Townsville Hospital and Health Service

Asthma / Reactive Airways Disease (RAD)

A child with asthma has airways (breathing tubes) which are more sensitive than normal. When the asthmatic child is exposed to certain triggers, such as a cold or cigarette smoke, their airways overreact and become narrow and inflamed, making it hard to breathe. This is called an episode of asthma or an asthma attack.

The narrowing is caused by tightening of the muscles in the walls of the airways. The inflammation (redness and swelling) occurs in the lining of the airways. Extra mucous (secretions) is also produced in the airways.

Reactive Airways Disease/RAD is the terminology used when asthma is suspected but not yet diagnosed, usually triggered by an infection. It reflects the difficulty establishing a diagnosis in certain situations-such as early childhood.

Although this fact sheet is based on asthma, treatments and management of RAD are similar and information is relevant.

What causes asthma/RAD?

The causes of asthma are not fully understood. It tends to run in families and some people who get asthma are also prone to allergic conditions such as eczema and hay fever.

There is evidence that exposure to cigarette smoke during pregnancy and early childhood increases the risk of developing asthma.

Signs and symptoms

The main signs and symptoms of asthma/RAD are:

- wheezing (a high pitched raspy sound or whistle when breathing out)
- shortness of breath
- tightness in the chest
- coughing – cough may occur especially at night or early in the morning, or be associated with exercise or activity. Please note that if your child has a cough without any of the other signs or symptoms mentioned above, it may not be due to asthma. A cough without the presence of other signs and symptoms of asthma may be due to other lung problems.

These symptoms vary from child to child and from episode to episode. You do not need to have all the symptoms present at any one time.

What is a trigger factor?

A trigger factor is a substance or change in the environment that brings on an asthma attack or flare-up. The most common trigger in children is a cold or respiratory (chest) infection caused by a virus. Viral infections are very common in young children and happen about six to eight times a year. If your child is prone to asthma they are likely to wheeze and cough at these times. Other common trigger factors include smoke (cigarette or fire), animals, dust, pollen, moulds, activity and exercise, changes in temperature and emotions (e.g. stress or laughter). Triggers may be different for each person.

Different degrees of asthma/RAD

Asthma/RAD varies from minor symptoms to severe attacks. It may be mild, moderate, severe, episodic or persistent. The differences are:

- frequency of symptoms
- severity of the asthma attacks
- amount of medication required.

It's important to remember that children with any degree of asthma/RAD can experience severe life-threatening attacks or flare-ups.

Does medication help?

Yes. Well-managed asthma enables your child to lead a full and active life.

Treatment

The best way of controlling asthma is through medications. These are usually taken by breathing in the medication so it goes straight into the lungs. Your child's doctor will prescribe medications that will best control their asthma.

Your child may not need medications from each group. There are four types of medication:

Relievers

Blue-coloured devices (e.g. Ventolin, Asmol, Epaq, Airomir, Bricanyl).

- Relieves the symptoms of asthma/RAD by quickly opening abnormally narrowed airways so it is easier to breathe. It works very quickly (in about four minutes) and lasts up to four hours
- Relievers should only be used when your child has symptoms, in an emergency, or before exercise if prescribed for exercise-induced chest tightness
- Relievers should not be used at other times 'just in case'. Using a reliever too often is a sign that your child's asthma is poorly controlled – your child may need regular preventer medicine.

Preventers

Autumn-coloured devices (e.g. Pulmicort, Qvar, Flixotide, Singulair, Alvesco).

- Prevents asthma attacks by treating the inflammation in the airways. They work by reducing the amount of swelling and mucus in the airways
- Preventers may be inhaled or taken in tablet form.
- Combination preventers also contain a second medicine that helps keep narrow airways open for a longer time
- Preventers must be taken every day even if your child feels well. The medication doesn't work straight away, but your child will start to feel better in a few weeks.

Combination medications

Purple and red/white-coloured devices (e.g. Seretide, Symbicort).

- Combines a preventer and a long-acting reliever (symptom controller) in one device.

Spacers

Puffer medications are best given to your child with a spacer. These plastic cylinder-shaped devices attach to the puffer at one end; the other end goes in your child's mouth. A spacer reduces the amount of medicine that lands in the mouth, allowing more to go down into the lungs where it is needed. Some spacers can be used with masks, which are required for very young children to make sure as much medication as possible is breathed into their lungs.

Benefits of using a spacer

- More medication is inhaled into the lungs
- Fewer side effects from the medication
- Easier to use as it requires less coordination than a puffer alone

Cleaning and care of the spacer and mask

- A spacer must be cleaned before first use. Wash it in warm soapy water, do not rinse it, leave it to air dry
- Clean the spacer and mask the same way every month.

Things to remember

- Make sure you or your child knows how to take the medication
- Make sure your child has their medication with them at all times
- Make sure people caring for your child know your child has asthma and what to do during an asthma attack or flare up
- If your child is finding it difficult to breathe, follow your child's asthma/wheeze action plan
- Relieving medication should be taken to relieve symptoms of asthma including wheezing, coughing, or shortness of breath
- Preventative medication should be taken daily, if prescribed by your doctor
- Exercise is very important. If you are fit and healthy, you will cope better if you have an asthma attack. It helps if you have a GP who is familiar with your child
- Asthma/RAD is a condition that changes all the time
- Visit your doctor regularly. Ask your GP to review and discuss your Asthma/Wheeze Action Plan
- **You should be in control of your asthma. Don't let asthma control you!**

If your child is admitted to hospital

- Your child's vital signs (temperature, heart rate, breathing etc.) will be monitored regularly, even at night
- Your child will be given the necessary asthma puffers/nasal sprays and medications as per the doctor's orders, even at night
- If needed, your child will be given oxygen
- Your child may have an intravenous drip to ensure adequate fluid intake
- Your child will be encouraged to walk around as much as they can
- Your child will be given an asthma/wheeze action plan before discharge.

Transition to home

Your child will be able to go home when your treating doctor considers them to be ready and appropriate for discharge. For example, when:

- he/she has minimal or no breathing difficulty
- he/she is drinking and/or eating adequate amount
- when you feel confident to be able to manage your child at home
- When you fully understand your child's asthma/wheeze action plan
- For children with other complex health care needs, we would expect their state of health to be as it was prior to the onset of asthma/RAD.

Care at home

Once at home your child may still have a wheeze, cough and runny nose to a mild degree. The following instructions may help:

- Ensure a smoke-free environment (please feel free to ask us for advice and support on how to quit smoking if you are ready to do so)
- Encourage normal activities as tolerated

- Follow your asthma/wheeze action plan
- You will need to make an appointment to see your GP/paediatrician within one week of discharge.

When to see your GP or paediatrician

- If your child is not improving
- If your child is requiring the reliever more frequently than the Asthma/wheeze Action Plan suggests
- If you are at all concerned that something may be wrong with your child

When to seek urgent medical attention

- If your child is having a bad asthma/RAD attack and you are worried.
- If your child repeatedly needs reliever medication sooner than three hours (always give reliever medication before going for medical assistance).
- If symptoms do not improve (settle) after 24 hours.
- If your child gets little or no relief from the reliever, or symptoms worsen suddenly. In this instance, you should contact the Queensland Ambulance Service (dial ooo) immediately.

Contact us

The Townsville Hospital and Health Service
100 Angus Smith Drive, Douglas, QLD 4814

Townsville Hospital Switchboard
T: 4433 1111 (24 hours, 7 days)

Your GP

In an emergency, always call ooo

If you have any concerns and it's not an emergency, contact **13 Health (13432584)**.

Qualified staff will give you advice on who to talk to and how quickly you should do it.

You can phone 24 hours a day, seven days a week.

Useful websites

National Asthma Council
www.nationalasthma.org.au

Asthma Foundation of Queensland
www.asthmaqld.org.au

All information contained in this sheet has been supplied by qualified professionals as a guideline for care only. Seek medical advice, as appropriate, for concerns regarding your child's health.

This publication has been reviewed and approved by Townsville HHS health consumers.

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Queensland Government