

- **WHAT ARE THE SINUSES? / WHAT ARE THE PARANASAL SINUSES?**

- The sinuses are air filled cavities around the nasal airway.
- If we consider the nasal passage as the “hallway”, then the sinuses are the little “rooms” that come off the hallway in the middle of the face and extending back into the middle of the skull.
 - There are 4 main groups of sinuses
 - Frontal (in the forehead)
 - Ethmoid (between the eyes)
 - Maxillary (in the cheek)
 - Sphenoid (in the middle of the skull)

WHAT DO THE SINUSES DO?

- Nobody really knows the answer to this
- They may:
 - Influence facial growth, allowing the middle face to lengthen (the lower adult face is proportionately longer than for a child)
 - Reduce the weight of the skull
 - Warm and humidify the air we breathe
 - Influence the resonance of our voice
 - Have a role in the sense of smell

WHAT IS SINUSITIS?

- This is inflammation of the sinus, where the lining becomes swollen, and the sinus may fill with thick mucus, pus or other debris
- It causes nasal blockage, facial pain and headache, mucus discharge and reduced sense of smell.

WHAT ARE THE CAUSES OF SINUSITIS?

- Infection
 - Viruses
 - A viral infection is often the initial cause, or will lead to a worsening of symptoms in someone who has pre-existing sinusitis
 - Bacteria
 - Fungi
 - Mixed infection
 - e.g. fungus superimposed with staphylococcus
- Immune-mediated
 - Nasal polyps
 - Severe swelling of the normally paper-thin lining of the sinuses
 - The swelling becomes so severe that it can hang out into the nasal airway as a "polyp"
 - Nasal polyps are often associated with asthma and sensitivity to salicylates (e.g. aspirin)
 - Allergy

- Allergy to inhaled irritants (such as dust, pollen, mould, animal fur) or food (less commonly)
- Autoimmune/ vasculitis
 - Sinusitis can be a feature of severe systemic inflammatory diseases

WHAT ARE THE SYMPTOMS OF SINUSITIS?

- Nasal obstruction
- Pain
 - Frontal headache
 - Pain between/ around/ behind the eyes
 - Pain the middle of the face
 - Pain at the top/ back of the head
- Nasal mucus
- Post-nasal drip
- Reduced sense of smell

WHEN SEVERE THESE SYMPTOMS CAN BE ASSOCIATED WITH SYSTEMIC SYMPTOMS (EG FEVER, MALAISE, TIREDNESS), POOR SLEEP, REDUCED EFFORT TOLERANCE AND SIGNIFICANTLY REDUCED QUALITY OF LIFE

- The symptoms can be:
 - Acute (<6 weeks)
 - Subacute (6 weeks- 3 months)
 - Chronic (3 months or more)
 - Recurrent/intermittent
- The pattern of symptoms influences the response to treatment, and how likely it is that surgery will be required
- If symptoms have been present for many months to years, or if they have been recurrent intermittently for a long time, it is likely that surgery will be required to improve the situation

HOW DOES SINUSITIS AFFECT YOUR HEALTH?

- Having a blocked nose is uncomfortable, and affects sleep quality
- Sinus pain can be very disruptive to your ability to function in day to day life
- Mucus can be a social embarrassment, have an offensive odour, and make you feel sick
- Post nasal drip can cause throat irritation, and cause chest conditions (such as asthma, pneumonia) to flare up
- Loss of sense of smell can reduce enjoyment of food and drink, and cause a safety hazard (make you unable to detect gas leak, burning etc)

ALL THESE FACTORS CAN SIGNIFICANTLY REDUCE YOUR QUALITY OF LIFE, LEAD TO TIME OUT OF YOUR LIFE, AND MULTIPLE TRIPS TO THE DOCTOR

WHAT ARE THE CONSEQUENCES OF NOT TREATING SINUSITIS?

- The main issue is the ongoing discomfort, and reduction in quality of life.
- Rarely, there can be a severe complication including brain infection, or a vision-threatening infection of the eye.
- Rarely, sinusitis-like symptoms can be related to a premalignant growth, or a malignant tumour of the nose or sinuses
- If there is a concern about a possible complication of sinusitis, or a possible cancer, there is a definite requirement for surgical treatment

I THINK I AM GETTING SINUSITIS. HOW MUCH OF A PROBLEM IS THIS?

- We all get nasal or sinus symptoms from time to time, and this does not always require specific treatment
- When your sinus symptoms are a problem more often than not, it is worth seeing your local doctor for advice- there is almost always a good chance of greatly improving your symptoms
- If they think you might have sinusitis, they may:
 - Investigate with a CT scan of the sinuses
 - Start treatment with nasal sprays
 - Salt water flush
 - Steroid spray (such as nasonex, avamys, omnaris)
 - Start treatment with tablets
 - Antibiotics
 - Corticosteroids (prednisone)
- There is a good chance that these treatments will give a satisfactory improvement, and specialist referral will not be necessary.
- If the symptoms do not respond to these treatments, or if they are too severe, your doctor may refer you to an ENT surgeon.

HOW IS THE DIAGNOSIS OF SINUSITIS MADE BY AN ENT SURGEON?

- History
 - Nature of symptoms
 - Nasal blockage
 - Sinus pain
 - Nasal Mucus
 - Post nasal drip
 - Reduced sense of smell
 - Duration of symptoms
 - Pattern of symptoms
 - Contributing Factors
 - Allergy/ Hay fever
 - Asthma
 - Autoimmune disease/ vasculitis
 - Treatment to this point
 - Sprays
 - Tablets
 - Previous surgery

- General medical history/ fitness
- Examination
 - Anterior rhinoscopy: inspection of the front of the nose with a bright headlight.
 - Nasal endoscopy:
 - Cophenylcaine (a local anaesthetic/ decongestant) is squirted into the nose.
 - The spray has a bitter taste, and makes the mouth and throat numb for half an hour or so.
 - A fine, soft and flexible telescope is passed into the nose, and allows a detailed view of the sinus and adenoid areas
 - In sinusitis, we may see polyp or pus coming from the sinus area
 - Photos/ videos are taken of any abnormal findings and can be shared with you by email/ USB drive if you wish.
 - There is typically no pain with this examination.
 - If the nose feels a lot clearer after cophenylcaine, it is likely that enlarged turbinates are a significant cause of the blockage.
 - If there is evidence of pus in the sinus area, a microbiology swab is taken to guide appropriate treatment with antibiotics

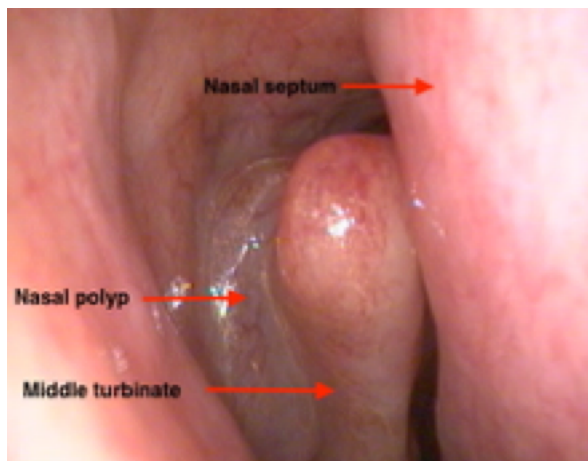


Figure: nasal polyp arising from the ethmoid sinus as seen on flexible nasendoscopy

- Further Investigation
 - CT scan
 - This is the most definitive investigation to confirm the diagnosis of sinusitis.
 - The CT scan will always be abnormal when the patient has sinusitis, with opacification (grey shadow) seen in affected sinus groups.
 - If the CT scan is entirely normal when symptoms are at their worst, the symptoms are not related to sinusitis
 - Allergy test
 - RAST (blood test)
 - skin prick testing

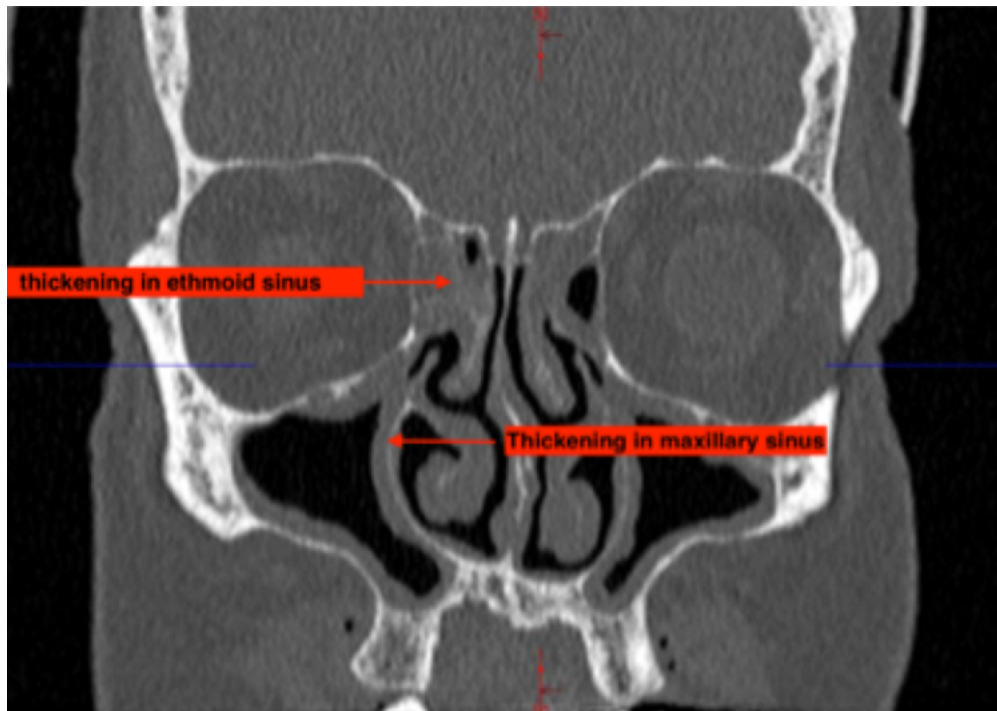


Figure: significant thickening (grey areas indicated with arrows) in a patient with sinusitis

WHAT ARE THE TREATMENT OPTIONS FOR SINUSITIS?

- Nasal sprays/ rinses
 - Salt water (FESS spray, FLO, SINUS RINSE)
 - Corticosteroid (Nasonex, Avamys, Omnaris)
- Tablets
 - Antibiotics
 - Corticosteroids (prednisone)
 - If symptoms have been present for weeks to months, it is likely that prolonged treatments with sprays and tablets will be required to expect a chance of improvement
 - Allergy desensitisation
 - Drops under the tongue, or injections under the skin of allergens in increasing amounts over time can reduce the patient's degree of allergy to that substance
 - This can be a useful adjunct in treating sinusitis, but is rarely a first-line treatment
- Surgery
 - Endoscopic sinus surgery is undertaken when sprays and tablets are not working, and where the patient feels that it is necessary to take further steps to improve their quality of life.
 - Surgery is all done inside the nose and sinuses, and rarely requires any cuts to the skin.
 - Surgery requires a general anaesthetic, and usually an overnight stay in hospital.

- It is well tolerated, with a relatively smooth recovery for most people, with a substantial improvement in symptoms expected
- It will give significant improvement in symptoms for most people
- In some people, repeat surgery down the track, or ongoing sprays with occasional tablets may be necessary to get the best results

WHAT ARE THE RISKS OF ENDOSCOPIC SINUS SURGERY?

- General anaesthetic
- Bleeding
 - bleeding can occur either just after, or up to 2 weeks after surgery
 - there is a low chance of requiring repacking of nose, or another operation to stop bleeding
 - in very rare cases a blood transfusion may be required
- Eye injury, even blindness- very rare
- CSF (brain fluid) leak/ meningitis- very rare
- Ongoing nasal infection/ symptoms requiring further treatment
 - in very rare cases, the nose may be symptomatically worse after surgery

Dr Smith will have a detailed discussion of these, and other relevant risks and provide you with a printed brochure on the procedure from the Royal Australasian College of Surgeons at the time of booking surgery

WHAT IS THE PREPARATION FOR SINUS SURGERY?

- Once a decision for surgery is made, Dr Smith will provide appropriate printed information, we will watch appropriate video information discuss, discuss risks and benefits of treatment, and any questions 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, what to wear, what to bring and where and when to present at the hospital. Admission to hospital is usually on the morning of surgery
- We understand that the decision for surgery is a big one, not to be undertaken lightly
- You should only elect to go ahead with surgery when you are completely comfortable that it is the correct decision for you
- **It is important to bring your CT scans on the day of surgery- they are the roadmap to guide safe and effective surgery!**

WHAT IS THE POSTOPERATIVE CARE FOR SINUS SURGERY?

- The nose will be entirely blocked for 3-4 days after surgery
- Irrigation of the nose with saline (e.g. SINUS RINSE, FLO), and gentle nose blowing can commence on the first postoperative day.

- The first review appointment is at day 3-4 at which point the nose is gently suctioned with dissolving packing material being removed.
- At that stage the nose will feel quite clear in most cases.
- There are weekly to second weekly reviews for the first month, depending how quickly healing is progressing.
- A few more reviews may be required in coming months until we are both satisfied with the situation of your sinuses.
- It is important to continue with regular sinus flushes for some months (at least) after surgery, and in some cases indefinitely.
- For people with nasal polyps, corticosteroid spray (Nasonex, Avamys, Omnaris) will need to be recommenced once the sinus area is fully healed

HOW LONG DO I NEED OFF AFTER SINUS SURGERY?

- This depends on what kind of work you do.
- If your work is office based, you may be able to return within the first week.
- If your work is more physical, two weeks off will be required.
- For all patients, 2 weeks off should be available in the event of a more difficult than average recovery

HOW LONG UNTIL I CAN PLAY SPORT OR SURF AFTER SINUS SURGERY?

- It is 3 weeks until return to full physical activity is recommended.
- Exercise can be commenced gently at 1 week, and gradually increased.
- Excessive exertion or straining in the early postoperative period can increase the chance of bleeding

HOW LONG UNTIL I CAN TRAVEL OR FLY AFTER SINUS SURGERY?

- You should not fly or go anywhere remote for 4 weeks after surgery

WHAT ARE THE RESULTS AFTER SINUS SURGERY?

- The results are usually very good.
- If we imagine that nasal and sinus symptoms are on a spectrum from terrible to very rarely have a problem, patients are almost always moved significantly towards the better end of the spectrum.
- In many cases, patients may never have an issue with their sinus symptoms again; in others they are not perfect but have symptoms that are far more manageable in day-to-day life.
- In some cases (such as nasal polyps), recurrence of symptoms over time is more likely, and may require further surgery years down the track.

I AM REALLY STRUGGLING WITH MY SINUSITIS SYMPTOMS. HOW LONG DOES IT TAKE TO SEE AN ENT SURGEON?

- If you indicate that you are particularly concerned to the front office when you call, Dr Smith can usually see you within 2 weeks.

- If the rare case that you have extremely severe pain, we can often see you within days.
- A call from your local doctor will help to prioritise this.

IS IT POSSIBLE TO HAVE SINUS SURGERY IN THE SUTHERLAND SHIRE OR KOGARAH AREAS?

- There are very well-trained ENT surgeons with expertise in sinus treatment in both the Shire and Kogarah areas.
- Dr Smith can see you locally, and if required can perform your surgery in either St George Private, or Kareena Hospitals soon after seeing you

HOW MUCH DOES SINUS SURGERY COST IN THE SUTHERLAND SHIRE, OR KOGARAH AREAS IN SYDNEY?

- If you feel you may require sinus surgery, Dr Smith's office can give an approximate range of expected costs.
- The exact costs can only be determined after you have been seen by the doctor, to clarify how extensive surgery needs to be.
- There are doctors who charge much higher fees than Dr Smith, but this does not necessarily mean that the quality of treatment is likely to be better
- Unfortunately, very high surgical fees are usually determined by factors other than the surgeon's level of skill and care.