



**Childhood asthma in Canada has quadrupled in the last decade. It is one of the main causes of hospitalization of children as well as visits to hospital emergency departments.**

Asthma is an inflammatory disease of the lung's airways – the bronchial tubes. Symptoms consist of recurrent episodes of wheezing, shortness of breath, tightness in the chest and/or coughing. According to a report published by Statistics Canada, an estimated 11.2% of children under age 15, or about 672,000 Canadian children in this age group, are reported to have asthma, up from 2.5% in 1978-79. Asthma is one of the most common causes of hospitalization among children, as well as visits to hospital emergency departments. While no single factor appears to explain the higher incidence, a combination of factors such as better recognition of the disease, increased pollution and possibly changes in lifestyle leading to more time spent indoors could be responsible.

## Is it asthma?

Asthma is often difficult to diagnose because its symptoms are similar to other conditions. According to Dr. Francisco Noya, who heads up the Asthma Centre at The Montreal Children's Hospital, part of the McGill University Health Centre, the majority of children with asthma have their first episode before the age of 3 and episodes are usually triggered by a viral infection. Studies have revealed however that two-thirds of younger children who wheeze when they have a viral infection will stop wheezing after the age of 5. Children who continue having asthma past the age of 5 usually present one of the following predisposing factors:

- a family history of asthma or respiratory allergies;
- the child has allergies or eczema;
- the child is exposed to tobacco smoke.

Dr. Noya adds that asthma can be classified as **episodic**, with relatively infrequent symptoms that appear for brief episodes, or

**persistent**, where symptoms appear a few times a week. That is not to say though that episodic asthma is not serious because, even though asthma symptoms may appear less frequently, they can be as severe.

## What triggers asthma?

A viral infection is the most common trigger for asthma, especially in younger children. This is followed by environmental irritants, mainly tobacco smoke, and allergies. In young children, the most common allergies are to dust mites and to furry pets. Children over 6 may also have outdoor allergies, mostly to pollens and moulds. Breathing cold air, below the freezing point, and strenuous exercise are also triggers for some children. In general, the worst season for asthma is winter because there are more viral infections and because more time is spent indoors, thereby increasing exposure to many sources of allergies.



*There is as yet no cure for asthma. However, the Montreal Children's Hospital Asthma Centre stresses that understanding asthma and controlling the symptoms can help children with asthma lead active and healthy lives.*



## How can asthma episodes be prevented?

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In the case of tobacco smoke, smoking should be done outside the house, and of course, quitting smoking is encouraged. Children should undergo tests to determine the exact type of allergies they have. If the allergy is to pets, these should be excluded from the indoor living environment; otherwise, parents should consider finding another home for the pets. To control an allergic reaction to dust mites, the use of dust mite impermeable covers for mattresses and pillows is recommended, as well as removing carpets from the child's bedroom. Bedsheets should be washed in hot water on a weekly basis and objects that attract dust mites or trap animal hair, such as books, stuffed animals and non-washable curtains, should be removed from the bedroom.

## What treatments exist?

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Two main types of medications exist to treat asthma. Relievers, namely quick-acting bronchodilators delivered via inhaler, are usually used on an as-needed basis, to open up the airways and relieve symptoms. If the need for a bronchodilator is regularly more frequent than three times a week, then controllers may be a better solution. Used on a regular, long-term basis, controllers are anti-inflammatory medications that control the swelling in the

airways. Among these, the most common are inhaled corticosteroids.

When the treatment of asthma is prescribed, the doctor should prepare a personalized action plan outlining a set of instructions as to what to do, how to know if the asthma is not properly controlled and when to seek medical help.

## When to seek further medical help?

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For an asthmatic child, one must promptly consult a doctor when one of the following conditions occurs:

- The child is wheezing and the bronchodilator is providing no relief 15-20 minutes after use.
- The wheezing seems to respond to the bronchodilator but only for a short time. The bronchodilator is needed sooner than every 4 hours.
- The wheezing seems to respond to the bronchodilator but the asthmatic condition doesn't start to get better after 2-3 days. For example, the child has a cold and continues to need the bronchodilator 4-6 times a day even 2-3 days after the onset of the wheezing.

## Where to get help

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The Montreal Children's Hospital Asthma Centre is staffed with pediatricians, allergists, respirologists, respiratory therapists and asthma nurses. It operates an asthma clinic, open six half-days a week, by appointment. The clinic offers medical evaluation, pulmonary function and allergy testing, development of a treatment plan, including prescription of medications, and finally, teaching and support to the family of the asthmatic child. The initial visit to the clinic requires referral by a physician. The MCH Asthma Centre has been designated as an Asthma Education Centre by the Quebec Asthma Education Network. Physicians or other health professionals refer patients for asthma education to the Centre, aimed at providing parents and children with a better understanding of what asthma is and how to deal with it. It also provides instruction on how to use the various devices and medications, how to assess if the asthma is well-controlled, and how to respond by using the prescribed action plan.

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