



THE USE OF TONGUE FLAPS IN ORAL RECONSTRUCTION

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HISTORY

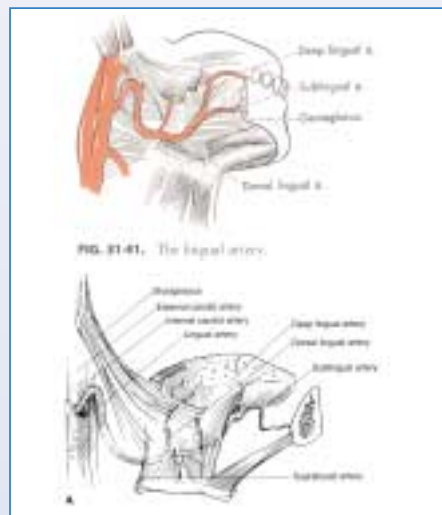
- Described for use in intraoral reconstruction of a soft palate defect (*Kloop and Schurter 1956*)
- Variants of flap design for temporary or definitive coverage of small defects (*Conley 1966*)
- Correction of lip deformities (*Guerrero-Santos*) and reconstruction for treatment of electrical burns (*Ortiz-Monasterio*)
- Closure of palatal fistulas (*Jackson 1972*)

ADVANTAGES

- Use of adjacent tissue
- excellent blood supply
- low morbidity
- reinnervation from the adjacent host tissue
- can provide 90 to 100 cm of mucosal tissue for rotation
- can be used in patients post XRT

VASCULATURE

- Lingual artery from the external carotid gives 4 branches
- suprahyoid artery
- dorsal lingual artery
- deep lingual artery
- sublingual artery



FLAP DESIGN

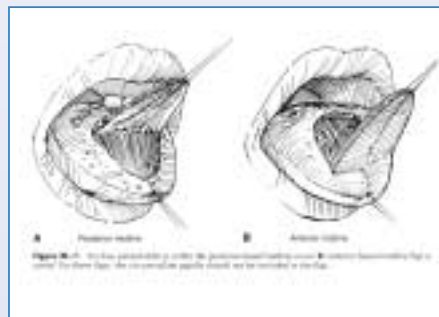
- Anterior based flap
- posterior based flap
- lateral flap
- median flap
- ventral surface flap
- central island flap

CONSIDERATIONS

- Location and size of defect
- location and direction of blood supply in the tongue
- prevention of tension and distortion of flap

BASICS

- Base of flap should measure 2.5 to 3.0 cm wide
- Length of flap should be sufficient to avoid tension on the pedicle from the motion of the tongue
- Length may be extended 5 to 6 cm
- Preserve as much of the tongue tip as possible
- Generally flaps are 5 to 7 mm thick, and include mucosa and subadjacent muscle
- avoid principal gustatory papillae in flap design
- avoid hematoma formation at the donor site with attention to hemostasis and obliteration of dead space



Once the tongue flap is raised, it may be widened by dividing the muscle on the undersurface of the flap with short incisions in a longitudinal direction

CLINICAL APPLICATIONS

- Reconstruction following resection of oral structures
- resurfacing of oral defects
- fistula closure
- Floor of mouth
- buccal mucosa
- alveolar clefts
- hard palate defects
- soft palate defects
- tonsillar arch defect
- tongue reconstruction
- upper and lower lip reconstruction

FISTULA CLOSURE

- Especially useful in end stage palatal fistulas secondary to cleft palate
- Patients often have scar tissue following multiple surgeries



CASE REPORT

Pt is a 53 y.o. male with h/o congenital cleft lip and palate, s/p numerous surgical procedures, now with a residual oronasal fistula.



1st closure for nasal layer using oral mucosa

"Raising the Flap"



Closure of donor site



Flap sutured in place



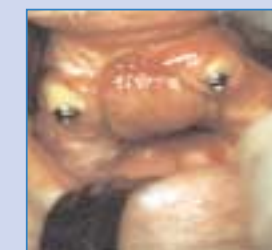
• 2nd surgery - separation of tongue pedicle
• 20 days after first procedure



Donor site is healed



The pedicle is trimmed and reapproximated to the dorsal surface of the tongue



The grafted tissue is sutured at the posterior aspect



• Post-op visit
• donor site



DEBULKING

- Debulking may be necessary prior to dental prosthesis
- Bulky palatal tissue may impede speech
- Advisable to wait three months after the original pedicle has been separated