Periodontal Plastic Surgery
Suzuki

Soft tissue Issues:

- **Gingival recession with root exposure**
- **Inadequate keratinized tissue**
- **Aberrant frenum**

Indications for gingival augmentations

- **Inflammation + recession + no attached KG**
- **Facilitate plaque control + eliminate inflammation**
- **Subgingival restorative margins at narrow keratinized gingiva zones**
- **Prior to prosthetic treatments (RPD, CD)**
- **Dehiscence or prominent root in thin biotype**
- **Orthodontic considerations**

Techniques for management of mucogingival defects:

- **Lack of KG– free gingival graft**
- **Aberrant frenum – frenectomy**
- **Recession – connective tissue graft**

Why do implants fail:

Significance of KERATINIZED MUCOSA in Maintenance of Dental Implants

"Absence of adequate KM or AM in endosseous dental implants, especially in posterior implants, was associated with higher plaque accumulation and gingival inflammation…"

Chung, D.M…. Misch, C.E. J. Periodontol 2006

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Free Gingival Graft

Indications:

- **Increase attached gingiva Facilitate proper hygiene**
- **Protect against recession "Attempt" root coverage***

Disadvantages: Esthetics, Post-operative healing discomfort

ANATOMICAL CONSIDERATIONS: Mental Foramen, External/Oblique Ridge, Narrow Mandible

Free Gingival Graft Technique:

1) Prepare recipient site:

- **Ensure capillary outgrowths for graft vascularization**

2) Donor Site:

- **Palatal mucosa**
- **Edentulous ridge tissue**
- **Attached gingiva**

-Sullivan et al., 1968

The thickest tissue from mesial line angle max 1st molar palatal root to distal line angle of canine Reiser et al. 1996

Palatal Hemostasis:

- **1:50,000 epinephrine (Beware rebound, necrosis)**
- **Sutures Deep interrupted distal to harvest**
- **Tissue –adhesive Electrocautery**
- **Compress palatal gauze Place palatal stent**
- **Periodontal dressing (Coe-Pak) Surgicel**
- **Blood Stop Gel Foam**
- **Ferric sulfate**
  - **Place over exposed epi**
  - **Place on incision line**

KEYS FOR GRAFT SURVIVAL

- **Recipient bed preparation**
- **Atraumatic handling of donor tissue**
- **Revascularization of graft**
- **Adequate immobilization**
- **Postoperative care**

-*Sullivan et al., 1968*

Aberrant Frenum: Treatment FRENECTOMY
Encroachment on gingival margin interferes with plaque removal and tension on frenum may open the sulcus *When the lip is manually extended, the gingival margin should not move or blanche

Gingival Recession with root exposure:
"Displacement of soft tissue margin apical to CEJ with oral exposure of root surface"
-Genco and Newman *Ann Periodontal* 1996

- **Etiologic factors:**
  - **Morphology -Trauma**
  - **Inflammatory periodontal disease -Occlusal forces**

Consequences of gingival recession:

- **Esthetic dissatisfaction -Tooth sensitivity**
- **Compromised hygiene -Root decay**
- **Progressive Attach Loss**

Indications for connective tissue graft:

- **Root coverage for recession defects (esthetic & function)**
  - **Class I, II; Class III (partial); NOT class IV)**
  - **Root hypersensitivity**
  - **Management of shallow root caries lesions**
  - **Cervical abrasion**
  - **Esthetics**

Root Modification:

A. Citric Acid
B. EDTA (Pref Gel)

C. Tetracycline

Expose collagen fibers, decontaminate root surface of bacteria/endotoxins, debris facilitating attachment Connective tissue graft technique:

Donor site (Palate)

- **Fully elevate from bone**
- **Vertical release incisions in "pocket"**
- **Apical release incision in "pocket"**
- **Remove graft, place on sterile saline moistened gauze**
- **Graft can be trimmed on tongue blade with fresh scalpel**

Recipient site:

- **Can be partial or full thickness**
- **With full thickness flaps, periosteal release(s) are often needed when significant advancement required**
- **With partial thickness, blunt dissect past MGJ using Orban knife, hemostat, Buser elevator, etc.**
- **Assess for aberrant frenum**
- **release/remove if needed**
- **if significant, do prior to grafting**
- **check freedom of movement after release**
- **apical horizontal release to prevent re-attachment**

Suturing:

- **Coronally position tissue**
  - **any suture pulled tight, especially ones that evert tissue (interrupted)**
- **Positioning sutures**
  - **sling suture –coronal position**
    - **tooth or implant healing abutment**

Postoperative follow-up

- **10-14 days Suture removal**
  - **Cotton tip + chlorhexidine; extra soft post-surgical toothbrushes**
  - **Ease into normal brush and flossing by week 3**
- **4-6 weeks Postop**

***hygiene reinforcement before, during, after healing**

Allografts: Acelluler dermal matrices

hydrate and trim

brand names: Alloderm (Biohorizons) - processed with ABX, careful of allergies

Oracell (Salvin) - comes prehydrated, also ABX processed

Growth factors: Extract of enamel matrix; contains various molecular weight amelogenins (porcine proteins) believed to regenerate tooth attachment

Involved in formation of enamel and periodontal attachment during tooth development

-Esposito 2009

Factors associated with Incomplete Root Coverage

- **Improper Dx of marginal tissue recession Inadequate root planing**

- **Improper preparation of recipient site Inadequate size of interdental papillae**
- **Improperly prepared donor tissue Reduction of inflammation prior to grafting**

Documentation for diagnosis:

- **Probings/pocket depths Recession (CEJ to margin)**
- **Attached gingiva (MGJ to base of sulcus) Mobility**
- **Furcations Bleeding on probing and/or Purulence **Diagnostic**

Radiographs and Photographs

PROCEDURE CODES:

- **D4277 Free soft tissue graft**
- **D4273 Subepithelial Connective Tissue Graft**
- **D4276 Combined Connective Tissue and Double Pedicle Graft**
  + D4275 Soft Tissue Allograft
- **D5982 Surgical/palatal stent**
- **D7960 Frenectomy**

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