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Endoscopic sinus surgery (FESS)

Information for patients — please read before your consent appointment

About this information sheet

This sheet explains what endoscopic sinus surgery involves, what it can and cannot achieve, and what the risks are. It is written to help you make an informed decision, not to persuade you in either direction.

Please read it before your consent appointment and write down any questions. There is space for these on the last page. If anything is unclear, ask — no question is too small.

Your sinuses, and what has gone wrong

The sinuses are air-filled spaces within the bones of the cheeks, the forehead, between the eyes and deep behind the nose. Each is lined by the same delicate membrane that lines the nose. This lining produces a thin blanket of mucus, and microscopic hairs called cilia sweep that mucus steadily through a small natural opening into the nose, where it is swallowed unnoticed.

When the lining becomes inflamed it swells. The natural openings, which are only a few millimetres across, narrow or close. Mucus is trapped, the cilia stall, and inflammation and infection feed one another. When this persists for twelve weeks or longer it is called chronic rhinosinusitis.

There are two broad forms: chronic rhinosinusitis without nasal polyps, and chronic rhinosinusitis with nasal polyps (soft, grape-like swellings of the lining). The distinction matters, because it changes the medication you will need afterwards and the likelihood that the disease will return.

The single most important idea on this page

Chronic rhinosinusitis is an inflammatory disease of the sinus lining. It is not simply a plumbing problem.

Surgery corrects the plumbing. It does not switch off the inflammation. This is why surgery alone is rarely the whole answer, and why the rinses and sprays you use afterwards are not an optional extra — they are the treatment. The operation is what makes them work.

What endoscopic sinus surgery is

The operation is performed entirely through the nostrils using fine fibre-optic telescopes (endoscopes) that give a magnified, well-lit view of the inside of the nose. There are no cuts on the face, no external scars and no facial bruising.

Using precise instruments and a powered microdebrider, I open the natural drainage pathways of the affected sinuses, remove polyps and diseased tissue, and — importantly — preserve as much healthy lining as possible. Modern practice is deliberately mucosa-sparing: the lining and its cilia are the sinus's own defence system, and stripping them causes long-term crusting and dryness. The aim is to open, not to hollow out.

Where the anatomy is complex, where the frontal sinus is involved, or where you have had previous sinus surgery, computer-assisted image guidance may be used. This tracks the position of the instruments

against your own CT scan in real time. It is associated with a modest reduction in the rate of skull-base injury.

The operation usually takes 45 to 90 minutes under general anaesthetic. Most patients go home the same day; occasionally an overnight stay is advised.

The second purpose of surgery: access

This is under-appreciated by most patients. In an unoperated nose, a nasal spray or rinse barely reaches the sinuses at all — the openings are simply too narrow. Once the sinuses have been opened surgically, rinses and topical steroid wash directly over the diseased lining. Surgery therefore does two things: it drains the sinuses, and it creates a corridor so that medical treatment can finally work. Surgery and medicine are partners, not alternatives.

Alternatives to surgery

Surgery is offered when appropriate medical treatment has been given a fair trial and your symptoms remain troublesome, and when your CT scan shows disease that matches those symptoms. Before deciding, it is worth being clear about the alternatives.

ALTERNATIVE	WHAT IT INVOLVES AND WHERE IT FITS
Continued medical therapy	High-volume saline irrigation, an intranasal corticosteroid used correctly and consistently, treatment of associated allergy, and short courses of oral steroid or culture-directed antibiotics for flare-ups. If any of these have not been properly tried, or have been used incorrectly, it is reasonable to optimise them first.
Biologic therapy	For severe chronic rhinosinusitis with nasal polyps driven by type-2 inflammation. Monoclonal antibodies such as dupilumab, omalizumab and mepolizumab are given by injection and produce meaningful improvement in polyp size, blockage, sense of smell and quality of life, and reduce the need for oral steroids and for revision surgery. They are expensive, must be continued indefinitely, and funding in South Africa is limited. They are usually considered when polyps have already recurred after surgery, or where there is co-existing asthma or aspirin-exacerbated respiratory disease.
Doing nothing further	A legitimate choice if you find your symptoms tolerable. Chronic rhinosinusitis is rarely dangerous, though complications involving the eye or, very rarely, the brain can occur. The disease does tend to be persistent rather than self-limiting.

What surgery can realistically achieve

Large prospective studies of patients undergoing endoscopic sinus surgery show substantial and durable improvement in quality of life. Average scores on the SNOT-22 questionnaire (a validated 22-item measure where a higher score means worse symptoms) fall from roughly 42–48 before surgery to about 22–26 at three months, and that improvement is still present five years later. Roughly three in four patients achieve a clinically meaningful improvement at one year.

SYMPTOM	WHAT TO EXPECT
Nasal blockage	Usually improves substantially. One of the most reliably helped symptoms.
Facial pressure and pain from sinus disease	Usually improves. Note the qualifier — see below.
Discharge and post-nasal drip	Usually improves, though it may take two to three months to settle.

SYMPTOM	WHAT TO EXPECT
Repeated infections, antibiotic and steroid courses	Usually fewer and less severe.
Sense of smell	The least predictable. Most likely to improve if you have nasal polyps; less so otherwise. Smell that has been absent for many years may not return. It commonly gets briefly worse in the first two weeks because of swelling and crusting.
Sleep, fatigue and concentration	Often improve as blockage and drip settle. Patients frequently notice this more than they expected.

What surgery cannot do

It cannot cure the underlying inflammatory tendency. Allergy, asthma and aspirin sensitivity continue after the operation and still need treating.

It does not stop polyps growing back. Recurrence is common, and long-term studies report revision surgery rates of roughly 14–24%. The risk is higher if you have asthma, aspirin-exacerbated respiratory disease or extensive polyps.

It is not a substitute for ongoing rinses and topical steroid. Stopping these is the commonest reason for symptoms returning.

It will not fix symptoms that were never sinus-related. Migraine and tension headache, in particular, are often mistaken for "sinus headache" and are unaffected by sinus surgery. If you have both, the migraine will continue after the operation.

Preparing for your operation

Medication

- **Blood thinners — tell me.** Aspirin, clopidogrel, warfarin, rivaroxaban, apixaban and similar drugs all matter. Do not stop any of them on your own; the timing must be planned with me and, where relevant, with your physician or cardiologist.
- **Anti-inflammatories.** Stop over-the-counter anti-inflammatories such as ibuprofen and diclofenac for three days before surgery. This is about keeping the operative field dry during the procedure, where even minor oozing obscures the view of the skull base. Ibuprofen is actively recommended after surgery, where the evidence shows it improves pain control without increasing bleeding.
- **Aspirin-containing remedies.** Stop preparations such as Disprin, Grandpa and Ecotrin ten days beforehand unless you take aspirin on medical instruction, in which case discuss it with me.
- **Supplements.** Stop ginkgo, high-dose garlic, ginseng, vitamin E and fish oil two weeks before surgery. All affect platelet function.
- **Nasal steroid spray.** Continue as usual up to the day of surgery unless told otherwise.
- **Pre-operative oral steroid.** If you have extensive polyps I may prescribe a short course of prednisone in the week before surgery. This shrinks the polyps, reduces bleeding and improves visibility, which makes the operation both easier and safer.

Smoking

If you smoke, stopping before surgery is one of the few things entirely within your control that measurably improves the result. Smoke paralyses the cilia, impairs mucosal healing and is associated with worse symptom outcomes and higher revision rates. Even a few weeks off helps, and this is a good moment to stop for good. Vaping is not a neutral alternative.

Practical arrangements

- Follow the fasting instructions given by the hospital exactly. Surgery is cancelled if they are not followed.
- Arrange for someone to drive you home and to stay with you for the first night. You may not drive yourself.
- Buy a saline rinse kit (squeeze bottle or neti pot with sachets) before your surgery, so it is waiting at home. You will start using it within a day or two.
- Plan roughly one week off office work, and about two weeks off heavy manual work.

The anaesthetic, and whether you will be packed

You will have a general anaesthetic and will be asleep throughout. The anaesthetist will see you beforehand to discuss your medical history and any previous anaesthetic problems. Intravenous anaesthesia is often preferred for sinus surgery because it reduces bleeding and improves the view during the operation.

Most patients do not need their nose packed. Current evidence does not support routine packing after endoscopic sinus surgery, and packing is uncomfortable. Where a dressing is needed — usually for bleeding, or when a septoplasty is done at the same sitting — a dissolvable material is preferred, which softens and washes out with your rinses over one to two weeks. If nasal splints are placed after a septoplasty, they are removed in the rooms at about day five to seven.

Risks and complications

Endoscopic sinus surgery is safe in the large majority of patients. Your individual risk depends on which sinuses are involved, whether you have had previous surgery, the extent of polyp disease, and your other medical conditions. The figures below come from large contemporary series and databases, and are given so that you can weigh them yourself rather than rely on the words 'rare' and 'common'.

COMPLICATION	APPROXIMATE RISK	WHAT IT MEANS
Blocked nose from crusting and swelling	Almost everyone	The nose is usually more blocked for the first two to three weeks than it was before surgery. This is expected and settles as the crusts clear.
Blood-stained discharge	Almost everyone	Pink or brown staining, and dark clots in the rinse fluid, for up to two or three weeks.
Temporary reduction in smell and taste	Common	Usually recovers as swelling settles over two to six weeks.
Bleeding needing treatment	About 2 in 100	Occasionally requires packing, a return to theatre, or admission. Very rarely a transfusion is needed.
Adhesions (scar bands inside the nose)	A few in 100	Bands forming between the turbinate and the septum, which can re-block a sinus. Usually divided painlessly in the rooms. Regular rinsing and your follow-up visits substantially reduce the risk.
Post-operative infection	Uncommon	Treated with antibiotics if it occurs. See the warning signs below.
Persistent or recurrent symptoms; need for revision surgery	14–24% over the long term	Higher with polyps, asthma or aspirin sensitivity. This is a feature of the disease rather than a failure of the operation.

COMPLICATION	APPROXIMATE RISK	WHAT IT MEANS
Injury to the eye socket	About 2 in 100 overall; serious injury about 4 in 1,000	The eye is separated from the sinus by bone often less than a millimetre thick. Most events are minor — bruising around the eye, or air in the tissues — and resolve without treatment. Serious injury causing double vision is rare, and permanent loss of vision is rarer still, but it is a real possibility and cannot be reduced to zero.
Leak of brain fluid (CSF leak)	About 3 in 1,000	The roof of the ethmoid sinus forms part of the skull base. A leak is usually recognised and repaired during the same operation. If it appears afterwards it needs prompt endoscopic repair. Untreated, it carries a risk of meningitis (reported in about 2 in 1,000 patients).
Permanent loss of sense of smell	Rare	Sinus surgery more often improves smell than harms it, but the olfactory nerve endings sit in the roof of the nose and can be damaged.
Long-term crusting, dryness or altered airflow	Uncommon	Reduced by the mucosa-sparing technique used and by keeping up saline rinses.
Blocked tear duct causing a watery eye	Rare	The tear duct opens into the nose close to the maxillary sinus. Occasionally needs a separate procedure.

Risk is higher than average if: you are having revision surgery, you have extensive polyp disease, previous surgery has removed the normal anatomical landmarks, you have a bleeding disorder or take anticoagulants, or your CT shows a low or asymmetrical skull base.

Recovery at a glance

WHEN	WHAT TO EXPECT
First 24 hours	Ooze of blood-stained fluid; a drip pad under the nose. Sleep propped up. Mild to moderate discomfort, usually well controlled with paracetamol and ibuprofen.
Days 2–7	The nose feels congested and heavy — this is crust and swelling, not failure of the operation. Saline rinses begin. Most people are up and about at home.
Week 1–2	First follow-up and gentle clearing of clot and crust. Back to office work at around 5–7 days. Sense of smell often at its worst here.
Weeks 2–6	Steady improvement in airflow. Rinses continue. One or two further cleaning visits. Exercise resumes gradually.
3 months	The lining is largely healed and the true result of the surgery becomes apparent. This is when improvement is properly assessed.
Beyond	Long-term topical treatment and periodic review, particularly if you have polyps.

Life after surgery: the part that lasts

Chronic rhinosinusitis is a long-term condition, and the operation is one step in managing it rather than the end of the story. After surgery you should expect to continue with high-volume saline irrigation and a topical corticosteroid — as a spray, or for polyp disease often as budesonide added to the rinse, which

reaches the opened sinuses far more effectively than a spray can. Adding steroid to the rinse has been shown to improve both symptom scores and the endoscopic appearance of the sinuses compared with saline alone, with negligible absorption into the bloodstream.

Patients who keep up this routine do markedly better over years than those who stop once they feel well. The temptation to stop is strongest at about three months, when you feel better than you have in years. That is precisely the moment to continue.

Questions for your consent appointment

- Which of my sinuses are you planning to open, and why those?
- Do I have polyps, and if so what is my chance of them coming back?
- Which of my symptoms do you expect to improve, and which may not?
- Will I need packing or splints?
- What medication will I be on afterwards, and for how long?
- Am I a candidate for biologic therapy now or in the future?

Evidence behind this sheet

1. Fokkens WJ, Lund VJ, Hopkins C, et al. European Position Paper on Rhinosinusitis and Nasal Polyps 2020 (EPOS 2020). Rhinology 2020;58(Suppl 29):1–464.
2. Orlandi RR, Kingdom TT, Smith TL, et al. International Consensus Statement on Allergy and Rhinology: Rhinosinusitis 2021 (ICAR-RS 2021). Int Forum Allergy Rhinol 2021;11:213–739.
3. Complications in endoscopic sinus surgery: a TriNetX network analysis of 127,333 patients. Int Forum Allergy Rhinol 2025 — CSF leak 0.28%, meningitis 0.24%, orbital events 2.09%, haemorrhage requiring intervention 2.27%.
4. Contemporary analysis of 150,775 endoscopic sinus surgery cases: intracranial complications, orbital injury and the effect of image guidance on skull-base injury rates, 2010–2023.
5. Endoscopic sinus surgery for chronic rhinosinusitis has long-term benefit on quality of life: prospective cohort, n=925. Mean SNOT-22 48.5 pre-operatively, 22.2 at 3 months and 25.8 at 5 years; 77% achieved the minimal clinically important difference at one year.
6. Hopkins C, et al. National Comparative Audit of Surgery for Nasal Polyposis and Chronic Rhinosinusitis: mean SNOT-22 42.0 falling to 25.5 at 3 months.
7. Systematic review of long-term sinonasal outcomes in CRSwNP after endoscopic sinus surgery: reported revision rates of 14–24%.
8. EUFOREA/EPOS2020 statement on clinical considerations for chronic rhinosinusitis with nasal polyps care: indications and expected outcomes of biologic therapy. Allergy 2023.
9. Real-world data on biologic therapy after endoscopic sinus surgery in CRSwNP: reduced systemic corticosteroid use, antibiotic use and revision surgery rates.
10. Enhanced recovery after endoscopic sinus surgery: comprehensive perioperative protocols. Strong recommendations include patient education, avoidance of pharyngeal packing, post-operative nasal irrigation and multimodal analgesia.

This sheet does not replace your consultation. Please bring your questions to your consent appointment.