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Tear duct surgery (DCR)

Information for patients — please read before your consent appointment

About this information sheet

This sheet explains why your eye waters, what the operation involves, what it can and cannot achieve, and what the risks are. Please read it before your consent appointment and bring any questions with you.

You may find it helpful to share it with your partner or family, particularly if they will be looking after you afterwards.

Why your eye waters

Tears are produced continuously to keep the surface of the eye healthy. They wash across the eye and drain away through two tiny openings at the inner corner of the eyelids, into a small reservoir called the lacrimal sac, and then down the nasolacrimal duct into the nose. This is why your nose runs when you cry.

If that drainage system becomes blocked, tears have nowhere to go. They well up and spill over the lid — this is called epiphora. Stagnant tears in the blocked sac also become a reservoir for bacteria, so you may get repeated sticky discharge, or episodes of a painful red swelling at the inner corner of the eye (dacryocystitis). Left untreated, an infected sac can occasionally abscess.

Watering is not always caused by a blockage. A lower lid that has slackened with age, an in-turning or out-turning lid, dry eye (which paradoxically causes reflex watering), or a weak tear pump can all produce the same symptom. This is why the assessment before surgery matters — a DCR corrects a blocked pipe, and will not help watering that has another cause.

What is tried before surgery

- **Warm compresses and massage** over the tear sac, which can clear a partial or early blockage and settle low-grade infection.
- **Syringing and probing.** Saline is flushed through the tear duct with a fine cannula. If the duct is open you will taste the salty water at the back of your throat; if it is blocked, the fluid comes back out at the corner of the eye. This is both a test and, sometimes, a treatment — a narrowed but not fully blocked duct can be opened this way.
- **Treating the eyelid or the eye surface.** If lid position or dry eye is contributing, that is dealt with first, sometimes by an ophthalmologist.
- **Antibiotics** for an active infection of the sac. These settle the episode but do not relieve the underlying blockage, which is why infections tend to recur until the drainage is restored.

A DCR is offered when the blockage is confirmed, the symptoms are troublesome, and these simpler measures have not worked or are not appropriate.

What the operation does

A dacryocystorhinostomy creates a new opening directly from the tear sac into the nose, bypassing the blocked duct altogether. A small window of bone is removed between the sac and the nasal cavity, the sac is opened and laid back against the nasal lining, and tears then drain through this new passage. The operation takes about an hour and is done under general anaesthetic — you will be asleep throughout.

APPROACH	WHAT IT INVOLVES
Endoscopic (through the nose)	A telescope is passed up the nose to locate the sac from inside, and the new opening is made from within the nasal cavity. There is no cut on the face and no scar. It also allows any nasal problem contributing to the blockage — a deviated septum, polyps, or a narrow nasal space — to be dealt with at the same time. This is the approach used in most cases.
External (through the skin)	A small incision is made on the side of the nose. It leaves a fine scar, usually well hidden, and is chosen where the anatomy or previous surgery makes the endoscopic route difficult, or where the sac needs to be examined directly.

The stent. A soft silicone tube is usually passed through the tear openings and down into the nose, where it sits looped and almost invisible at the corner of the eye. It holds the new passage open while it heals. It is removed painlessly in the rooms at about six to eight weeks. Current evidence suggests a shorter period of stenting — around six weeks — gives at least as good a result as a longer one, with fewer problems from the tube itself.

What to expect from it

DCR is one of the more reliably successful operations in this field. Contemporary series report anatomical patency — the new passage staying open — in the region of 90 to 96%, with most patients reporting that their watering has resolved or greatly improved. A twenty-year multi-institutional review found overall success rates of 85 to 91% for both the endoscopic and external approaches, with no meaningful difference between them, and comparable revision rates.

	DETAIL
Endoscopic and external work equally well	Meta-analyses find no significant difference in success between the two approaches. Endoscopic surgery has the advantages of no facial scar, less bleeding, a shorter operation, and the ability to correct nasal problems at the same time.
Improvement is not always immediate	Some patients notice a difference within days; for others the eye continues to water for several weeks while swelling settles and the new opening matures. Judge the result at three months, not at three weeks.
An open passage does not always mean a dry eye	A small number of patients have a new opening that is demonstrably clear on testing, yet still water. This usually means the tear pump mechanism in the eyelid is weak, or that lid position or dry eye is also contributing. It is the main reason for careful assessment beforehand.
Some patients need a second procedure	Around one in eight requires revision surgery at some point, most often because scar tissue or granulation has narrowed the new opening. Revision is usually straightforward and often done endoscopically.

Risks

DCR is a safe operation, and serious complications are rare. The figures below come from published series and are given so you can weigh them yourself.

COMPLICATION	APPROXIMATE RISK	DETAIL
Blood-stained discharge and a blocked nose	Almost everyone	For the first few days. Bruising around the eye and inner corner of the nose is common and settles within a fortnight.
Nosebleed on the operated side	About 1 in 10	Usually small and settling within 48 hours. Occasionally a nasal pack is needed to stop heavier bleeding, which rarely means a return to theatre.
The stent slipping forward out of position	About 1 in 20	Usually happens in the first week or two. You would see a loop of tube at the corner of the eye. It is repositioned or removed in the rooms — do not pull on it.
Granulation tissue or scarring narrowing the new opening	A few in 100	The commonest reason a DCR fails. Managed with steroid drops, cleaning of the opening, or revision surgery.
Infection	Uncommon	Of the wound, the nose or the eye. Treated with antibiotics.
Failure to relieve the watering	About 1 in 10	Either because the passage closes, or because the watering was not caused by the blockage alone.
Visible scar (external approach only)	Expected	A fine line on the side of the nose that fades over months and is usually inconspicuous. Rarely it thickens or forms a keloid.
Injury to the eye or eyelid	Very rare	The tear openings in the lid are delicate and can be scarred by the stent. Injury to the eye itself is exceptional.
Leak of brain fluid	Extremely rare	The roof of the nose lies above the surgical field. A leak would need endoscopic repair. This is reported but exceptional in DCR surgery.
Anaesthetic complications	Rare	Discussed with you by the anaesthetist beforehand.

Preparing for surgery

- **Tell me about all your medication.** I need a list of everything you take, including anything bought over the counter, and any allergies or sensitivities.
- **Blood thinners matter particularly.** Warfarin, aspirin, clopidogrel, rivaroxaban, apixaban and similar drugs can all cause bleeding during or after the operation. Do not stop any of them on your own — the timing must be planned with me and, where relevant, with your physician or cardiologist.
- **Stop over-the-counter anti-inflammatories** such as ibuprofen and diclofenac three days beforehand, and aspirin-containing remedies such as Disprin, Grandpa and Ecotrin ten days beforehand unless you take aspirin on medical instruction.
- **Stop ginkgo, high-dose garlic, ginseng, vitamin E and fish oil** two weeks before surgery — all affect platelet function.
- **If you smoke, stopping helps.** Smoke impairs mucosal healing at exactly the site where the new opening must stay open.
- **Arrange a lift home** and a responsible adult to stay with you the first night. You may not drive for 24 hours after a general anaesthetic.

Recovery and aftercare

WHEN	WHAT TO EXPECT AND WHAT TO DO
Day of surgery	Home the same day in most cases. Blood-stained discharge from the nose and eye, and a blocked nose. Sleep propped up on two or three pillows and use an ice pack over the cheek and inner corner of the eye.
First week	Do not blow your nose — sniff back gently or dab instead. Sneeze with your mouth open. Avoid heavy lifting, straining and hot baths. Take paracetamol 1 g six-hourly with ibuprofen 400 mg eight-hourly if you can take it; avoid aspirin.
Drops and rinses	Use any antibiotic or steroid eye drops exactly as prescribed. Start saline nasal rinses or spray as directed — usually from day one or two — to keep the new opening clear of crust. This is important, not optional.
The stent	Leave it alone. Do not rub the eye or pull at any loop of tubing you can see. Tell me if it slips forward or becomes uncomfortable.
Work and activity	Most people return to office work within a week and to normal exercise at two to three weeks. Avoid swimming until the stent is out.
6–8 weeks	The stent is removed in the rooms. This takes seconds and is uncomfortable rather than painful.
3 months	Review, with syringing if needed, to confirm the passage is open and assess the result properly.

Contact the rooms if you have any of these

- Heavy bright red bleeding that does not stop after 15 minutes of pinching the soft part of the nose while sitting upright and leaning forward.
- Increasing pain, redness or swelling around the eye, or any change in vision or double vision.
- Fever above 38 °C with worsening pain or discharge.
- The stent falling out or looping forward where you can see it.
- Rooms 021 975 0840/1 — redirected to Dr Vermaak after hours

Evidence behind this sheet

1. Trends and outcomes of endoscopic versus external dacryocystorhinostomy: a 20-year retrospective multi-institutional analysis. Overall success, defined as no surgical revision, 85.3–91.4% for both approaches; revision rate 13.7% for endoscopic DCR, with no significant difference between techniques (risk ratio 1.07, p = 0.25).
2. The efficacy of endoscopic dacryocystorhinostomy in the treatment of dacryocystitis: systematic review and meta-analysis of 10 studies, 969 patients. No significant difference in surgical success between endoscopic and external approaches (RR 1.021, p = 0.865).
3. Outcomes of dacryocystorhinostomy with or without stent insertion: systematic review and meta-analysis of 18 randomised trials, 1,517 patients. Success 92.6% with stenting versus 88.2% without; benefit significant for external DCR; stenting of six weeks or less associated with higher success than longer stenting.
4. Observational outcomes of endoscopic endonasal DCR in a tertiary institution: anatomical patency 96% and subjective symptom resolution 98% at six months; complications in 12%, including intraoperative haemorrhage 4%, adhesions 4% and granulation tissue 4%; no vision-threatening events.
5. Outcomes of endoscopic dacryocystorhinostomy, tertiary eye care centre series: postoperative epistaxis 9% and stent prolapse 5%, the latter occurring one to two weeks after surgery and repositioned endoscopically.
6. Atlas of Otolaryngology Head and Neck Operative Surgery — endoscopic DCR technique and causes of failure, including inadequate bone removal, insufficient marsupialisation of the sac, and granulation related to stenting.

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