Main messages

- Wheezing is very common in the first few years of life but more than half of all children who wheeze do not develop asthma.
- Asthma is more likely to develop in children who continue to wheeze beyond the age of three and have allergies, or have parents with allergies or asthma.
- The process that leads to asthma starts very early in life – possibly before birth – and involves a complex interaction between genes and the environment.
- Exposure to tobacco smoke affects lung development before and after birth. Women should not smoke while pregnant. Exposure of babies and children to tobacco smoke should be avoided.

This series on Asthma Topics for Consumers comprises eight separate titles:

1 Asthma and Allergy
2 Asthma and Lung Function Tests
3 Asthma and Pain Relievers
4 Asthma and Air Pollution
5 Asthma and Complementary Therapies
6 Asthma and Infant Bedding
7 Asthma and Diet in Early Childhood
8 Asthma and Wheezing in the First Years of Life

For copies of these brochures go to: www.NationalAsthma.org.au or contact your local Asthma Foundation on **1800 645 130**.

Further information

Talk to your doctor or pharmacist, or contact the Asthma Foundation in your State or Territory on **1800 645 130**.

Asthma Australia website:
www.asthmaaustralia.org.au

National Asthma Council website:
www.NationalAsthma.org.au

Commonwealth Department of Health and Ageing HealthInsite:
www.healthinsite.gov.au

Australasian Society for Clinical Immunology and Allergy website:
www.allergy.org.au

Disclaimer

The information in this brochure has been expert reviewed and represents the available published literature at the time of review. It is not intended to replace professional medical advice. Any questions regarding a medical diagnosis or treatment should be referred to a medical practitioner.

Australian Government
Department of Health and Ageing

NATIONAL ASTHMA COUNCIL AUSTRALIA

Asthma 8
and Wheezing in the First Years of Life

What is wheezing?

Wheezing occurs when lower airways are narrow or constricted – breathing feels difficult and there is a whistling sound in the chest on breathing out. Wheezing is a symptom of asthma and other lower respiratory conditions (such as the viral condition *bronchiolitis*).

Narrowing in the lower airways can be caused by different things.

- In asthma, redness and swelling (*inflammation*) in the small airways deep in the lungs causes over-production of mucus and tightening of airway muscles. The combination of swelling, mucus, and muscle tightening all cause narrowing of the airways.
- With a viral infection in the airways, excess mucus production can build up and clog the airways. This is particularly likely in a child born with narrow or abnormally shaped airways.

See the 'Asthma and Lung Function Tests' brochure for more information on lung inflammation in asthma.

What is the link between asthma and wheezing?

Most people with asthma wheeze. But not everyone who wheezes has asthma.

Wheezing is very common in the first few years of life. For most children it is temporary and does not mean that they have asthma.

What is the link between asthma and wheezing?

Studies of babies and children have shown us that there are different types of wheezing in young children.

- *Transient* wheezing – In more than half of children who wheeze, the wheezing occurs when the child has an infection and stops when the child gets better. Transient wheezing usually stops altogether by about 3 years of age as the airways grow and widen.
- *Bronchiolitis* is a common virus causing transient wheezing in babies, particularly those under 6 months of age. If your baby has a lung condition such as bronchiolitis it does not necessarily mean that he or she will develop asthma as a child.
- *Persistent* wheezing – Children with wheezing that continues beyond the preschool years are more likely to have allergies than children whose wheezing stops. Signs of allergy include having eczema, hay fever, or a runny nose without a cold.

The combination of continuing wheezing and allergies, or parents having allergies or asthma, further increases the chance that wheezing will continue and asthma will develop.

Can we tell if wheezing is transient or persistent?

Even though we know about different types of wheezing, it is difficult to tell whether a young child has transient or persistent wheezing.

Predicting whether wheezing is due to asthma involves gathering different types of information over time, including family history, signs of allergy, and whether wheezing continues.

The doctor can't be completely sure whether it is asthma until the child has a lung function test (see brochure on lung function tests).

To identify which children will get asthma, we need to understand more about how asthma develops.

What do we know about development of asthma?

Asthma affects different people in different ways, which is one reason why it is so hard to define and diagnose. But research is showing us that the process that leads to asthma starts very early in life – possibly before birth – and involves a complex interaction between genetic and environmental factors.

Recent studies indicate that young children who are prone to asthma because their parents have allergies or asthma are likely to have lower lung function than normal even if they show no signs of wheezing or other asthma symptoms. This suggests that the process of asthma development is well under way in the early years of life, when the lungs develop most rapidly.

There is much we still don't know, especially about the environmental factors that contribute to asthma. Research is finding some clues, particularly about tobacco smoke, allergies, and the possible protective effect of infections.

Tobacco smoke and a baby's lungs

Exposure to tobacco smoke affects lung development before and after birth. While tobacco smoke does not cause asthma itself, it does increase the risk of transient wheeze, affects airway growth and can induce asthma attacks in children with asthma.

Women should not smoke while pregnant. Exposure of babies and children to tobacco smoke should also be avoided.

Infections, wheezing and asthma

Infections such as bronchiolitis are the main cause of transient wheezing, and conditions that increase exposure to infections (such as having more brothers and sisters or being in child care) are risk factors for transient wheezing.

On the other hand, these same factors seem to protect children against persistent wheezing.

Children who have frequent colds and other common infections as babies are less likely to develop persistent wheezing in later childhood.

It is thought that common childhood infections may change children's immunity so they are less susceptible to allergic responses such as inflammation. More research is needed to explore this further.

Asthma and allergies

The link between allergies and asthma is complex. See the 'Asthma and Allergies' and 'Asthma and Infant Bedding' brochures for more information.

What is asthma?

Asthma is a reversible narrowing of the airways in the lungs. Asthma symptoms include wheezing, coughing (particularly at night), chest tightness, difficulty in breathing and shortness of breath.

Asthma is a manageable health condition. Although at the moment there is no cure, with good management people with asthma can lead normal, active lives.