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# About Asthma

Developed by the Asthma Education Service with assistance from the Department of Learning and Development.

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**A**sthma cannot be cured but it can be controlled with treatment. Many attacks can be prevented and most can be eased with the right kind of medicine. Most people, who follow the action plan they make with their doctor, breathe easily and live a normal life.

When asthma is **not** managed well, the attacks can be frightening and dangerous. Also, it keeps children out of school, and limits some of the activities they enjoy.

Please note: This pamphlet is provided for parents of children with asthma. The contributors do not assume responsibility for inaccuracies or omissions. As new information becomes available, treatments may change.

This pamphlet may help you as a parent identify if your child is having an asthma attack. **If you think your child is having an asthma attack, please take your child to the nearest emergency department or call 911.**

## FACTS ABOUT ASTHMA

- ☞ People of all ages have asthma.
- ☞ One of every ten Canadian children has asthma. The number is growing. It is the most common **chronic** disease in children. (A chronic disease is one that can be controlled but not cured. The symptoms keep coming back.)
- ☞ Some children will outgrow asthma.
- ☞ One can't "catch" asthma like one "catches" a cold. (It is not **contagious**.) But, it seems to run in families with **asthma, eczema** (skin rash) and other **allergies**.
- ☞ Cigarette smoke – even second hand smoke (smoke from someone else's cigarette) can cause asthma in young children.

## WHAT IS ASTHMA?

Asthma is a condition of the airways (**bronchial tubes**). Air flows in and out of the lungs through the airways. People with asthma have sensitive airways. They are easily irritated by a number of things. The things that irritate are called **triggers**. The triggers cause

- ☞ the lining of the airways to become **inflamed** and **swollen** and
- ☞ the muscles around the airways to **tighten and squeeze** them.

The swelling and the squeezing narrow the bronchial tubes making it hard for air to flow in and out of the lungs. This is an asthma attack. Breathing is a struggle.

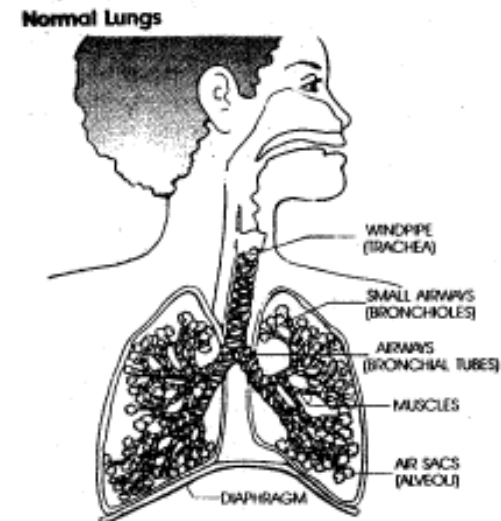
### The signs of an asthma attack are:

- ☞ wheezing (breathing sounds like a whistle),
- ☞ coughing,
- ☞ chest tightness or pain, and
- ☞ feeling out of breath.

## WHAT HAPPENS IN THE AIRWAYS DURING AN ASTHMA ATTACK?

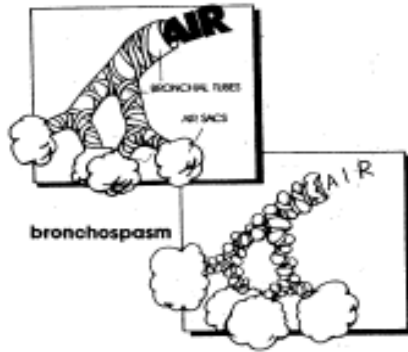
In healthy lungs, air with oxygen enters through the nose and mouth and moves down the **trachea**. The trachea divides into two "branches" (**bronchial tubes**) – one goes to each lung. In the lungs they branch again into many, even smaller, branches called **bronchioles**. At the end of each **bronchiole** is an **alveoli** (small pouch). In these small pouches, blood removes the oxygen from the air and puts back **carbon dioxide**. The blood carries the oxygen around the body. We breathe out the carbon dioxide.

Lungs that have sensitive airways react to triggers.



- 1) The inside walls of the bronchiole tubes become swollen and inflamed. This means that the small air passages become even narrower.
- 2) The irritated tissues make lots of thick mucous in the airways. The mucous plugs the airways and makes it still harder for air to enter or leave the lungs.

3) The muscles that are wrapped around the airways squeeze tight (**bronchospasm**) and close the bronchioles even more so that air cannot get in or out.



## WHAT ARE THE ASTHMA TRIGGERS?

Triggers are those things that cause sensitive airways to react in the way described above. Not all children with sensitive airways react to the same things. Learning to know which things trigger your child's asthma attacks is an important part of asthma control. Once you know the triggers, you can try to keep your child's life as free from them as possible.

It may not be easy to point to one thing that always causes an attack. There are often a few triggers working together, or building up, until the "last straw" causes an asthma attack.

### Common triggers

➤ **Cigarette smoke** breathed in from inhaling on a cigarette or from breathing in the smoke of someone else's cigarette (second hand smoke).

**How to reduce** - keep children away from all cigarette smoke. Keep a smoke free house and car.

➤ **Other types of smoke, strong smells, gases** from perfume, paint, chemicals, bleach, outdoor fires, woodstoves, and wood burning fireplaces.

**How to reduce** - remove child from smoky areas. Avoid using strong perfumes and smelly cleaners. Ask family, friends and others to help your child stay away from the triggers that cause breathing problems.

➤ **Infections in the airways** (colds or flu).

**How to reduce** - talk to your doctor about flu shots for your family. Encourage your child to wash his/her hands often. Stay away from playmates with coughs and colds. *Note: Airway infections are the most common trigger in children. It is important to deal with an infection as soon as it starts. Have a written plan from your doctor so you know what steps to take. E.g. What medications and actions your doctor recommends when your child shows signs of asthma worsening. (Use page 12 to make notes.)*

➤ **Animal fur, feathers or dander** (shed skin).

**How to reduce** - remove pets from the home, at the very least from the bedroom. *Note: It is not possible to get rid of pet dander if pets are in the house.*

➤ **Dust mites (tiny insects)** We cannot see these but they are in furniture, carpets, mattresses, pillows, stuffed animals and furnace filters.

**How to reduce** - vacuum twice a week with a H.E.P.A. (High Efficiency Particulate Air cleaner) filtered vacuum. Dust with a damp cloth. Keep furnace filters clean. Use dust-mite proof coverings for mattresses and pillows. Use washable pillows and toys. Keep humidity in your house down (dust mites thrive in the damp of our west coast wet!) Use kitchen and bathroom fans to control steam and moisture buildup. Dehumidifiers are available in stores.

➤ **Mould** - is made up of living cells that grow well in damp areas like sinks, tubs, laundries, garbage cans, wet

leaves and compost. These mould cells, like pollens, can be carried in the air and breathed into the lungs.

**How to reduce** - Clean and dry damp areas often. Prevent steam by using fans in bathrooms and kitchens. Open doors and windows. Do not use humidifiers (steamers).

➤ **Pollen** (powder like seeds shed by plants). Pollen is carried by the wind. People with allergies may react to it with asthma attacks, watery eyes, sneezing or runny nose.

**How to reduce** - Keep windows and doors closed when pollen levels are high (early spring in BC). Dry clothes and sheets in a dryer rather than outdoors where pollen can collect on it. Stay indoors during the times when pollen counts are higher - mid day in sunny weather.

➤ **Some foods and additives** like nuts, shellfish, chocolate, MSG (monosodiumglutamate) are common problem foods.

**How to reduce** - Do not have foods that you know are triggers. Read food labels and ask about menu items which you order in restaurants.

➤ **Medication** can cause an allergic reaction in some people.

**How to reduce** - Ask your doctor or the pharmacist about alternatives for the medications that act as triggers.

*Note: Make sure your child wears a Medic Alert bracelet.*

➤ **Strong emotions** like “fits” of laughing, crying, fear, anger.

**How to reduce** - teach your child ways to calm down like slow, deep breathing. (There are books on how to teach these exercises to children.) Talk with your child about how to deal with stressful times and places. Consider what parts of your child’s life result in strong emotional reactions. Create plans for managing in these situations – these may include staying away. Practice the plans with your child.

➤ **Exercise** like sports or physical effort.

**How to reduce** - warm up before exercise and cool down after. Use **reliever** medication 15 minutes before exercise. Discuss an activity plan with your doctor.

## **EARLY WARNING SIGNS OF AN ASTHMA ATTACK**

When your child has one or more of these signs use your **asthma action plan** or see your child’s doctor. The signs mean that it is getting harder for your child to breathe.

➤ Wheezing

➤ Breathless

➤ Coughing (particularly at night, with exercise or with laughing)

➤ Chest tight or hurting

➤ Runny, stuffy nose

➤ Sneezing

➤ Itchy watery eyes

➤ Itchy, scratchy or sore throat

➤ Tired

➤ Signs of a cold or flu

➤ **Peak flow** is less than 80% of **personal best**. (With children 6 years and older, you can use a **peak flow meter** to help find out if asthma is getting worse. Ask a nurse or doctor to give you information about this.)

➤ Signs that only you know as a parent.

## MEDICATIONS TO MANAGE ASTHMA

There are two main types:

### 1) Preventer or anti-inflammatory medications

Help to keep down the inflammation (swelling) and mucus inside the airways. Your child needs to take these even when he/she is well. The doctor will suggest the dose and the schedule that will be best for your child. It will take a few days before your child feels relief from the Preventer medication.

**Examples: Flovent® ( fluticasone) and Pulmicort® (budesonide).**

### 2) Reliever or rescue medications

These bring fast relief. They start working in 5 minutes. Use them when your child is having asthma symptoms such as wheezing, coughing and feeling out of breath. Rescue medication relaxes tight airway muscles so the airways open and breathing is easier.

**Examples: Ventolin® (salbutamol) and Bricanyl® (terbutaline).**

## WHAT TO DO WHEN AN ASTHMA ATTACK STARTS

Take action at the first signs.

- Give the **reliever** medication right away to improve breathing.
- Remove your child from any known triggers
- Stay calm and calm your child. (Use a calming exercise.)
- Seat your child comfortably, leaning forward with arms and forehead resting on a table or pillow.
- Watch carefully for any signs of the attack worsening.
- Call your doctor if your child needs the **reliever** medication more often than what was suggested. This

is a sign that your child is getting sicker. Don't wait to see what happens. Get help earlier rather than later.

- If your child still has trouble breathing 10-15 minutes after the **reliever** medicine, give it again and go to the emergency department.

## SIGNS OF A SEVERE ASTHMA ATTACK

Your child needs medical attention **right away** if she/he has any of these signs:

- Fast, shallow, difficult breathing
- Coughing and gasping – can lead to vomiting
- Skin pulling in between the ribs, at the collar bones, below the breast bone
- Change in level of consciousness (unaware of what is going on, sleepy, dazed)
- Blue around the lips
- Trouble talking
- Pale and sweaty.

**Act at once - call 911 and give the reliever medication eg. Ventolin (salbutamol) every 10-15 minutes.**

## HELP OTHERS HELP YOUR CHILD

Make sure that teachers, coaches, child minders and others, who are sometimes responsible for your child, know about your child's asthma. Give them a written plan and review, what to do, and who to call if an asthma attack happens. Give the new teacher all the asthma information at the start of each school year.

At British Columbia's Children's Hospital we believe parents are partners on the health care team. We want you to be as informed as possible. This booklet will answer some of your questions. If you:

- ≈ work in partnership with your doctor,
- ≈ stick with the asthma action plan you make together and
- ≈ talk about the concerns that come up,

you can control your child's asthma. Good control keeps your child well so she/he can learn, play, sleep and grow.

## MORE INFORMATION:

For more information about asthma and children, visit the following websites:

[www.asthmasociety.com](http://www.asthmasociety.com)

[www.asthmakids.ca](http://www.asthmakids.ca)

[www.lung.ca](http://www.lung.ca)

[www.asthmaincanada.com](http://www.asthmaincanada.com)

Call the BC Lung Association at:

604-731-5864

2675 Oak Street, Vancouver, BC V6H 2K2

OR:

1-888-566-LUNG

Call the BC Nurse Help Line at:

Greater Vancouver area: 604 215-4700

Toll-free elsewhere within BC: 1-866-215-4700

Deaf and hearing-impaired toll-free province-wide:

1-866-TTY-4700

OR

[www.bchealthguide.org](http://www.bchealthguide.org)

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