

## Short Communication

# Prophylaxis of nasolacrimal duct obstruction after major sinus surgery using a silicone stent

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### Abstract

Damage to the nasolacrimal duct during major sinus procedures results in troublesome symptoms of epiphora and acute infection. Prophylactic stenting of the lacrimal apparatus using a silicone stent is described as a means of preventing such complications.

### Introduction

Damage to the lacrimal apparatus during surgery for antroethmoidal neoplasms can result in troublesome epiphora and dacryocystorhinitis. Concern about this complication has led the senior author (ADC) to insert a silicone dacryocystorhinostomy (DCR) stent as a routine prophylactic measure at the initial procedure.

### Method

At the completion of the excisional procedure the lacrimal canaliculi are located at the medial canthus and dilated using standard lacrimal dilators. A silicone DCR stent (O'Donoghue stent) is inserted by passing the stainless steel bodkins at each end down each canal-

iculus. Thence they can be manoeuvred down the nasolacrimal duct, leaving a loop of silicone at the medial canthus and free ends in the nasal cavity. The bodkins are removed and the free ends of silicone secured by (at least) three square knots and allowed to lie freely in the cavity (Fig. 1). A single knot is insufficient since silicone has a tendency to unravel. Three months later the loop at the medial canthus between the puncta (Fig. 2) can be cut and the stent removed easily by traction via the nose.

The eight cases selected thus far have undergone

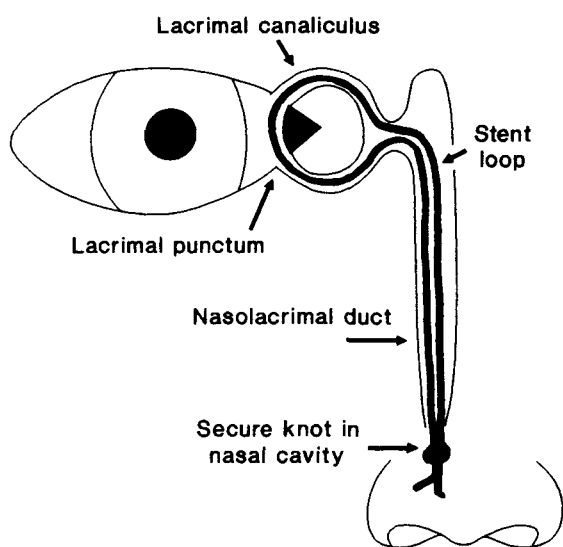


FIG. 1

Schematic drawing of the position of the DCR stent.

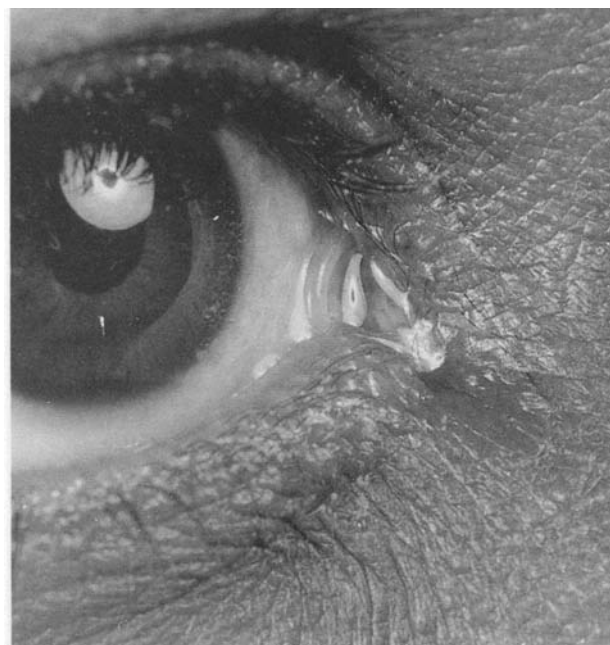


FIG. 2

Photograph of one case demonstrating the appearance of the stent loop at the medial canthus.

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craniofacial resection procedures (5), lateral rhinotomy (2) or maxillectomy (1) in which there was extensive dissection and bone work in the vicinity of the nasolacrimal duct. The technique has been accompanied by no complications other than conjunctival irritation in one case.

### Discussion

Lateral rhinotomy, maxillectomy, frontoethmoidectomy and craniofacial resections all place the lacrimal apparatus at risk. However, this is sometimes omitted in accounts of complications of such surgery (Schramm, 1986) or else dismissed as a rarity (Shaheen, 1984). However in the senior author's oncological practice, which includes many craniofacial resections, a small but significant morbidity has been witnessed due to nasolacrimal obstruction (Lund and Harrison, 1988).

Prophylaxis at dacryocystorhinostomy using polyethylene and more recently silicone stents has gained popularity in ophthalmological practice (Older, 1982) and has minimal morbidity. Silicone is preferable to polyethylene since it leads to fewer problems with punctal erosion, corneal irritation or slitting of the canaliculi (Pashby and Rathbun, 1979). The duration of intubation should be of the order of three months (Patrinely and

Gigantelli, 1988) although it is possible that a shorter period might suffice.

The technique is recommended for cases in which dissection in the vicinity of the nasolacrimal duct has been extensive.

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