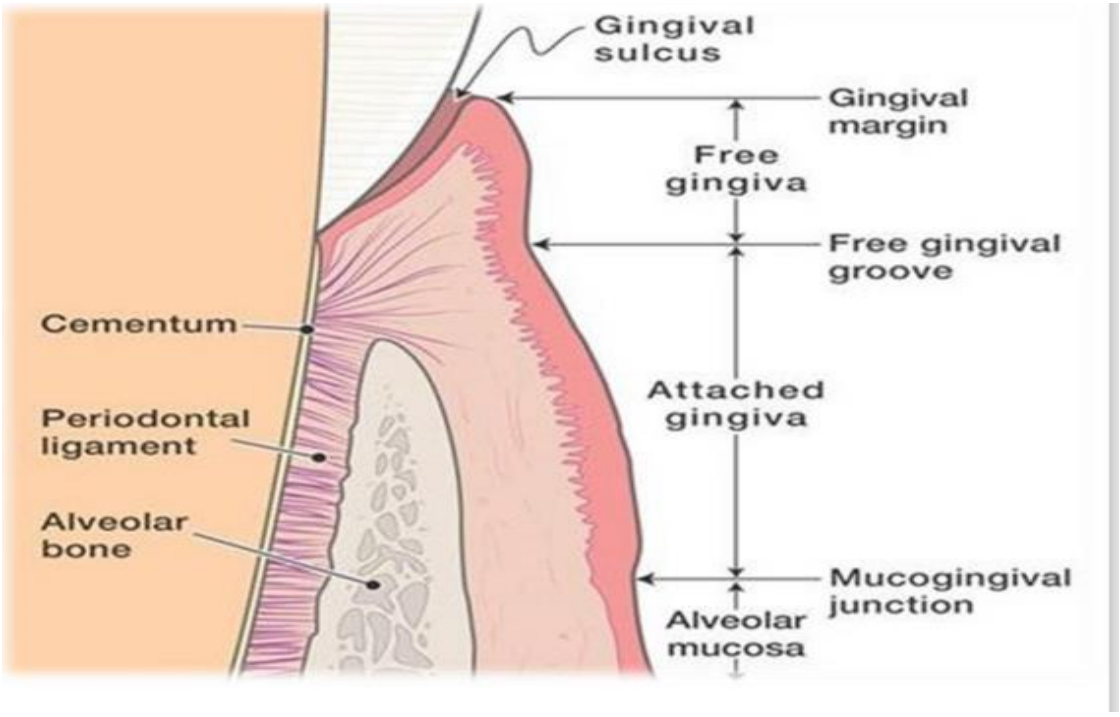
The surgical phase of therapy

Phase II Periodontal Therapy

Dr.Doaa Neamah Mseer

B.D.S, M.Sc. periodontics

Mucogingival surgery



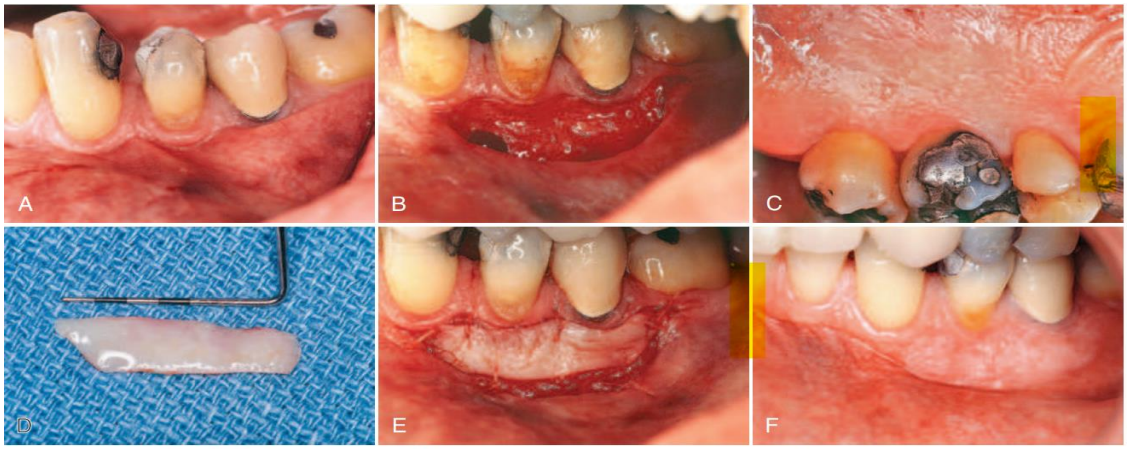
Periodontal treatment involving procedures for correction of defects in morphology,position and/or the amount of soft tissue (gingiva and alveolar mucosa) and underlying bone support at teeth and implants. These procedures are varied from simple *gingivectomies or *crown lengthening procedures (e.g. To increase the clinical crown length if there is a gummy smile with a high lip line), to complex gingival grafting procedures. In patients

with bone defects *GTR and *bone grafting (Guided bone regeneration, GBR) may also be employed to increase the bulk of available alveolar bone, grafting procedures generally aim Io cover exposed roots, to increase the bulk of the width of keratinized gingiva and to prevent further gingival recession.

Grafting procedures include

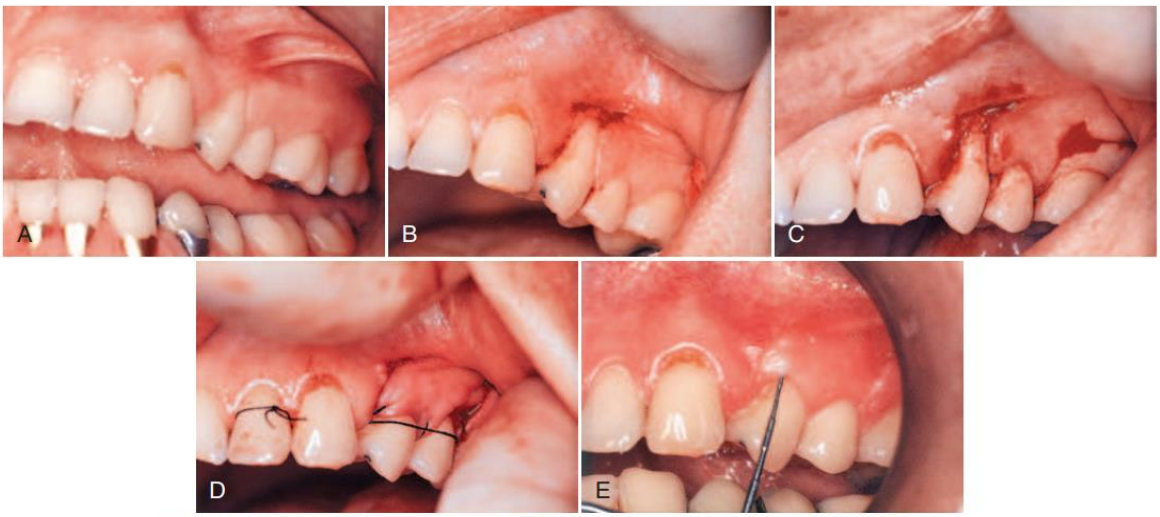
- Free gingival graft (epithelium + connective tissue)
- The pedicle sliding graft (Lateral repositioned graft)
- The sub epithelial connective tissue graft (connective tissue)

Free gingival graft



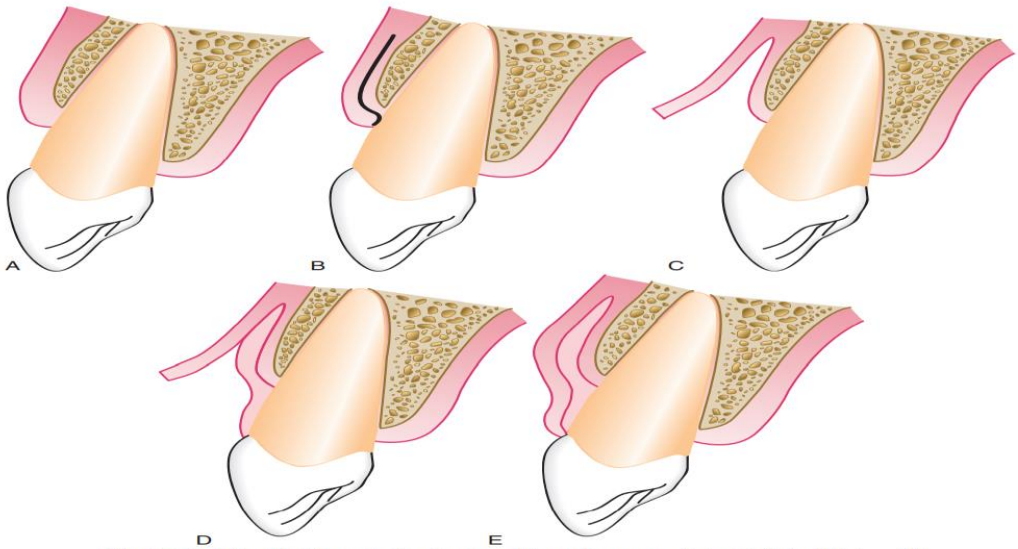
eFig. 65.1 Free gingival graft. (A) Before treatment, showing minimal keratinized gingiva. (B) Recipient site prepared for a free gingival graft. (C) The palate is the donor site. (D) Free graft. (E) Graft transferred to the recipient site. (F) At 6 months, showing widened zone of attached gingiva. *(Courtesy Dr. Perry Klokkevold, Los Angeles, CA.)*

Lateral repositioned graft

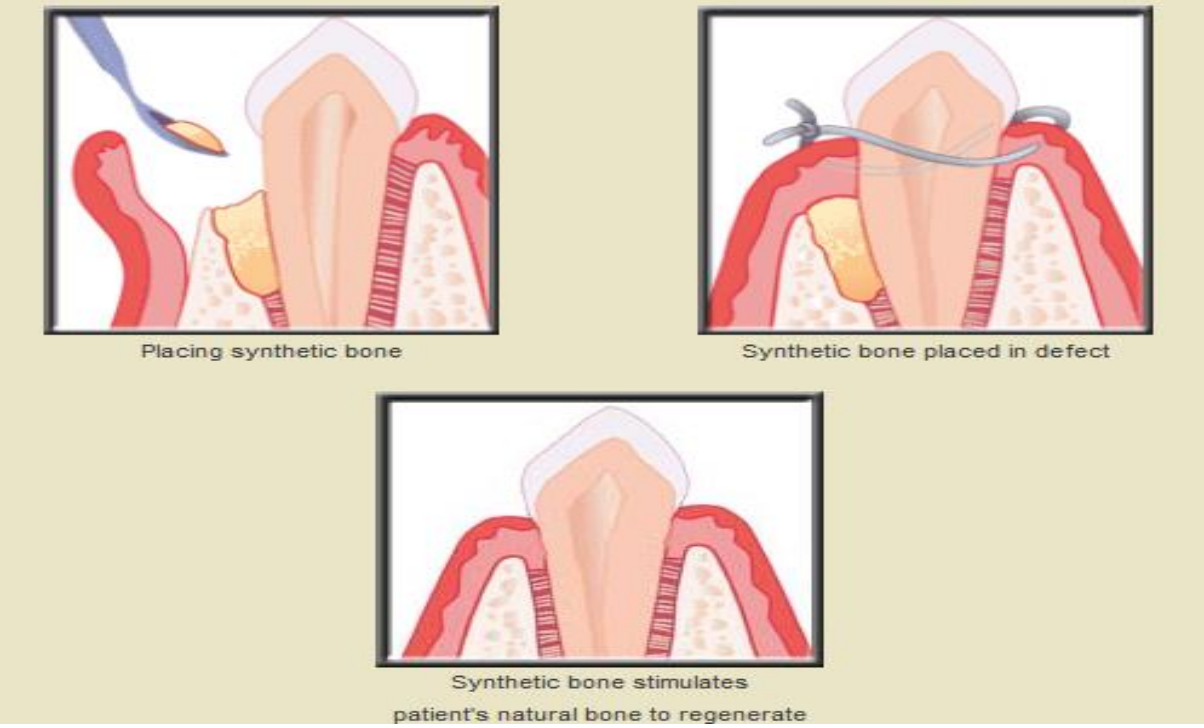


eFig. 65.9 Laterally displaced flap. (A) Preoperative view of the maxillary bicuspid. (B) Recipient site is prepared by exposing the connective tissue around the recession. (C) Incisions are made at the donor site in preparation of moving the tissue laterally. (D) The pedicle flap is sutured in position. (E) Postoperative result at 1 year. *(Courtesy Dr. E.B. Kenney, Los Angeles, CA.)*

The sub epithelial connective tissue graft (connective tissue)

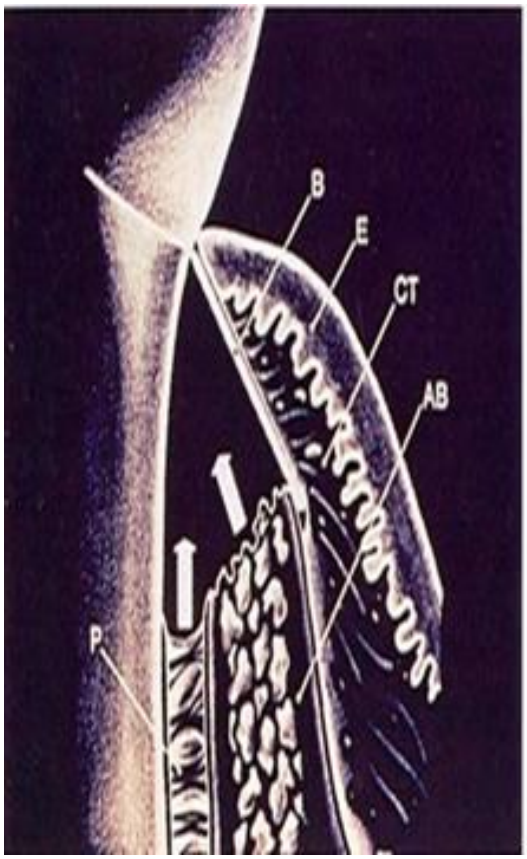


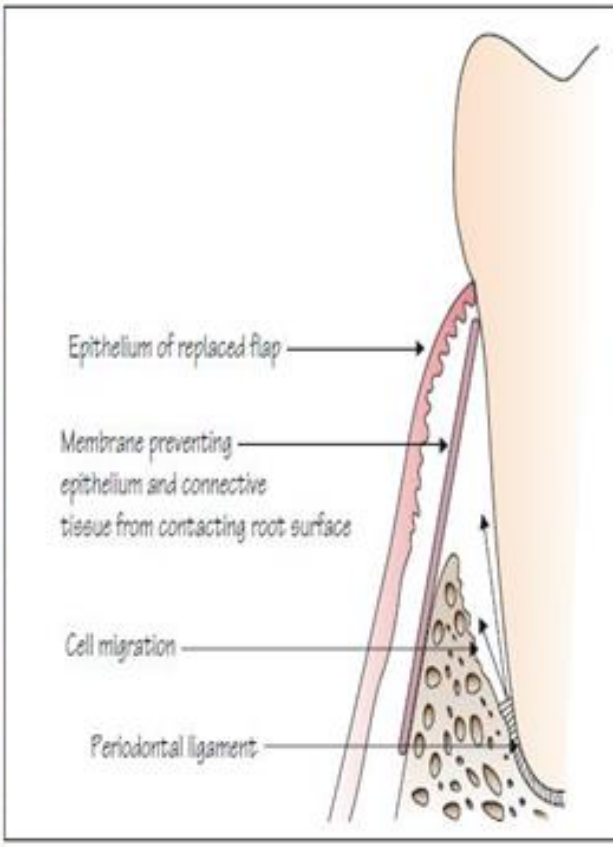
eFig. 65.12 Subepithelial connective tissue graft for root coverage. (A through E) Sagittal views. (A) Preoperative view of facial recession on a maxillary central incisor. (B) Split-thickness incision for the recipient site. (C) Split-thickness flap is reflected. (D) Connective tissue is placed over the denuded root surface. The apical portion of the donor tissue is placed between the split-thickness flaps. (E) Recipient flap is closed. Subepithelial connective tissue graft is used for root coverage.

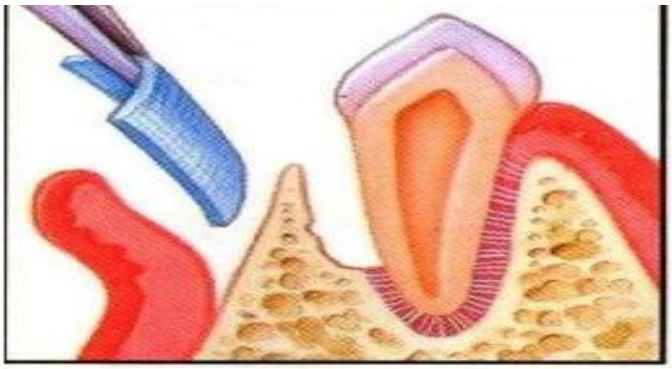


Guided tissue regeneration GTR

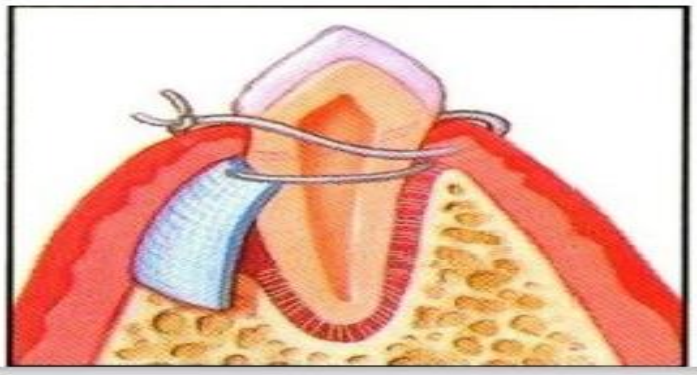
Following periodontal surgery, the instrumented root surface is colonized by gingival epithelial cells to form a long junctional epithelium which prevent the formation of new connective tissue attachment to the root surfaces, thus GTR is achieved by placing barrier membrane over periodontal defect to exclude gingival epithelium and connective tissues cells, and to create a space into which the proliferating cells from periodontal ligament and bone can migrate into healing area. These cells have the capability to differentiate into fibroblast, cementoblast and osteoblast and thus can produce new periodontal ligament fibers, cementum and bone to regenerate the lost connective tissue attachment to the root surface. Membranes are either non-resorbable which require removal 4-6 weeks after placement or resorbable which biodegrade within the tissue over 12 months



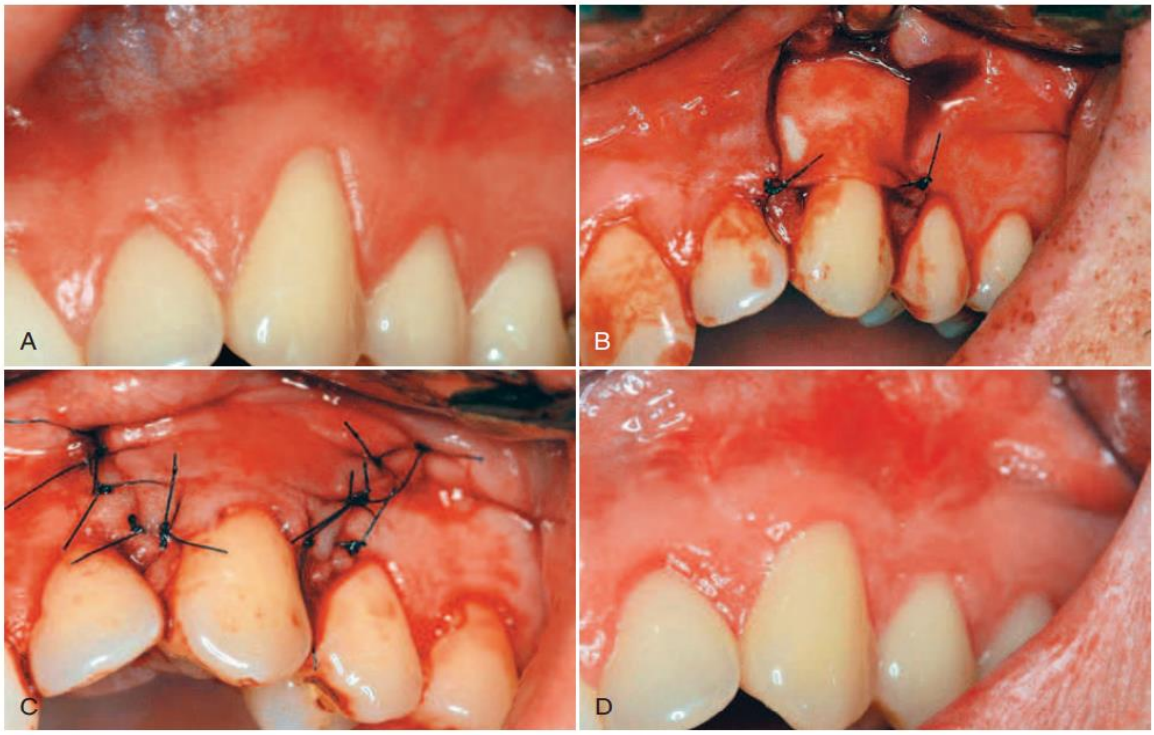




After cleaning, a special membrane is inserted between the gum and bone.



The membrane blocks unwanted tissue, allowing ligament fibers and bone to grow. Once strong ligament fibers attach root to bone, the membrane dissolves or is removed.



eFig. 65.14 Guided tissue regeneration technique for root coverage. (A) Marked recession of the left maxillary cuspid. (B) Vertical incisions are made, and the membrane is placed over the recession. (C) Flap is sutured over the membrane. (D) Postoperative result, showing complete coverage of recession. *(Courtesy Dr. Zoran Aleksic, Belgrade, Serbia.)*

Crown lengthening

Indication

1-Short clinical crown require increased retention for placement of full coronal restoration (including cases of gross tooth wear requiring full mouth rehabilitation)

2-Deep subgingivally located crown preparation margins, resulting in difficulty finishing margins and taking impressions also encroachment on the biologic width

3-Sub gingival caries

4-Root fractures or root resorption in the cervical third of the tooth root

5-Aesthetic improvement of anterior teeth with short clinical crowns and high lip line

Techniques for the removal of the frenum

A frenum is a fold of mucous membrane, usually with enclosed muscle fibers, that attaches the lips and cheeks to the alveolar mucosa and/or gingiva and underlying periosteum.A frenum becomes a problem if the attachment is too close to the marginal gingiva.Tension on the frenum may pull the gingival margin away from the tooth.This condition may be conducive to plaque accumulation and inhibit proper brushing of the teeth with pocket formation.Also may tend to open the sulcus and gingival recession.

Frenectomy or Frenotomy

The term frenectomy is complete removal of the frenum,including its attachment to underlying bone and may be required in the correction of an abnormal diastema between maxillary central incisors.

Frenotomy is the incision of the frenum and relocating the frenal attachment.

Frenal problems occur most often on the facial surface between maxillary and mandibular central incisors and in the canine and premolar areas.They occur less often on the lingual surface of the mandible.

The technique for the removal of the frenum accomplished as follows:

1.After anesthetizing the area, engage the frenum with a hemostat inserted to the depth of the vestibule.

2.Incise along the upper surface of the hemostat,extending beyond the tip.

3.Make a similar incision along the undersurface of the hemostat.

4.Remove the triangular resected portion of the frenum with the hemostat.This exposes the underlying brushlike fibrous attachment to the bone.

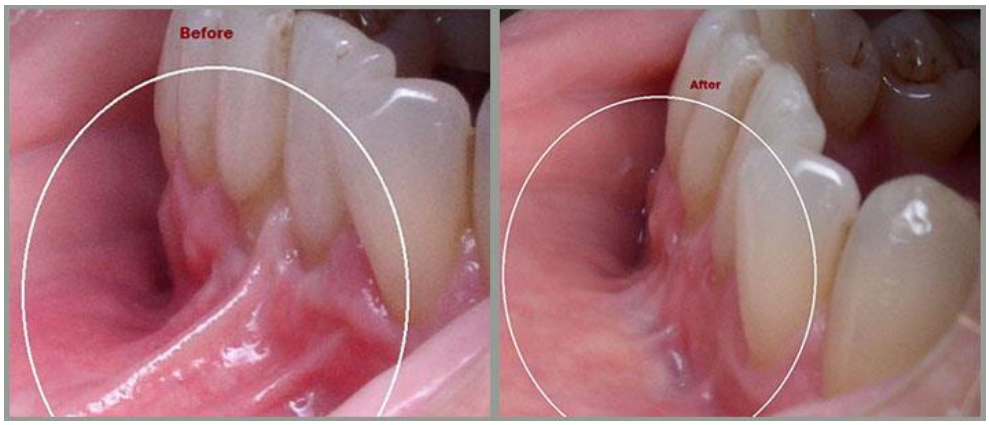
5.Make a horizontal incision, separating the fibers,and bluntly dissect to the bone.

6.Undermining the incision to approximate the border of incisions for suturing.

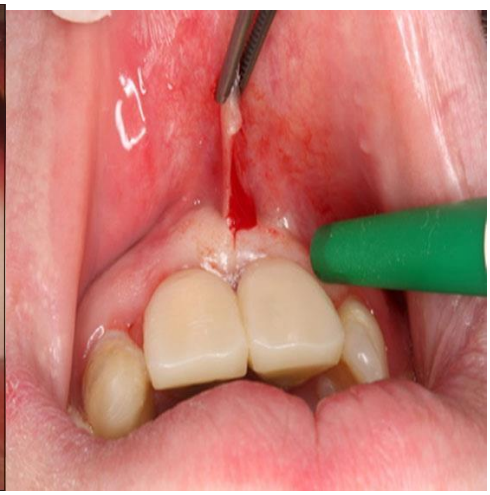
7.Clean the field of operation and pack with gauze sponges until bleeding stops.

8.Cover the area with periodontal pack.

9.Remove the pack after 1 week.One month is usually required for the formation of an intact mucosa with the frenum attached in its new position.

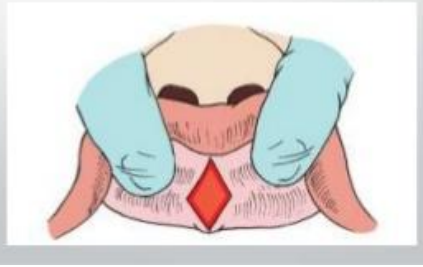







Luiz Fernando Ferreira
Programa de pós Graduação em Periodontia FORP-USP

- For the simple excision technique, a narrow elliptical incision around the frenal area down to the periosteum is completed



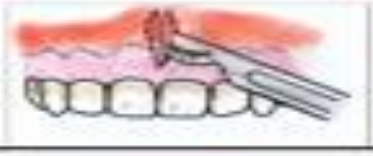
Discover Dental Surgery

Anterior Labial Frenectomy

Keys to Success

Step 1 – Initial Incision

Make sure the 15 or 15c blade is angled 45 degrees to the underlying bone

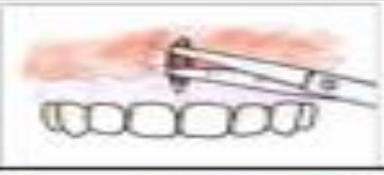


Step 2 – Excision of Overlying Tissue

Use Adson tissue forceps to hold the flap edges taut and hold the fully mobile mucosal flap

Step 3 – Soft Tissue Release

Pull the wound edges taut with the Adson tissue forceps and spread the incision with the Metzenbaum scissors



Step 4 – Excision of Frenum

Firmly grasp the frenum with Adson tissue forceps throughout the entire step