

## **Endoscopic Sinus Surgery Patient Educational Pamphlet**

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#### **What is Chronic Sinusitis?**

Chronic sinusitis is the result of ongoing inflammation/infection of the lining of the sinuses. This results in developing one or more of the following symptoms: Chronic fatigue, facial pain/pressure, poor sense of smell, facial congestion, nasal obstruction, nasal discharge and/or post nasal drip. If left untreated, this disease has been shown to progressively worsen leading to a reduced quality of life.

#### **How does it develop?**

Multiple factors can lead to its development and include: abnormal variations in anatomical structures within or around the sinuses, viral/bacterial infections, environmental allergies, genetic factors, and possible allergy to fungi in the sinuses.

#### **How can it be treated?**

Due to its multifactorial etiology, both surgical and medical treatment options are needed to control this disease. Medications alone (without sinus surgery) have been used and unfortunately do not have the ability to treat this disease in the majority of cases due to the reasons mentioned above. Medications include: Antibiotics, steroid nasal sprays, decongestants, antihistamines, etc.

#### **What does Endoscopic Sinus Surgery involve and what are the benefits?**

The surgery involves the use of cameras and microscopic instruments through the nostrils to operate on the sinuses. There will be no facial cuts or bruises. The aim of surgery is to remove the diseased tissue blocking the sinuses while preserving the lining of the sinuses. The other objective of surgery is to provide a portal for local medication (sprays or rinses) to enter the sinuses and control inflammation, which was not possible prior to surgery without the use of systemic medication (oral tablets) that have significant side effects. After surgery, your physician will also be able to examine the sinuses in clinic using an endoscope to ensure good healing which was not possible without a CT scan prior to surgery. More importantly, sinus & nasal symptoms will improve in the majority of patients (>80%) but continuous clinical follow-up is needed to ensure the best results.

#### **Will I still need medication after Endoscopic Sinus Surgery?**

As chronic sinus disease is multifactorial, a cure will not be achieved with surgery alone and medication will still be needed on an ongoing or recurrent basis to control it and prevent recurrence. However, this depends on the severity of sinus disease and presence or absence of certain medical conditions (e.g. asthma, aspirin sensitivity, etc.). You can discuss this further with your physician.

## **What are the risks of Endoscopic Sinus Surgery?**

- **Infection:** uncommonly after surgery, the sinuses may become re-infected which would necessitate topical or oral antibiotics as well as frequent clinic debridement and irrigation.
- **Scarring:** this can occur around the sinuses after surgery in 5-10% of cases. This is monitored during your postoperative visits and will be dealt with if seen with a minor clinic procedure.
- **Bleeding:** trickling of blood from the nostrils for 3-5 days post surgery is expected. Rarely (<1%), continuous bright red bleeding can occur after surgery that may necessitate control in the clinic or operating room.
- **Brain fluid leakage:** this operation is done close to the brain. If the bone separating the brain from the nose is injured, then clear fluid that surrounds the brain may leak out via the nostrils. This can lead to meningitis (infection of the lining of the brain) if this was not dealt with during the surgery. The risk of this occurring with the current technology is <0.5%. Also, if this occurs, we are fully capable of repairing any leaking sites with no foreseeable permanent damage.
- **Eye injury:** The sinuses are fairly close to the eyes as well. Damage may result in temporary or permanent visual and/or tearing issues. The risk of this occurring with our current technology is also <0.5%.
- **Recurrence of disease:** occasionally with severe disease (e.g. allergic fungal sinusitis), the sinuses require more extensive surgery and medical treatment than is normally done. These patients may have recurrence of their disease necessitating repeat surgery at some point in their future.
- **Septal perforations:** If you will have a septoplasty (deviated segments of bone and cartilage separating the two nostrils are re-aligned), there is a slight (<5%) risk of perforations (connection between both nostrils on the inside). This usually is asymptomatic and does not require treatment. In rare occasions, this might lead to crusting, bleeding, or a whistling noise and can be corrected surgically if that occurs.

## **What to expect from Endoscopic Sinus Surgery?**

### **Prior to surgery**

- You will be notified of the surgery date and time by our ENT clinic staff via telephone.

- You may be given a prescription of prednisone (steroid) to be started a week prior to surgery for two weeks.
- Prednisone is a steroid that lessens inflammation in the sinuses and decreases blood loss during surgery.
- Patients with certain medical conditions should avoid using prednisone and kindly alert your physician if you have any of the following:
  - Hypertension, Diabetes, Glaucoma, Osteoporosis, Depression, or Peptic ulcer disease.
- Do not take any blood thinning medication, Aspirin or other anti-inflammatory drugs (e.g. Ibuprofen, diclofenac, etc.) for at least 10 days prior to surgery.
- Some herbal medications can also thin the blood (e.g. Garlic, Gingko, Etc.). Please avoid them for 10 days prior to surgery.

### **Admission Day**

- Residents at the ENT admission clinic in King Abdulaziz University Hospital, Ground Floor, will assess you.
- He or She will take your general medical and specific ENT history and examine your head and neck area for documentation and educational purposes.
- If not done prior to admission, a CT scan of the sinuses may be ordered to be examined and possibly used on your surgery day.
- Other tests may be ordered depending on your health status.
- Dr. Al Dousary, Al Oulah or Alsaleh will meet you after admission to ensure everything is in-order and explain anything that is not clear.

### **Surgery Day**

- You will be transported to the operating room where you will meet the other members of the sinus surgery team. Feel free to ask questions at anytime during this process.
- You will be completely asleep during surgery and will not experience pain.
- After surgery, you will have a sinus spacer in each nostril (and possibly a septal splint depending on your surgery).
- The tip of the nose may be tender as splints are sutured to your septum. Avoid pulling on the sutures as this may cause more pain and discomfort.
- You will be able to breathe freely through the nose.
- A small moustache dressing may be placed to capture blood which we expect to trickle from our nose.
- You will be in the recovery room for 1-4 hours after which you will be transported to the surgical ward.
- You may be discharged home the same or following day depending on the preference of the surgeon and surgery done.

## Period after Surgery

- **Bleeding:** you should expect to have bloody nasal discharge for 3-5 days after surgery. This will lessen with time.
- **Facial Pain:** this commonly occurs after surgery. Try to avoid aspirin or similar anti-inflammatory products (e.g. Advil) as they may worsen bleeding. Over the counter acetaminophen containing products (e.g. Panadol) should be sufficient to control the pain. However, you will also be given a prescription of stronger pain medication the time of surgery if the above was not sufficient.
- **Throat pain:** this can result from breathing tube placement by the anesthesiologist during the time of surgery. It usually resolves spontaneously within a few days.
- **Fatigue:** you may feel a general sense of tiredness after being put to sleep for sinus surgery. This improves after approximately 1 week.
- **Clinic visits:**
  - First visit (4-10 days after surgery): the spacers and/or splints along with bloody debris from within the sinuses will all be removed to optimize healing and avoid infections.
  - Second visit (4-6 weeks after surgery): Your sinuses will be checked and minor procedures may be needed to further optimize healing (e.g. scar division, sinus flushing).
  - Third visit onwards: will be decided depending on your healing status and need for close follow-up.
- **Nasal rinsing:**
  - Use a 60cc syringe filled with saline with the tip facing up to irrigate your nose.
  - Bend your head over a sink and with the tip placed just inside your nostril aiming towards the eye on the same side, flush either nostril with a moderate amount of force.
  - Flush 60 cc in each side for a total of 120 cc and repeat three times or more daily until your first clinic visit.
  - Your physician may instruct you to add one nebulizer of pulmicort (0.5mg/2ml) per 250 cc of saline to further decrease the inflammation in your sinuses.
  - Wash and air-dry the syringe between uses.
  - Please start irrigating from the next day after surgery.
- Sinuses can take up to 3 months to heal completely and scarring may occur easily if irrigation is not carried out.
- Avoid straining & heavy exercise for 2 weeks after surgery.

- Avoid bending your head forward and pray in a sitting position for 3-4 days after surgery.
- Nose blowing can be started gently 3-4 days after surgery.
- If you need to sneeze, do so with your mouth open.
- You can return to work 4-10 days from surgery depending on the surgery done and your physical activity at work.
- You may shower with warm (avoid hot) water the second day after surgery but make sure that water does not enter the nasal cavity.
- Please do not use tap water to rinse your nose for ablution in the first 3-4 weeks after surgery and use the sterile rinsing solution instead.
- You may travel on an airplane after your first clinic visit unless instructed otherwise by your physician.
- Please present yourself to the Emergency Department at King Abdulaziz University Hospital if you experience a high-grade fever ( $>38.5$  C), uncontrollable facial pain or headaches, eye swelling, or continuous fresh nasal bleeding in the first week after surgery.