

Management of viral induced wheeze in Children

What is viral induced wheeze?

Viral induced wheeze (VIW) is common in pre-school children. One in three pre-school children will wheeze on at least one occasion when they have a cold.

Wheeze is a whistling sound which is heard from the chest mainly on breathing out. VIW starts with a cough or a cold which then results in swelling and excess mucous causing narrowing of the airways. These effects cause chest tightness and wheeze. The wheeze can continue for a few weeks after the infection has resolved and happen again with the next cold. Some children are more prone to VIW, especially those born prematurely or with low birth weight, and those whose mums smoked during pregnancy.

Is it asthma?

More than half of children with viral induced wheeze will grow out of it as they get older and their airways get bigger. They don't have asthma.

Some children with VIW develop asthma when they are older (typically school age). It can be difficult to tell if your child will get asthma but there are a few things that make it more likely:

- Your child has attacks triggered by colds but also can get wheezy with exercise, contact with a 'trigger' such as pollen or pets, or sometimes just a change in weather.
- Your child has eczema or hay fever.
- There is often asthma, eczema or hay fever in the family.

What treatment will my child need?

Management of viral induced wheeze is mostly supportive:

- Avoid any exposure to cigarette smoke
- Give regular paracetamol for fever and discomfort
- Breathless babies may vomit less if fed little and often
- Breathing may be helped by propping them up and tilting their cot mattress up by 15°

Severe illness may need hospital admission for oxygen and fluid support (via a tube put through the nose to the tummy or a drip). In this instance your child may be given steroids to reduce swelling in the airways. Antibiotics do not usually help.

Asthma treatments can be tried but do not always help.

Reliever inhalers

Reliever inhalers contain a medication which relaxes airway muscle making it easier to breath. A common example is salbutamol (blue coloured). Ipratropium bromide is also sometimes used. You should give reliever inhalers using a **spacer device** as this helps to get the medication into the lungs where it is most effective.

Reliever inhalers don't stop the cough: this will pass by itself, though this can take a few weeks.

A nebuliser may be used if your child has low oxygen levels. This uses the same medication as the reliever inhaler. With a

good technique reliever inhalers via a spacer and nebulisers are equally effective.

If your child responds to the reliever inhaler they can be discharged with it to use at home. Please make sure you are happy you know how to use the spacer device before going home.

Oral steroids

If your child requires admission to hospital and a good response to asthma treatment is seen a 3 day course of oral steroids (prednisolone) may be given to help reduce inflammation in the airways. However, we don't recommend using steroids in children who are well enough to be at home as there is no evidence of any benefit.

Antibiotics

Antibiotics are not effective against viruses and are therefore not used in viral induced wheeze.

Smoking

It is essential to try and prevent your child from being exposed to cigarette smoke. Even smoke on clothing can cause children to become wheezy.

If you want to give up smoking please contact your practice nurse or GP for support.

When can I take my child home?

In order to be discharged from hospital your child will need to meet all of the following points:

- have safe oxygen levels when awake, asleep and feeding;
- are not needing reliever medication more than 4 hourly;
- are drinking adequate amounts in order to stay hydrated.

Coughing may continue to be distressing and can last for a few weeks. You can support your child by sitting them up and gently patting their back during a bout.

Treatment at home

Reliever inhaler (if responsive to trial of treatment)

The reliever inhaler will usually need to be reduced slowly in the days after discharge:

- **Day 1:** 6 puffs 4-6 hourly
- **Day 2:** 4 puffs 6-8 hourly
- **Day 3:** 2 puffs 8-12 hourly

Preventer inhaler (usually brown)

A trial of asthma treatment may be considered in children who have very frequent episodes of wheeze or those in whom a diagnosis of asthma is suspected, for example those who have the risk factors discussed above. The preventer inhaler should be trialed for a period of **8 weeks** and then reviewed by a health care professional. Don't stop treatment until advised to by a health care professional.

How to use a spacer

- Check the spacer is clean and not damaged.
- Remove the inhaler cap, shake the inhaler and place in the back of spacer.
- Place the mask over your child's nose and mouth.
- Press the inhaler once to release a dose of the medicine.
- Count ten seconds whilst holding the mask over your child's nose and mouth. You should see the valve on the spacer open and close with each breath.
- Wait a few seconds between each puff of reliever inhaler.
- Shake the inhaler between each dose.

Cleaning spacers

Spacers are cleaned before first use and then once a week. Wash in warm, soapy water and then leave to dry in an upright position. Do not put it in a dishwasher or polish with a towel. Spacers should be replaced at least once a year or if damaged.

Treatment escalation

No wheeze 	<ul style="list-style-type: none">Continue with regular medications (most children will not have regular medication)
Wheeze but well 	<ul style="list-style-type: none">Give 2-6 puffs of reliever inhaler via spacerThis can be used up to 4 hourly at home – seek review if used for more than 3 four hourly blocks
Very breathless or poor response 	<ul style="list-style-type: none">Give 10 puffs of reliever inhaler via spacerIf poor response or needing more frequently than 4 hourly, seek urgent medical review10 puffs of reliever inhaler can be given every 20 minutes until help arrives

EMERGENCY

Call 999 if your child has any of the following signs:

- Floppy or unresponsive
- Pale and grey or blue
- Unable to talk in full sentences
- Very high respiratory rate
- Severe sucking in at the throat and ribs

Follow up

Although your child has not been diagnosed with asthma the asthma nurse at your GP practice will usually be happy to review them. If your child has not improved within 48 hours, or they are having a lot of episodes of wheeze, please make an appointment with your GP practice.

If a preventer inhaler has been prescribed as a trial of asthma treatment, please ensure it is reviewed in a primary care asthma clinic after about 8 weeks of daily use.

Signs to look for at home

Please seek medical attention if your child is showing any of the following:

- Too breathless to play or drink
- Tummy sucking in with breathing
- Sucking in at the ribs with breathing
- Sucking in at the throat with breathing
- Grunting noise when breathing out
- Agitation
- Breathlessness preventing speaking in sentences

The Trust cannot accept any responsibility for the accuracy of the information given if the leaflet is not used by RD&E staff undertaking procedures at the RD&E hospitals.

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