Oculoplastic

Eye Watering and Tear Duct Surgery ("DCR")

Why does my eye water? Most tears are produced in the lacrimal gland and are vital for the health of your eyes. Blinking aids in spreading the tear film over the eye and assists in draining the tears into two small ducts (lacrimal puncta) in the inner corner of the eye. The tears collect in the lacrimal sac and drain into the nose via the nasolacrimal duct.

A watering eye can be the result of:

a) over-production of tears; or
b) a disruption of tear drainage, causing overflow

There are multiple reasons for each of these scenarios and a thorough examination by an ophthalmologist is required to determine precise cause.

Some common problems are:

- a foreign body or ulcer in the eye;
- severe dry eye causing excessive tear production;
- a floppy and loose lower eyelid (ectropion);
- a narrow punctum (tear duct opening);
- environmental (cold, windy conditions); and
- blockage of the lacrimal ducts between the eye and the nose.

Sometimes a watering eye can be a combination of problems.

**What is nasolacrimal duct obstruction?**

Nasolacrimal duct obstruction (NLDO) refers to a narrowing &/or blockage of the passage of tears from the lacrimal sac to the nose. There are a number of causes for NLDO but often it is due to a progressive narrowing of the duct, perhaps due to chronic inflammation and swelling of the tissues that line the duct. The precise cause of this is unknown, but some people have narrower ducts than others and are susceptible to any minor changes.

In order to test for this, sterile water is gently irrigated through the punctum to see if it freely passes into the nasal space. This is called *lacrimal lavage* and is routinely done during the consultation for a watering eye problem.

Sometimes patients may experience other symptoms than just a watering eye, which can include a chronic sticky eye (especially in the mornings) or an infection in the lacrimal sac (a mucocoele or dacryocystitis).

**Lacrimal duct bypass surgery**

This surgery, also called a dacrocystorhinostomy (DCR), is most commonly done for NLDO. DCR surgery is creating an alternative tear flow pathway directly from the lacrimal sac into the nasal space. By removing, or burring, a small piece of nasal bone lying between the lacrimal sac and the nose, the lacrimal sac can be opened directly into the nose, bypassing the blocked nasolacrimal duct. In most cases (more than 90%) this will relieve eye-watering symptoms or problems caused by an obstruction.
Are there other alternatives?

For the problem of NLDO there are currently no other clinically proven treatments. For most patients it is a question of how significant the eye-watering problem is for them, and how it is affecting their lives and day-to-day activities.

For patients who choose not to have the surgery, the overflow of tears generally does not lead to serious eye problems. There is a small risk of an infection of the lacrimal sac and overlying skin (dacryocystitis) and if this occurs, DCR surgery is recommended to prevent further episodes.

What does the surgery involve?

There are two surgical techniques, both with excellent success rates.

One surgical technique is the external DCR and is performed via a small skin incision (about 1.5cm) on the side of the nose. The small scar generally fades after 3 to 6 months.

The other surgical technique is an endonasal DCR, which involves using a special camera and operating via the nose internally on the lacrimal sac and nose. An endonasal approach means no skin incision is made, with no risk of external scarring.

The shape and anatomy of your nose will determine which technique is best for you and will offer the greatest chance of success.

Both procedures can be done as a day surgery and can be done under local anaesthetic with sedation. General anaesthetic or overnight admission may be suggested in certain circumstances.

After the anaesthetist has administered relaxing medication, local anaesthetic is injected into the skin around the lacrimal sac area. The nose on the side to be operated on is gently packed with small pieces of gauze, which is important to prevent bleeding during the operation. The nasal packing is removed during the procedure. The nasal bone is removed with a special bone forceps and/or small drill.

In some cases a small piece of silicone tubing is placed into the nose and sits in the corner of the eye. The tubing may assist in preventing internal scarring. It is rarely noticed by the patient and easily removed one to three months later in the clinic at a follow-up
appointment without further surgery.

What are some of the risks of DCR surgery?

There are a minority of patients (generally less than 5-10%) in whom the surgery fails to improve the eye watering symptoms. This rate can vary depending on the degree of tear duct blockage. Some patients may have only a partial improvement in symptoms following the surgery.

The main cause of continued eye watering following surgery is scarring of the new opening inside the nose. Often, however, revision surgery to excise this scar tissue can be successful.

If an external DCR is performed, the skin scar generally heals very well. However, occasionally a patient may have an obvious scar, which will fade in time and may be amenable to revision surgery.

Although a small piece of nasal bone is removed (< 1 cm²) this does not change the external shape or structure of the nose.

There is often a small amount of nose bleeding in the first 24 hours after the procedure.
This generally settles quickly. Although it is uncommon, a patient may require admission and observation if the bleeding is unexpectedly severe. The nose may have gauze packing placed for a period of observation.

Infection following the surgery is very uncommon. Long-term pain or discomfort is rare.

Damage to your eye or vision is extremely rare as the surgery occurs next to and within the nose.

Complications from the anaesthesia, such as allergic reactions, breathing or heart problems are also extremely rare.

All surgery has inherent risks and it is important to balance these against the expected benefits. Your surgeon will discuss the risks and benefits that are most applicable to you.

**What happens after the surgery?**

You will be given a list of instructions, which will outline what to do following the surgery. You should plan to have at least a week's rest. There is minimal pain and discomfort following the surgery, which usually responds very well to simple oral analgesia such as panadol.

The eye-watering symptoms may persist immediately post-operatively but should resolve as the operation heals in the first few weeks.

Following DCR surgery, a small number of patients will notice 'air' blowing on the eye when blowing their nose. This air reflex can be a good sign of successful surgery and is rarely a significant issue.

**Functional nasolacrimal duct obstruction**

This is the term used to describe the condition in patients who have no other identifiable cause of eye watering, but the lacrimal lavage syringing test confirms that fluid passes easily down the duct and into the nose. In this situation it is recognized that DCR surgery is not as successful and its success rate is generally lower.

**Summary**

The decision to proceed with surgery depends on an individual's assessment and likelihood of a successful result. This is best balanced against the risks associated with surgery and the
inconvenience of the eye watering symptoms.

**Consultation**

Should you require a consultation for Oculoplastic conditions, please call 1800 986 695.

At Eye Surgery Associates we are able to offer you appointments at any one of our three sites: [East Melbourne, Malvern and Doncaster](#).