related asthma, please talk to your doctor.

Smoking Cessation

Why is it important to quit smoking?

Chances are you are risking your health and it is better to quit while you are ahead. While it is understandable that no one likes to be told what to do, as health care providers it is our duty to provide you with the facts about the harmful effects of smoking.

The decision is yours. Quitting may not be easy, but it can be done. It means thinking about a lot of things before coming to a decision that is in your best interest. This may be one of the biggest challenges you ever have to make. It means giving up something you have done for years and you probably enjoy.

While most smokers try a few attempts before they quit, others decide they have had enough and just quit. Whatever way you choose, it is never too late. Smoking can affect you both physiologically (dependence on nicotine) and psychologically (emotional), so being patient is important.

The benefits of quitting smoking include reducing your risk of developing Chronic Obstructive Pulmonary Disease (COPD), Cardiac disease, Lung Cancer and other health problems. Remember, change only happens when you *make* a change. Talk to your doctor or healthcare provider if you need help quitting and discuss what methods may be right for you and what resources are available.



Resources to Help You Quit Smoking

There are a number of organizations available that provide programs for smoking cessation counseling and support groups. You can get help from:

- Family doctor, Nurse or Pharmacist
- Local Health Centres
- Canadian Cancer Society: 1-877-513-5333
- <http://www.itscanadastime.com/>
- <http://www.gosmokefree.ca/>
- <http://www.quitnow.ca/>
- <http://www.smokershelpline.ca/>

