

Flap Management in DCR

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DCR :

- Is among common Oculoplastic surgeries performed for managing Epiphora due to NLD obstruction .
- It is a bypass procedure that creates an anastomosis between the lacrimal sac & the nasal mucosa via a bony Osteum .

DCR is Done :

- 1- Externally .**
- 2- Endoscopically .**

***Goals :**

- 1- To make a large bony osteum into the nose .**
 - 2- To have mucosal lined anastomosis .**
- * Since both these purposes are well served by an External route , it is one of the preferred approaches with high success rates .**

*** Pre-Operative Requisites :**

- ▶ **1- Confirm diagnosis .**
- ▶ **2- HB level .**
- ▶ **3- Bleeding & Clotting times .**
- ▶ **4- Blood Pressure .**
- ▶ **5- RBS .**
- ▶ **6- Additional GA investigations if required .**

*** Steps of Surgery :**

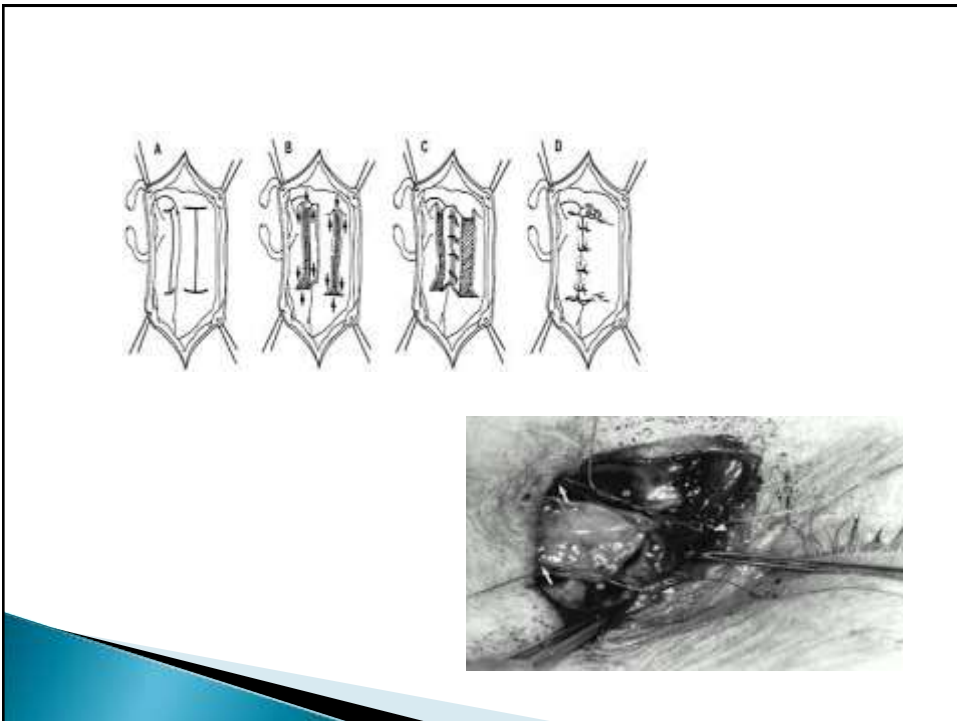
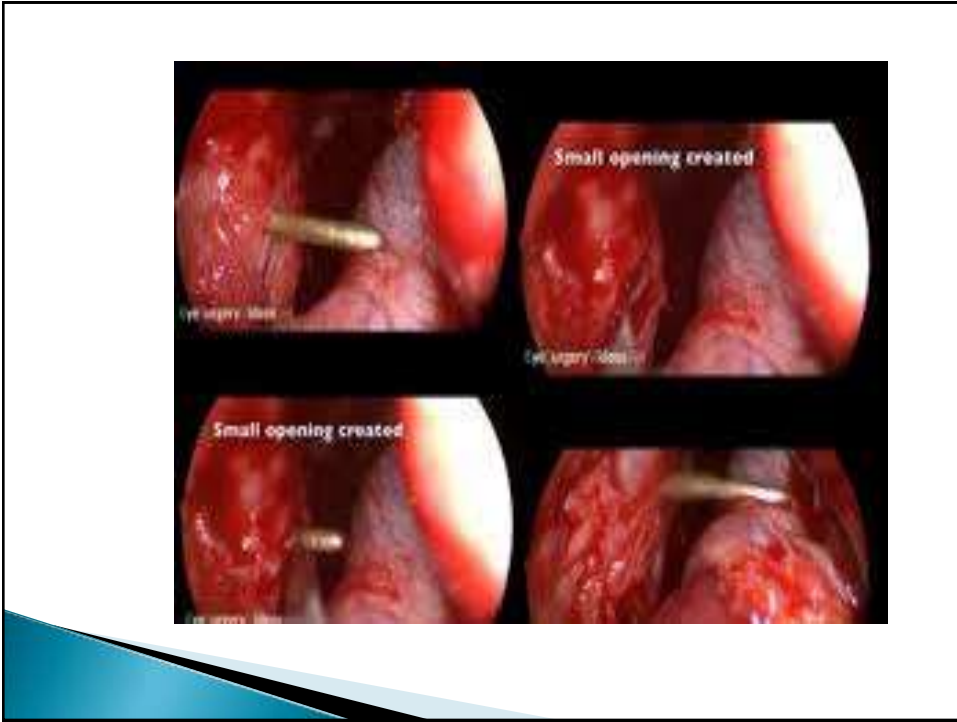
- 1- Anaesthesia .**
- 2- Incision .**
- 3- Sac Dissection .**
- 4- Bony Osteum Creation .**
- 5- Flap creation .**
- 6- Tube insertion .**
- 7- Flap Anastomosis .**
- 8- Wound Closure .**

* Flap creation :

A- Traditional :

- A Bowman's probe is passed through the lower punctum & bent to tent the sac as posterior as possible to create a **large anterior & small posterior flaps** .
- An (H) shaped incision is made with 11 or 15 blade .

- Flaps are raised & the post. One is cut .
- With no.11 blade incisions are made in the nasal mucosa along the bony osteum **except anteriorly to have a hinged flap** . The large anterior flap is raised & the small post. One is cut .
- Alternatively both the flaps are sutured but no significant difference in the success has been noted in doing this either way .



B- Numerous modifications in various surgical steps of the original DCR procedure have been introduced over the years for a better surgical out-come without altering its basic concept .

1- Double flap DCR (Suspended Flaps) :

- **Post. Flaps & nasal mucosa were sutured at the two ends .**
- **Two double armed 6-0 Vicryl sutures were passed through the superior & inferior corners of the two ant. Flaps of the sac & nasal mucosa and knots were tied but not cut .**

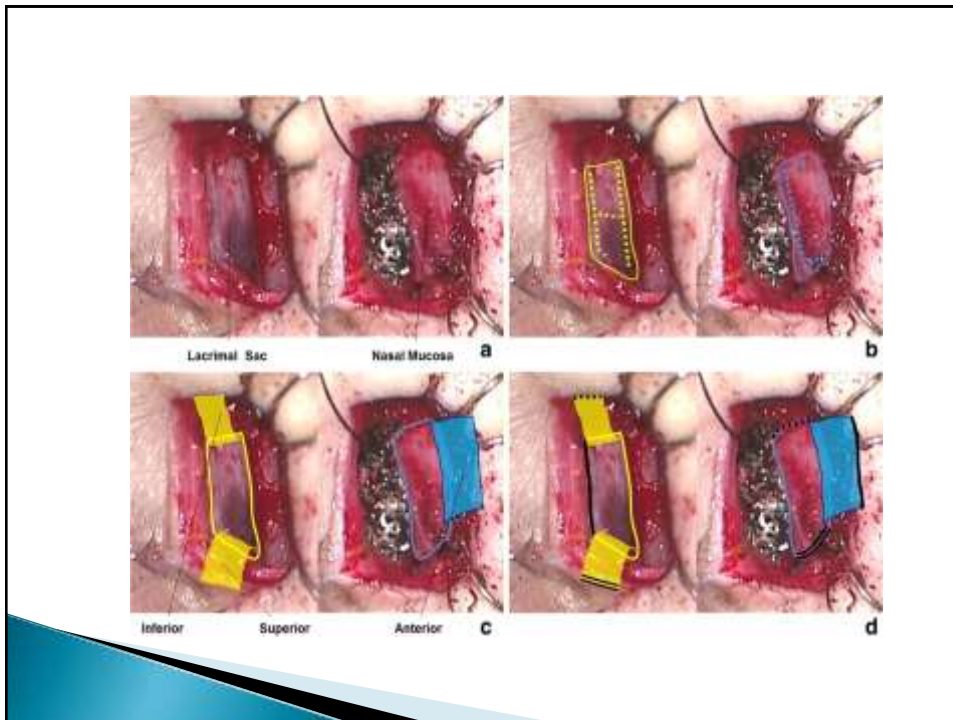
- Then, one arm on one side of each knot is passed through the O.O at one edge of incision & we do the same with the other arm .
 - The upper & the lower arms are tied separately making 2 knots .
- * Suspending the anterior flaps superiorly : Avoids their adhesions with sutured Post. Flaps**

And so : reduces healing of mucosal anastomosis & 1ry + 2ry haemorrhage.

2- Three-Flap technique :

- A vertical (H) shaped incision was made in the lacrimal sac & a (U) shaped incision with anterior hinge was made in the nasal mucosa .
- The nasal mucosa incision was set a little smaller than the Bone Window bec the remaining mucosa was the suture area .

- The sup. Lacrimal sac flap were sutured to the superior side of the nasal mucosa . Next , the inf. Lacrimal sac flap was sutured to the inferior side of the nasal mucosa in the same fashion .
- - Finally , the nasal flap was sutured to the ant. Side of the lacrimal sac mucosa .



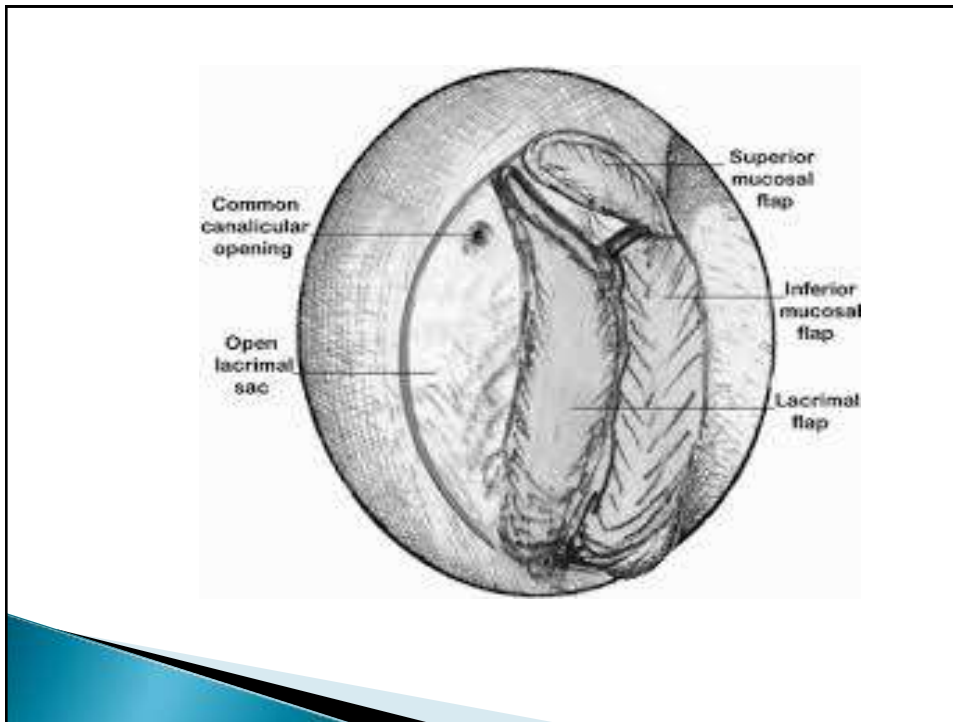
• **Three-Flap EX-DCR :**

- 1- **Covering the most common site of granulation occurrence demonstrated 100% anatomical success .**
- 2- **Easily performed as all the sutures are set on the ant. Area , without a need for post.flap suture .**
- 3- **The functional failure rate was reported as 5.7% .**

3- Ant –Single Flap DCR :

- **A (U) shaped incision was made in the elevated Periosteum & sac to make the anterior flap of the sac .**
- **Nasal mucosa behind the Rhinostomy was cut .**
- **The anterior flap was then sutured with Vicryl 6/0 to the margin of the periosteal cut near the ant. Lacrimal crest .**

- **Ant-single Flap DCR :**
- **Success rate comparable to that obtained by the more complex conventional DCR .**



4- Flapless External DCR :

- **Ant & Post flaps were excised completely leaving small portion of the sac around the common canaliculus .**
- **Nasal mucosa was cut most posteriorly to make a single generous flap , which was also cut completely leaving the common canaliculus facing the nasal cavity .**

- **Flapless EX-DCR :**

- 1- **Less incidence of adhesions & synaechia that may lead to closure of osteotomy .**

- 2- **Success rate 92.8% through one year follow-up .**

- 3- **Easy , Safe , Effective procedure .**

(DR/Mohamed Al-Taher A.A)

ALAZHAR University Study .





- ▶ **NB - The role of intra-operative (Mitomycin C) application is debatable .**
- ▶ **-Some studies showed that it increases the success rate of the surgical procedure . However , Other studies have emphaized that it doesn't improve the surgical outcome .**

▶ **Thank You**