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ENDOSCOPIC SINUS SURGERY

Sinus surgery has truly evolved in the last 15 to 20 years. This procedure was once performed through external incisions, required extensive packing and caused significant patient discomfort and a lengthy recovery. With recent advances in technology, including the nasal endoscope or narrow telescope, this procedure now requires no external incisions and can often be performed with minimal packing, pain and recovery.

WHY MAY ENDOSCOPIC SINUS SURGERY BE REQUIRED?

The most common indication for endoscopic sinus surgery is chronic sinus infection that does not respond to medical management with antibiotics, steroids, nasal steroid and saline nasal sprays and other treatments.

Less common indications include (but are not limited to) recurrent infections rather than a single chronic infection as well as complications of sinus infections, nasal polyps or mucocoeles, chronic sinus headaches, impaired sense of smell, tumours of the nasal and sinus cavities, cerebro-spinal fluid leaks, nasolacrimal duct obstruction, choanal atresia and the need to decompress the orbit due to thyroid or similar disease conditions.

ARE THERE ANY PRECAUTIONS TO BE CONSIDERED BEFORE SURGERY?

Prior to undergoing endoscopic sinus surgery, patients should talk with their physicians to make sure that all reasonable medical options have been exhausted. In addition, patients should avoid any medications that may exacerbate bleeding such as aspirin and ibuprofen products as well as certain vitamins and herbal remedies.

HOW IS ENDOSCOPIC SINUS SURGERY PERFORMED?

Endoscopic sinus surgery may be performed under local or general anaesthesia. The procedure involves the use of a small telescope (nasal endoscope) placed into the nasal cavity to visualise the surgery. The goal of the surgery is to identify the narrow channels that connect the paranasal sinuses to the nasal cavity and to enlarge these areas there by improving drainage from the sinuses to the nose. Sometimes sinus surgery may require simultaneous repair of the nasal septum that divides the two sides of the nose, or the turbinates which filter and humidify air inside the nose. This additional surgery is to allow access during surgery and also to correct any blockage of the nasal air passages. The use of nasal packing will depend on the extent of the surgery and physician preference. The recovery period will also vary depending on the extent of surgery but post-operative discomfort, congestion and drainage should significantly improve after the first few days with mild symptoms sometimes lingering for several weeks after surgery.

WHAT ARE THE RESULTS AND OUTCOME OF ENDOSCOPIC SINUS SURGERY?

Endoscopic sinus surgery generally yields excellent results and significant symptomatic improvement is achieved in the vast majority of patients. Adverse events are rare but may include post-operative bleeding, orbital complications, complications from the general anaesthetic, cerebrospinal fluid leaks and intracranial complications such as meningitis. However, it is important to realise that chronic sinus infections are located directly beneath the skull base and adjacent to the eye and the failure to treat this problem without surgery may lead to dire consequences such as intra-orbital or intracranial spread of the infection.

WHAT ARE THE COMPLICATIONS OF NASAL AND SINUS SURGERY?

Surgery on the nasal septum, turbinates and sinuses is recommended only after it has been determined that medical management has been unsuccessful. While these procedures are generally very successful, patients must be aware of certain risks before electing to proceed. These risks include, but are not necessarily limited to, the following:

- **Post-operative bleeding:** Aspirin, ibuprofen and certain non-prescription supplements (vitamin E, garlic, etc) can increase the propensity to bleed so patients should consult with their physicians about using these agents before or after surgery. Intranasal packing is utilised by many sinus surgeons to help avoid this complication but occasionally post-operative bleeding is encountered despite all precautions.
- **Anaesthesia Complications:** Adverse reactions to local or general anaesthesia may occur, including cardiac and pulmonary complications. Fortunately, these risks are quite rare in this era of modern anaesthesia.
- **Intracranial complications:** The base of the skull forms the roof of the ethmoid and sphenoid sinuses. If this layer is violated, a leak of cerebrospinal fluid (the fluid that bathes the brain and spinal cord) may occur. This can usually be repaired at the time of the initial surgery although, in rare cases, further complications such as meningitis may ensue.
- **Intra-orbital complications:** The orbit is situated immediately adjacent to several of the paranasal sinuses but is separated by a layer of bone. Because of this close proximity, in rare cases bleeding may occur into the orbit requiring repair at the time of the initial surgery. Visual loss and blindness have been reported but are extremely rare.
- **Smell:** The sense of smell usually improves although it may occasionally worsen, depending of the infection, allergy or polyps.
- **Infection:** The most common reason to undergo sinus surgery is a chronic infection that does not resolve with medications. The patient with sinusitis is, therefore, at risk of developing certain other infections in this area (abscesses, meningitis, etc.) regardless of whether they manage their sinusitis with or without surgery.
- **Nasal obstruction:** Much of the nasal septum is made of cartilage which has 'memory' – the propensity to move back to its original position. Despite certain measures performed by the surgeon at the time of septoplasty this may still occur and require a secondary procedure. This need may arise in approximately one out of 20 patients. Small scar bands may also occur in the nose and require removal by the surgeon at post-operative visits.
- **Numbness:** A transient numbness of the front upper teeth, lip or nose may occur after surgery but is usually self-limiting.

While surgery may entail risk, it is also crucial to remember that at times, failure to intervene surgically, may leave the patient at risk for sinusitis complications, e.g. eye or brain abscesses, meningitis, blindness or death.