WHEN IS MY CHILD’S BLOCKED NOSE A PROBLEM?

- An occasionally blocked nose can be a normal part of childhood and may not need specific treatment.
- If the blocked nose is severe, it can lower child’s quality of life, and cause ongoing stress for the family.
- Commencing targeted therapy for your child’s blocked nose is a very individual decision.
- It is almost always possible to gain a clear nasal airway once we decide to embark on treatment.

WHAT ARE THE CAUSES OF BLOCKED NOSE IN A CHILD?

- Enlarged adenoids can block the back of the nose, blocking nasal airflow, and leading to nasal infection with offensive, green mucus.

Figure 1- significantly enlarged adenoids seen at flexible nasal endoscopy, causing complete nasal obstruction

- Swelling of the nose/ nasal allergy
Figure 2

The image on the left shows a swollen inferior turbinate (a normal anatomical structure) causing complete nasal obstruction.

The image on the right shows the same nose 5 minutes after application of a nasal decongestant, showing a dramatic reduction in size of the turbinate, and an improvement in the nasal airway.

Many treatments for blocked nose aim for this effect.

Allergy sprays, (such as Nasonex, Avamys and Omnaris) will give a similar result in some allergic patients and may be the only treatment that is required.

If turbinates remain swollen, and obstructing despite maximal non-surgical treatment, surgery to reduce the turbinates (coblation of inferior turbinates, or inferior turbinoplasty) is likely to help.

- The child’s nose is small in size, meaning that any dried mucus at the front of the nose, or thick mucus in the airway can cause significant blockage

WHAT SYMPTOMS MEAN MY CHILD’S BLOCKED NOSE NEEDS TREATMENT?

- Mouth breathing
- Noisy breathing
- Difficulty eating
- Thick green mucus for a long time after every cold or flu
- Nighttime cough
- Snoring, sleep apnoea (stopping breathing at night)
• Trouble with physical exertion, reduced quality of life related to blocked nose
• Parental concern with any of the symptoms above

ARE THERE ANY BEHAVIOURAL SYMPTOMS OF BLOCKED NOSE?
• Children should mainly breathe through their nose and have enough air without much effort.
• When kids have to try too hard to get enough air, they can become washed out, have poor concentration and sometimes behavioural issues.
• If there is associated sleep apnoea, daytime sleepiness and failure to thrive may be seen
• If kids have too much green discharge from the nose, it may cause social issues with carers, teachers and other children.

WHAT ARE THE CONSEQUENCES OF NOT TREATING MY CHILD’S BLOCKED NOSE?
• Some kids will grow out of a blocked nose, and it may be reasonable to wait for this if the symptoms are mild, and you are not too worried.
• If symptoms are more severe, they can significantly impact a child’s quality of life, and development.
• When there is significant nasal obstruction, there are theoretical concerns with dental development and orthodontics. Dentists are an increasingly common pathway of referrals to ENT surgeons.

WHAT ARE THE APPROACHES TO TREATING MY CHILD’S BLOCKED NOSE?
• Most treatments for a child’s blocked nose are quite simple and well tolerated
• There is a good chance of successful treatment without surgery (saltwater sprays and anti-inflammatory sprays)
• When surgery is necessary, despite a short general anaesthetic, it is usually a day procedure with relatively low risk, and quick recovery
• Treatment is usually very successful in giving a clear nose, and reducing mucusOften parents only realise after successful treatment for their child’s nose how severe a problem there had been

WHAT IS THE ASSESSMENT PROCESS FOR MY CHILD’S BLOCKED NOSE?
• History
  o A detailed history of the symptoms, and the effects they are having on the child and their family is taken
  o A history of other ENT symptoms, e.g. allergy, tonsillitis, snoring and ear infections.
  o A general medical and developmental history.
• Examination
  o Mouth breathing, snuffly breathing
  o Nasal mucus
- Dark loops under the eyes
- Allergic crease (line on tip of nose from repetitive rubbing with allergy)
- General ENT examination – tonsils, ears, etc

**Nasal endoscopy**
- A local anaesthetic spray is applied to one side of the child’s nose
- It has a very bitter taste, and will make the throat numb and uncomfortable for up to 30 minutes
- If the nose instantly becomes clearer, it means that allergy or swelling of or swelling of the turbinates is a factor
- For about 75% of kids above the age of 2 (and sometimes younger) it is possible to get a view of the adenoids, and to see if they are causing blockage
- A very fine and soft endoscopic tube is place into the nasal airway, giving a good view of possible causes of nasal obstruction, in particular the adenoid area
- If the nasal endoscopy is not possible, we make a referral for an adenoid x-ray, which gives similar information

**Further investigation**
- Adenoid X-ray in some children (see below)
- Allergy test
  - *RAST (blood test)*: a convenient screen for response to common allergens such as dust, pollen, grass, animal fur, food and mould.
  - *Referral for skin-prick testing*: a more comprehensive assessment for allergy, giving detailed information about the subtypes of allergens, and the strength of the allergic response. This is part of the assessment if allergy desensitisation is being considered.

**WHAT IS THE TREATMENT FOR MY CHILD’S BLOCKED NOSE?**

- **Nasal spray**
  - Saltwater spray such as FESS spray may help to clear mucus blocking the airway.
  - Corticosteroid nasal spray (NASONEX, AVAMYS or OMNARIS).
  - Almost all kids will have a trial of spray as a first step, to see what response there is.
  - It is worth having at least 2 weeks of this treatment before giving up.
  - For nasal sprays to be the answer they must be:
    - *well tolerated by the child*
    - *give a great response*
    - *be acceptable to parents as a long-term option*
  - In some cases, kids will have seasonal symptoms, and only need treatment at certain times of the year
  - In a child with enormous adenoids, causing complete obstruction sprays are unlikely to help, and progressing straight to adenoidectomy can be justified.

- **Antibiotics**
  - With infection of the adenoids causing thick, obstructing mucus, antibiotics may be worth trying.

- **Allergy desensitisation**
With documented allergy, a course of sublingual drops or subcutaneous injections may be undertaken, to reduce allergic response to a particular allergen.

The treatment is undertaken by a paediatric immunologist, to whom a referral may be made.

This treatment is more likely to be required if there are uncontrolled secretory allergy symptoms (e.g. sneeze, mucus, itchy eyes).

Blockage is more likely to respond to surgery if more simple treatments don’t work.

- **Surgery**

  1. **Adenoidectomy**

    This is the surgical removal of the adenoids

**HOW ARE THE ADENOIDS REMOVED?**

- There are multiple approaches.
- Traditionally this was with a curette, like a sharp spoon, and the adenoids were scraped out.
- Curettage was usually associated with brisk bleeding initially, and a lack of precision in terms of adenoid removal.
- Modern techniques involve visualisation during the procedure with a mirror through the mouth, or even more effectively, a rigid endoscope through the nose.
- Dr Smith uses a coblation EVAC 70 probe that allows the adenoids to be vaporised under direct vision, with bleeding controlled by the inbuilt bipolar diathermy.
- A similar technique is suction diathermy using an electric current, but this delivers far greater thermal energy to the adenoidectomy bed, causing tissue charring, with a higher rate of postoperative crust.

2. **Treatment of the inferior turbinates**

- A large part of successful treatment with nasal sprays relates to reduction in the size of the turbinates
- When sprays don’t achieve this result, or if they are not tolerated surgery is likely to help

**HOW ARE THE INFERIOR TURBINATES TREATED?**

- **Coblation of turbinates**
  - In young children, the turbinates can be ablated. This involves treatment with electric or ultrasound energy to reduce the size, without removing tissue
  - This treatment is well tolerated in kids with less risk and an easier recovery than the bigger operation where the turbinate is partially removed
Coblation of the turbinates is Dr Smith’s most commonly used technique for reducing swelling at the front of the nose in young children.

- **Turbinoplasty**
  - In older kids, or if turbinate swelling is particularly severe, or if Coblation has not given a long-lasting result, *inferior turbinoplasty* is performed.
  - In this operation, a portion of turbinate bone, and the overlying nasal lining is removed.
  - This gives a more dramatic and long-lasting result.
  - Turbinoplasty is not routinely used in very young kids as there is a need for an overnight stay, the requirement for nasal packing, longer recovery and a more significant risk of bleeding than for Coblation.

**WHAT IS THE PREPARATION FOR NASAL SURGERY IN CHILDREN?**

- Once a decision for surgery is made, Dr Smith will provide appropriate printed information, we will watch appropriate video information discuss risks and benefits of treatment, and any question you may have will be answered
- Information about expected costs are provided by the staff at the front desk, and if you wish we will put you in touch with our anaesthetist for the day of surgery
- The hospital will be in touch the working day prior to admission, and give information on fasting times, where to park what to wear, what to bring and where and when to present at the hospital
- We understand that the decision for surgery in your child is a big one, not to be undertaken lightly
- We should only proceed to surgery when you are completely comfortable that it is the correct decision for your child.

**POSTOPERATIVE CARE CHILDREN AFTER ADENOIDECTOMY, AND/OR TREATMENT OF THE TURBINATES**

- For *adenoidectomy with or without turbinate coblation*, discharge will be on the day of surgery
- There will be minimal pain for most children, but a small number may have a pain around the nose or throat for up to a week
- It is often possible to get back to normal activities within a day or two from surgery
- With turbinate coblation, there is often crust in the nose as healing progresses. This can cause the nose to remain blocked in the early postoperative period. This is helped by saline nasal spray and gentle nose blowing.
- The postoperative appointment is usually at 2 weeks
- If the nose is not yet clear at that stage, a further review may be necessary 4-6 weeks down the track
For **turbinoplasty with or without adenoidecctomy** there is often an overnight stay. The nose will be blocked for the first few days, until dissolving packing is suctioned from the nose at the first postoperative appointment. Saline wash such as FLO or SinusRinse and nose blowing will accelerate recovery. Up to a week off normal activity may be required. Remote travel or flying should not be planned for 4 weeks postoperatively. Heavy physical activity should be avoided for 3 weeks; gentle exercise may commence earlier in the postoperative period and gradually build up. The first follow-up will be at 3-5 days, at which the nose will be suctioned free of dissolving packing material, clot and mucus; at that stage the nose usually feels clear. Another review will be necessary at 2-4 weeks, and occasionally beyond this. If all is well at the 2-4-week mark, we will usually just call you a couple of months down the track to ensure that all is well.

**THERE ARE NO OUT OF POCKET COSTS FOR ANY REVIEWS DURING THE POSTOPERATIVE PERIOD**

**WHAT ARE THE RESULTS FOR TREATING BLOCKED NOSE IN CHILDREN?**

- It is almost always possible to get a big improvement in nasal airway, and with this improve quality of life in kids for whom blocked nose is a problem
- If there is significant underlying allergy, this may require ongoing treatment even after successful surgery
- If a smaller procedure (such as coblation of turbinates) is undertaken, there is a chance that repeat treatment, or a bigger treatment (e.g. turbinoplasty) may be required

**CAN ADENOIDS GROW BACK?**

- Unlike the tonsils, which are removed completely at the time of tonsillectomy, it is impossible to remove every last bit of adenoid tissue
- Recurrence of adenoids is rare, and is most common when there are very large adenoids in a very small/ young child at the time of initial surgery
- Modern techniques (e.g. coblation adenoidectomy with direct vision by a rigid nasal endoscope with high definition endoscopic camera, as used by Dr Smith) give the lowest possible rate of recurrent adenoids.

**THE DENTIST HAS TOLD US THAT OUR CHILD’S ADENOIDS MIGHT BE LARGE/**

**THE DENTIST IS WORRIED ABOUT MY CHILD’S BLOCKED NOSE/**

**THE DENTIST SAYS MY CHILD’S TONSILS ARE VERY BIG**
IF MY DENTIST IS WORRIED ABOUT MY CHILD’S AIRWAY, SHOULD I BE WORRIED?

- Your dentist has considerable expertise when assessing the mouth, throat and nose of children, seeing many similar patients each day
- If there are associated symptoms of blocked nose, snoring or sleep apnoea, ENT treatment may be appropriate
- ENT treatment would only be considered if there is objective concern of ENT symptoms/ signs in their own right

IS IT WORTH CUTTING OUT/ AVOIDING DAIRY?

- Patients and their families have often tried this step by the time they come to see us
- It is hard to measure the effect of eliminating dairy due to the natural tendency of ENT complaints to fluctuate through the year, and to improve with age
- If dairy is avoided, it should be done under the supervision of your local doctor, paediatrician, or a dietician

WHAT DO THE ADENOIDS AND TONSILS DO?

- The tonsils and adenoids are part of the lymphoid system which is part of the immune system.
- The adenoids are theoretically the first point of contact for our immune system with substances inhaled through the nose
- The tonsils are the first point of immune contact for substances which are swallowed.
- DOES REMOVING THE TONSILS OR ADENOIDS LOWER IMMUNITY, LEADING TO MORE INFECTIONS?
  - This is a common misunderstanding and has never been scientifically demonstrated.
  - For patients who have tonsillectomy or adenoidectomy with appropriate medical indications, such as severe recurrent tonsillitis, obstructive sleep apnoea or severe nasal obstruction, or adenoid infection, overall wellbeing is substantially improved.
  - Many patients who have had recurrent tonsillitis go from requiring extremely frequent antibiotics, to almost never requiring them.
  - The tonsils and adenoids have been removed routinely for generations (more than 100 years!), in significant percentages of the population without any observed or documented problems

WHAT ARE THE RISKS OF ADENOIDECTOMY OR TREATMENT OF THE TURBINATES?

- The main risk is bleeding
- Significant bleeding from adenoidectomy, or coblation of turbinates is very rare (<1/1000)
- Bleeding after turbinoplasty requiring further treatment is still rare, but more common than for adenoidectomy or coblation of turbinates (<1/50)
• There is a very low chance of blood transfusion required, if bleeding is severe (<1/1000)
• There is a small chance of significant change is the voice after removal of very large adenoids (hypernasality)
  o This relates to a change in nasal airflow, and closure of the soft palate
  o Even when it is seen, hypernasality usually improves over time without need for major treatment
• More detailed information about the risks and benefits of surgery is given at the time that surgery is booked