Mucogingival Surgery and Periodontal Aesthetics (Part 2)

- **Mucogingival Surgery**: plastic surgical procedures used to correct defects in the morphology, position and/or amount of gingiva.

Techniques to Increase Attached Gingiva

A. **Gingival Augmentation apical to area of recession**: a graft is placed on a recipient bed apical to the recessed gingival margin (free gingival graft)
B. **Gingival Augmentation coronal to area of recession (root coverage)**: a graft (either pedicle or free) is placed covering the denuded root surface.

- Both techniques enhance oral hygiene procedures, but only (2) can correct and esthetic problem.

Grafts

A. **Free soft tissue grafts**:
   a. **Epithelialized graft (free gingival graft)**
      - **Step 1: Prepare Recipient Site;** prepare a firm connective tissue bed to receive the graft by incising at the existing mucogingival junction with a **#15 blade** to the desired depth, blending the incision on both ends with existing mucogingival line. ➔Suture the flap where the apical portion of free graft will be located ➔ Make an aluminum foil template of the recipient site to be used as a pattern for the graft.
      - **Step 2: Obtain Graft from Donor Site**; the palate is usually the site of donor tissue removal. The graft should consist of epithelium + thin layer of connective tissue. Place the template over donor and make a shallow incision with a **#15 blade** ➔ lift gently while separating to provide visibility. The ideal thickness of graft is **1.0 – 1.5mm**. Once graft is separated, remove loose tissue tabs from undersurface.
      - **Step 3: Transfer and Immobilize the Graft**; remove the gauze (from recipient site) and reapply it with pressure until bleeding is stopped ➔ Remove excess clot as it interferes with vascularization of the graft ➔ Position the graft and adapt it firmly to recipient site (any space between them can impair vascularization) ➔ Suture graft at lateral borders and to periosteum to secure in position. ➔ Cover area with aluminum foil and surgical pack.
      - **Step 4: Protect donor site;** cover donor site with periodontal pack for 1 week, repeat if needed
   b. Subepithelial connective tissue graft

B. **Pedicle grafts:**
   a. Rotational flap
      i. **Lateral Sliding Flap**

- **Step 1: Prepare the Recipient Site**; Epithelium is removed around the denuded root surface. The exposed connective tissue will be the recipient site. ➔ Thorough scaling and planning of exposed root surface.
- **Step 2: Prepare the Flap**; Periodontium of donor site should have satisfactory width of attached gingiva. With a **#12 Blade**, make a vertical incision from the gingival margin to outline a flap adjacent to recipient site. Incise to the periosteum (epithelium + thin layer of connective tissue) and extend incision into the oral mucosa to the level of the base of the recipient site. The flap should be sufficiently wider than recipient site to cover the root. The interdental papilla at the distal end of the flap, or a major portion of it, should be included to secure the flap in the interproximal space between the donor and recipient teeth.
- **Step 3: Transfer the Flap**; Slide the flap laterally onto the adjacent root, making sure that it lies flat and firm without excess tension on the base. Fix the flap to the adjacent gingiva and alveolar mucosa with interrupted sutures.
- **Step 4: Protect Flap and donor site**; cover the operative field with aluminum foil and soft periodontal pack, extending it interdentally and onto the lingual surface to secure it. Remove the pack and sutures after 1 week.

      ii. Double Papilla Flap
      iii. Oblique Rotated Flap
   b. Advanced flap
      i. Coronally repositioned flap
      ii. **Semilunar coronally repositioned flap**

Indication	Areas in which gingival recession is only 2—3 mm
Advantages	1. No vestibular shortening (as coronally positioned flap) 2. No esthetic compromise on interproximal papilla 3. No need for sutures
Disadvantages	1. Inability to treat large areas of gingival recession 2. Need for an FGG if there is an underlying dehiscence or fenestration
Requirements	1. Lack of tissue inflammation 2. Minimal pocket depth labially

C. **Connective tissue graft in conjunction with coronally advanced flap**
D. **Acellular Dermal Matrix (ADM)**: acellular connective tissue allograft derived from skin of organ donors.