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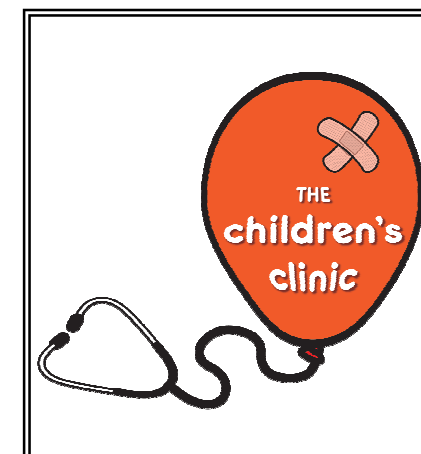
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Wheezing in young children

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My young child wheezes-is it asthma?

"Until the 19th century fever was regarded as a disease, maybe in 20, 20 or 50years' time we will look back at asthma in the same way".

Fernando Martinez

Why did Dr Martinez make this comment and why did *The Lancet* medical journal plead to abandon asthma as a disease concept in 2006?

The reason stems from the origin of the word 'Asthma'. It comes from a Greek term meaning panting and is a description of what the disease **does** to the lungs, **not** the cause.

Classical asthma

The classical picture we have of an asthmatic is of older children with eczema, hay fever or allergies and who wheeze when they exercise, have colds or when they come into contact with an allergy such as a cat, house dust mite or grasses. They get symptomatic relief from sucking on a reliever blue puffer. Lung function testing can help make the diagnosis of asthma in children over 5 years. However, in a preschool child with a wheeze, the picture is much more complicated.

What is a wheeze?

A wheeze is a high pitched musical note caused by turbulent air flowing through an airway tube which has narrowed, either by contraction of the muscle surrounding it or because there is inflammation or mucus present. In many languages there is no word for wheeze and some translate it as a whistling sound. It is no surprise, therefore, that many parents (and junior doctors) get confused with the sound their child is making. A rattle is often mistaken for a wheeze. This is caused by pooling of secretions in the back of the throat making a type of gurgling sound which can be transmitted through the chest wall which is why parents often say they can feel it in their child's chest when they hold him/her. It is much louder than a wheeze which is often heard close to the child or through a stethoscope.

If my pre-school child wheezes is it asthma?

We know that there are many causes for why pre-school children wheeze. If mothers smoke in pregnancy their child has smaller airways at birth and are more prone to wheezing but they are likely to grow out of it. Most preschool children are "transient early wheezers" and will develop wheezing before they reach 3 years of age. They tend to wheeze every time they get a cold but most will grow out of it by 6 years of age.

The symptoms which are highly suggestive of "classical" asthma are:

- Wheezing in the first 3 years of life and persisting beyond 6 years of age
- Frequent wheeze occurring more than once a month
- Cough/wheeze caused by exercise or tickling
- Cough at night without a cold
- No seasonal variation

What tests can my doctor do?

Children have to be at least 4 or 5 years of age to test lung function to help make the diagnosis. There are some lung function tests that do not require cooperation and can be done in babies but these are used for research at the moment. A skin prick test will help to see if your child has an allergy to common air-borne allergies such as house dust mite, dogs, cats, grasses and cockroaches.

Can I do anything to prevent the episodes?

As most cases of wheeze under 5 years of age are due to viruses it is difficult to avoid these. Most children get on average 8 colds a year and this is increased if they go to childcare or have older siblings who go to school. There is no evidence that avoiding milk or dairy products has an effect in the majority of children. For house dust mite, there is not much evidence to show that changing to special expensive bedding or removing carpets causes wheezing to improve. Avoiding house dust mite does make nasal allergy better though.

Avoiding smoking definitely helps. Smoking destroys the protective lining of the airways and even if parents smoke outside, the poisons are transmitted in their clothes and hair and transferred to their child when they cuddle him/her.

What treatment options are there?

Your doctor may suggest that your child uses a blue **reliever** medication only when there are symptoms. This should be used as instructed with a spacer device and mask in children under 3 years of age, and a spacer with mouthpiece in older children.

Inhaled **preventer** steroids are another option to prevent recurrent wheezy episodes. Again they should be taken with a spacer and your child should be encouraged to brush his/her teeth afterwards or have a drink to remove the steroid deposition in the mouth.

Are steroids safe?

Steroids used in appropriate doses are safe. They are not the same as the steroids that body builders use to build muscles. We do know that taking inhaled steroids can cause growth to become slightly delayed but the good news is that final genetically determined height is not affected; it just means that children may reach it 1 or 2 years later than their friends. It is important to balance this risk against not treating a chronic respiratory illness properly which results in the use of extra energy to breathe and may also affect growth. Children on inhaled steroids should be monitored regularly by a doctor.

Is there an alternative to steroids?

Yes. Montelukast, or Singulair, is a tablet which can be chewed once a day. It is not a steroid and works on a different inflammation pathway. It can be taken either every day or just for 7 days with the onset of every cold. It does not work in everyone but when it does it is excellent. It is licensed in Australia from 2 years of age for wheezing and allergic rhinitis but has been used in Europe safely from 6 months of age.

Will my child grow out of it?

One in 9 children in Australia have asthma. If your child has a wheeze before 3 years of age and either parent has a history of asthma, allergy, hay fever or eczema, or if your child wheezes without colds, has hay fever or allergy, then there is a high chance of that child going onto get classical asthma. However, the good news is that most preschool children will outgrow it and never have to come back to the clinic again.

Useful Internet Sites:

www.kidswithasthma.com.au

A great site for children with asthma games

www.nationalasthma.org.au

National Asthma Council of Australia

<http://www.asthmonitoring.org>

A site dedicated to monitoring asthma in Australia

Space Chambers and Masks:

Small volume spacers should be used up to 5 years of age then a large volume should be used (but even older children can use a small volume)

The recommended masks come in two sizes: size 2 is a round mask and fits most children up to 2 years. The larger mask is a size 3 triangular shape and fits most 3-4 year olds. Children over 4 should use a spacer without a mask.