

# 재건 코성형술

충북대학교 의과대학 이비인후과학교실  
진 홍 룰

## Reconstructive Rhinoplasty

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서 론

가 3

가

가

역 사

, 9

가

가

, 16

5

<sup>1)</sup>

BC 700

“Sushruta Samhita”  
(cheek flap)

가

<sup>2)</sup>

AD 1

: , 361 - 711

62

, 7

Paulus Aegineta가

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. 14

“ Italian Method ”가 (Fig. 1).  
 (forehead flap)  
 “ Indian method ” 15  
 1700 가 (Fig. 4).  
 “Madras Gazette ” 1794  
 “Gentleman 's Magazine ” (notching)가 (Fig.  
 가 (Fig. 2).<sup>2)</sup> 5). 가

(1) , (2) , (3)  
 , (4) 4  
 SMAS(superficial muscular aponeu-  
 rotic system) (Fig. 6),  
 (ad- vancement flap), (melolabial flap),  
<sup>3)</sup>

**해부학적인 고려사항**

**코의 내부층의 복원  
 (Restoration of Internal Lining)**

가 (lining tissue)  
 가 (subunit)  
 (Fig. 3).<sup>4)5)</sup> (dorsum), (si- dewall), (apex), (ala), (columella), (nasal facet)  
 가 가 가  
 (nasal vestibule) 0.5 cm  
 가 (releasing incision) 가  
 (radix) (rhinion) (contraction)  
 가

dicle vestibular skin advancement flap)  
 (Fig. 7)  
 thickness skin graft) . (local flap)

(bipe-

(angular artery)

(full .<sup>6)</sup>

(Fig. 10).

### 코의 구조적인 보강(Structural Support)

가 ,

가 . (paramedian forehead flap)

(framework)

3가

가 ,

(restoration graft),

(support graft),

가

가 .

(contour graft) .<sup>1)</sup>

가

가 ,

가 .  
 rior labial artery)

(supe-

graft),

(alar batten graft),

(columellar strut)

(spreader

(mattress

(mucoperichondrial hinge flap)

suture)

가

(Fig. 8).

(dorsal septal flap)

(middle valult)

#### 복원이식

(composite septal chodromucosal pivotal flap)

1/3

가

(Fig. 9).

가 .

형태이식

(pyriform aperture) (Fig. 11). 가 (shield graft), (cap graft) (onlay graft)

가 가 (Fig. 12).

코의 외부층의 재건(Reconstruction of External Covering)

(depression) 가 secondary intention), (healing by (interpolation flap),

보강이식

1.5 cm 가 batten 가 (Fig. 13).

1 mm (Fig. 14) 가

가 가 alar batten 가 50%

가 (medial crus) 가 (interpolated cheek (midline forehead flap) (Fig. 15). (Fig. 16).

가 :  
 4~9 가 .  
 (infratip lobule) 가 가  
 가 가 피부이식  
 가 . , , ,  
 가 가  
 가 가  
 가 가 (Fig. 4).  
 가 가 가  
 가 가 가  
 가 가  
 90° 가  
 가  
 (trapdoor deformity)  
 (concentric scar contraction) (Fig. 17).<sup>9)10)</sup> 가 1  
 cm  
 일자봉합  
 2/3 가  
 1 cm 가  
 (procerus muscle) 가  
 1/3 가  
 (cephalic rotation) cm 가 2  
 1.5 cm  
 코 부위의 조직을 이용한 국소피판  
 (bilobed flap) 가  
 (Fig. 18). ,  
 (dorsal nasal 가  
 (concave flap) 가  
 surface) , 1/3, (transposi-  
 tion flap)  
 3~4 가 (Fig. 19).  
 (petroleum  
 jelly) 가  
 빤입술피판(Melolabial flap)  
 가

가

(Figs. 14 and 20).

1.0 cm

<sup>11)12)</sup>

(Fig. 22).

### 전두부피판(Forehead flap)

(Fig. 23).

2.0 cm

<sup>13)</sup>

(Fig. 21).

(supraorbital artery),

(supratrochlear artery),

(infratrochlear

가

artery),

(dorsal nasal artery),

가

(anastomosis)

가

가

(Fig. 24).

## 결 론

가

### 요측전완피판(Radial forearm flap)

(near total defect)

가

가

가

가

## 합 병 증

중심 단어 :

가

가

silastic gel sheeting,

## REFERENCES

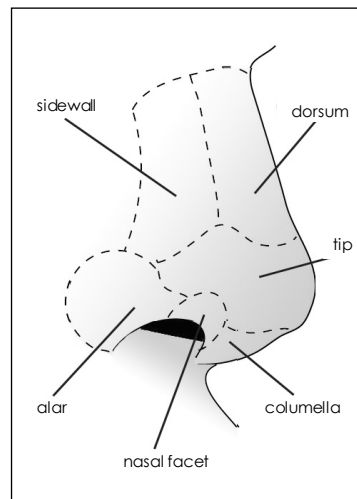
- 1) Baker SR, Naficy S. *Principles of nasal reconstruction*. St. Louis;Mosby;2002.
- 2) Nichter LS, Morgan RF, Nichter MA. *The impact of Indian methods for total nasal reconstruction*. *Clin Plast Surg* 1983; 10:635-47.
- 3) Menick FJ. *Reconstruction of the nose*. In: Baker SR, Swan-

- son NA, editors. *Local flaps in facial reconstruction*. St. Louis: Mosby; 1995. p.305-44.
- 4) Burget GC, Menick FJ. *Subunit principle in nasal reconstruction*. *Plast Reconstr Surg* 1985;76:239-47.
  - 5) Singh DJ, Barblett SP. *Aesthetic considerations in nasal reconstruction and the role of modified nasal subunits*. *Plast Reconstr Surg* 2003;111:639-48.
  - 6) Murakami CS, Kriet D, Ierokomos AP. *Nasal reconstruction using the inferior turbinate mucosal flap*. *Arch Facial Plast Surg* 1999;1:97-100.
  - 7) Herford AS, Zide MF. *Reconstruction of superficial skin cancer defects of the nose*. *J Oral Maxillofac Surg* 2001;59:760-7.
  - 8) Yatsuyanagi T, Yamashita K, Urushidate S, Yokoi K, Sawada Y. *Reconstruction of large nasal defects with a combination of local flaps based on the aesthetic subunit principle*. *Arch Facial Plast Surg* 2001;3:285-6.
  - 9) Chandawarkar RY, Cervino AL, Wells MD. *Reconstruction of nasal defects using modified composite grafts*. *Br J Plast Surg* 2003;56:26-32.
  - 10) Jin HR, Shin SO, Choi YS. *Use of composite graft to repair nostril stenosis: A case report*. *J Rhinol* 2003;10:57-9.
  - 11) Lindsey WH. *Reliability of the melolabial flap for alar reconstruction*. *Arch Facial Plast Surg* 2001;3:33-7.
  - 12) Singh DJ, Bartlett SP. *Nasal reconstruction: aesthetic and functional considerations for alar defects*. *Facial Plast Surg* 2003;19:19-28.
  - 13) Jin HR, Song CG, Shin SO, Yum CS. *Reconstruction of nasal defects with local flap: Analysis of 7 cases*. *Korean J Otolaryngol* 2000;43:961-6.

□ 사진부도 □



**Fig. 1.** Italian method of nasal reconstruction using arm tissue in 14th century (From Nichter LS, Morgan RF, Nichter MA. The impact of Indian methods for total nasal reconstruction. Clin Plast Surg 1983 ; 10 : 635-47).



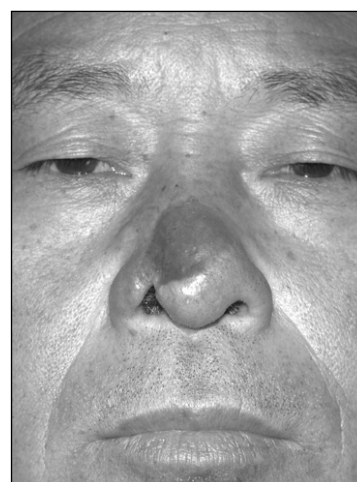
**Fig. 3.** Aesthetic unit of the nose.



**Fig. 2.** Reconstruction of nose using forehead flap was reported in English journal "Gentleman's magazine" in 1794 (From Nichter LS, Morgan RF, Nichter MA. The impact of Indian methods for total nasal reconstruction. Clin Plast Surg 1983 ; 10 : 635-47).



**Fig. 4.** The covering layer of the nose. The skin is thinnest at the rhinion and thicker at the radix and tip area. Note the thick and sebaceous skin at the tip of this Asian nose.

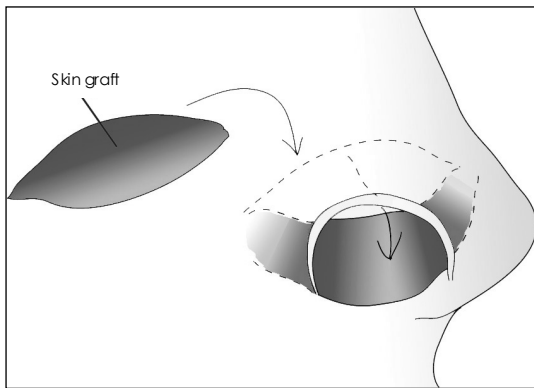


**Fig. 5.** Notching of right ala after reconstruction of the alar defect without support graft.

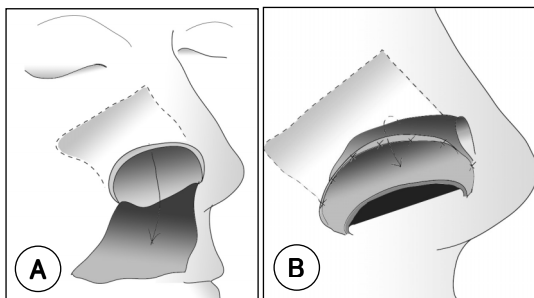




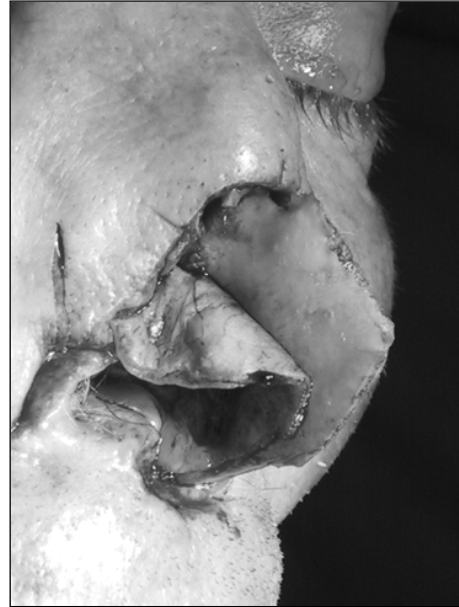
**Fig. 6.** Soft tissue layers covering the nasal osteocartilaginous framework. This layer including SMAS (superficial muscular aponeurotic system) incorporates vessels, nerves, fat tissue, and mimetic muscles. All rhinoplastic procedures must be performed safely under this layer.



**Fig. 7.** Bipedicle vestibular skin advancement flap to cover the inner layer in full thickness defect of the alar rim. The donor site is covered with skin graft.



**Fig. 8.** A : Septal mucoperichondrial hinged flap based on the superior labial artery. B : The elevated flap was sutured in position to cover the defect.



**Fig. 9.** Total defect of the lower 2/3 of the nose including nasal tip and columella. Pivoted composite flap including septal cartilage and bilateral mucoperichondrium was used for reconstruction of the inner lining and support of the lower 2/3 of the nose.



**Fig. 10.** Middle and inferior turbinate flaps are elevated to reconstruct the internal lining of tip, alar, and middle nasal vault of right side.



**Fig. 11.** The framework of the lower 2/3 of the nose (upper and lower lateral cartilage) was restored using cartilage graft from septum and auricular cartilage.



**Fig. 12.** Reconstruction of hemi-nasal framework using calvarial bone and auricular cartilage.



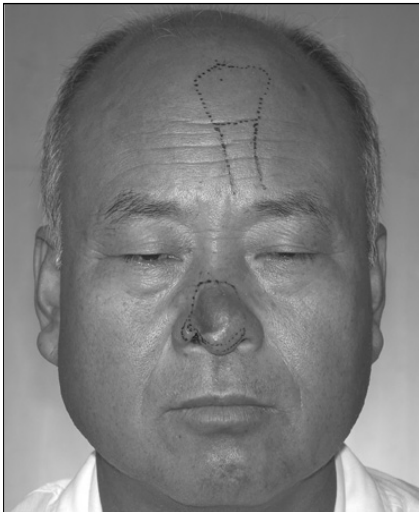
**Fig. 13.** Collapse of right alar rim (external nasal valve) by the defect of the ala.



**Fig. 14.** Right alar defect after resection of the tumor. The superior based melolabial flap was elevated and support graft using auricular cartilage was placed into position.



**Fig. 15.** Right unilateral spreader graft is placed between the septum and upper lateral cartilage.



**Fig. 16.** The design of forehead flap for reconstruction of nasal tip and dorsal deformity. Multiple esthetic units of the nose are marked for resection.



**Fig. 17.** Reconstruction of left nasal facet using auricular composite graft.



**Fig. 18.** A : Three days after reconstruction of left supratip area with bilobed flap. B : Eight months after surgery.



**Fig. 19.** Reconstruction of defect of medial canthal are and upper nasal sidewall using glabellar transposition flap.



**Fig. 20.** A : Right alar defect after resection of basal cell carcinoma. B : Reconstruction of the defect using melo-labial flap. The pedicle is still attached. C : Several days after the pedicle division.



**Fig. 21.** A : The forehead flap has been elevated for reconstruction of the nasal defect. B: Three months after reconstruction.



**Fig. 22.** A : Five months after reconstruction with melolabial flap. The flap base is a little elevated compared to the surrounding tissue making it conspicuous. B : The reconstruction site looks more blended with surrounding tissue one month after defatting procedure.



**Fig. 23.** Contraction of forehead flap used for reconstruction of right whole nasal wall including ala was caused by necrosis and scarring of inner lining. A : Immediately after reconstruction. B : After 4 months.



**Fig. 24.** Partial necrosis of the superior based melolabial flap used for reconstruction of the defect of the columella, facet, and the alar rim.