

Surgeon - Dr. Manoj Kumar

Date of Procedure _____

Nasal Endoscopic Dacryocystorhinostomy (DCR)

Are you crying all the time?

Epiphora, or excessive tearing, occurs due to blockage in the lacrimal drainage system, which impairs normal drainage of tears into the nose. This may lead to recurrent dacryocystitis which may further cause scarring and obstruction of the duct. Contributing factors include nasal allergy, septal deviation and sinusitis. Lacrimal stones, tumors and trauma can also cause naso-lacrimal duct obstruction. Radiation therapy can cause sclerosis to the duct and may lead to obstruction.

External Surgery:

The external DCR is certainly still thought of as the gold standard with a success rate of approximately 91%. Even though the success rate is high, there are certain complications to an external DCR. There is an external scar, which is avoided with the endoscopic procedure. There is also danger of injury to the medial canthal structures, ethmoid sinus and spinal fluid.

Anatomy & Physiology:

The lacrimal system consists of superior and inferior puncta, which opens into the superior and inferior canaliculi. These canaliculi lead to the lacrimal sac which narrows into the nasolacrimal duct. The duct is about 2 cm long, and empties into the inferior meatus.

Tears move from the eye into the nose through a mechanism called the lacrimal pump. Lid movement causes the puncta to close against each other, pushing tears into the lacrimal sac. When the eyes open a negative pressure is created in the sac pushing the tears down further into the nose.

Diagnosis:

Jones test is used to assess the patency of the nasolacrimal system. The test is performed by placing fluorescein in the conjunctival sac. Detection of the dye in the nose rules out the diagnosis of complete blockage. A CT scan is often performed to delineate anatomy and to detect unrecognized diseases in the nose and sinuses.

Indications for Surgery:

Socially unacceptable epiphora caused by anatomic or functional lacrimal sac or nasolacrimal duct obstruction.

Recurrent dacryocystitis with purulent drainage from the canaliculi.

Dacryolith or stone formation within the lacrimal system.

Advantages of Endoscopic Procedure:

With endoscopic DCR, there is no external scar and provides a better aesthetic result. It allows a one stage procedure to correct any associated nasal pathology that is causative. More of the lacrimal sac is preserved with the endoscopic procedure. It avoids injury to the medial canthus. There is actually only a 1 in 40 instance of air regurgitation during nose blowing noted after endoscopic procedures, while the incidence is higher with the external procedure. There is also diminished risk of a CSF leak with the endoscopic DCR. Endoscopic approach is also superior to the external approach in revision cases. The perioperative time is shorter with the endoscopic approach.

Traditionally, DCR has been performed via an external approach, although the procedure is uniquely suited for a nasal endoscopic approach.