

# Dacryocystorhinostomy

## DCR or tear duct bypass



### What is a dacryocystorhinostomy?

A dacryocystorhinostomy (DCR) is an operation on the tear ducts to help improve drainage of tears from the eye to the nose. It is usually performed when there is a blockage in the main tear duct between the eye and the nose (the nasolacrimal duct), that has caused the eye to water and sometimes become infected. It is also sometimes performed when there is a partial blockage to improve tear drainage.

### What causes a tear duct blockage?

Most commonly, the main tear duct becomes blocked as its lining becomes thickened and inflamed over a long period of time. Much less commonly, there may be a 'stone' in the tear duct or other rare cause of blockage.

### How is it diagnosed?

Usually a simple examination and syringing fluid into the tear duct can diagnose a blockage. Sometimes, special x-rays are used to help find a cause for the blockage or narrowing in the tear duct.

### What happens in a DCR operation?

A DCR operation effectively makes a new passage for the tears to pass from the eye to the nose. This new passage or bypass joins the upper part of the main tear duct (the tear sac) to the inside of the nose after removing a small area of bone that lies between the tear sac and the inside of the nose.

The lining of the tear sac is carefully stitched to the lining of the nose to create a new tear passage after this bone is removed. At the end of the operation, a thin piece of soft silicone plastic tubing is passed through the tear ducts and the new passage into the nose, tied with a knot inside the nose and left there usually for several weeks. This tubing is just visible at the inner corner of the eye where it passes between the upper and lower tear duct openings. Its purpose is to protect the lining of the new tear passage while it is healing. It is removed painlessly through the nostril after several weeks.



A DCR operation can be done either through a small incision on the side of the nose near the inner corner of the eye (an external DCR), or from inside the nose using telescopes and small instruments passed into the nose through the nostril (an endonasal or endoscopic DCR). The main difference between these two operations is that the external DCR leaves a small scar. The scar however is barely noticeable after several months. The two options will be discussed with you and a decision made in consultation with your surgeon as to which is recommended.

An endonasal DCR is commonly performed by two surgeons working together, an eye surgeon and an Ear, Nose and Throat (ENT) surgeon. To perform an endonasal DCR, sometimes the wall that separates the two sides of the nose has to be straightened as it can be bent across to one side, making an endonasal DCR otherwise difficult to perform, as the instruments cannot get past the bent wall.

### **What sort of anaesthetic is used?**

For the majority of external DCR operations and some endoscopic DCRs, a local anaesthetic is used. Before any local anaesthetic is injected, your anaesthetist will give you some medicine in the form of a sedative and pain killer so that the anaesthetic injections will not be painful and are often not even noticed or remembered.

During the operation, you will however be aware that the operation is happening, and you may hear some noise especially as the thin bone between the tear sac and the nose is removed, but it will not be painful. It is important for you to say if there is any pain during the operation.

Some external DCR operations and most endoscopic DCRs are performed with a general anaesthetic.

### **How long will I stay in hospital?**

Most patients having DCR surgery can go home on the day of surgery, but a few are kept in overnight after the operation. You will be told at the time the surgery is booked how long you will stay in hospital.



## What problems can occur with DCR surgery?

Problems with DCR surgery are uncommon. Most DCR operations are successful at improving tear drainage from the eye to the nose. A very small proportion however may not work and the eye may continue to water.

Other problems are rare, but may include:

- **Excessive bleeding from the nose:** a small amount of bleeding from the nose is usual in the first 12 to 24 hours after a DCR operation. Rarely the nose may bleed excessively, usually between 5 and 10 days after the surgery. If this occurs, please return to the hospital emergency department.
- **Infection:** rarely the wound on the side of the nose may become infected, especially if the tear duct was infected at the time of surgery. This is treated with antibiotics.
- **The tear duct tubing comes loose and can rub on the corner of the eye:** this can be uncomfortable but does not damage the eye. The tubing can be repositioned or removed if it is causing problems.
- **The scar on the side of the nose becomes prominent:** it is usual for the scar to become pink and slightly lumpy in the first 6 to 8 weeks after an external DCR. Over the following 2 months the scar softens and becomes much less noticeable.
- **Air can blow onto the eye if you blow your nose:** This occurs in some patients and indicates the DCR has been effective. The air is passing up the new tear passage and onto the eye. It does not harm the eye at all.

## Follow up care

After discharge from hospital, you will usually be seen again in the outpatient clinic after about a week, and then again some weeks later to remove the tear duct tubing.

During the first week or two, you will be asked to apply ointment to the wound on the side of the nose. Pain is usually mild after DCR surgery and strong pain killers are very rarely needed. The area of the surgery is usually bruised and swollen for 1 to 2 weeks only.

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