- **Objective:**
  - **Position, secure wound margins = healing**
  - **Wound margins → close apposition until healed to withstand functional stress and tension**

Flap Positioning

- **Coronally position tissue**
  - **any suture pulled tight, especially ones that evert tissue**
  - **i.e. Connective tissue graft, bone graft**
- **Apically position tissue**
  - **any suture left loose – combine with dressing?**
  - **i.e. Crown lengthening, Keratinized tissue graft, Osseous**
- **Re-positioned flap**
  - **i.e. Flap debridement or implant healing abutment**

SURGICAL KEYS

- **Do NOT reflect flaps >3-4mm past mucogingival junction**
- **FULL THICKNESS reflection**
- **Keep incisions AGAINST BONE**
- **Access: 2 teeth mesial, 1 distal**
- **Asepsis and Irrigation**
- **Palpate Greater palatine foramen**
- **Image of Mental foramen**

Palatal Anatomy

- **Greater and lesser palatine foramina: nerve and artery extend inferiorly from the pterygopalatine fossa**
- **Palpate for margin of safety**
- **Foramina apical to 3rd molar**
  - **High Palate = 17mm**
  - **Average Palate = 12mm**
  - **Shallow Palate = 7mm**

Reiser et al. 1996

VERTICAL RELEASING INCISIONS

- **Must extend beyond mucogingival line into mucosa**
- **Incisions at line angles: include or avoid papilla**
- **Make the base at least as wide as the height**
- **NEVER ON PALATAL OR LINGUAL**

SUTURE NEEDLES:

Components

- **3/8 circle suture needles most commonly used in dentistry (*i.e.*, oral, periodontal and implant surgery).**
- **½ circle suture needles most commonly used in areas of restricted space or fine suturing**
- **cutting: the inner surface cuts and the shape of the needle follows the curve**
- **reverse-cutting: the outer surface cuts, thus helping prevent pull through**
- **taper cutting / taper point: focus on penetration**

- **spatula: flat blade that maintains position**
- **blunt: used for soft friable tissue**

- **Resorbable**
  - **Gut (5d)**
  - **Chromic Gut (10d)**
  - **PGA (Vicryl) (4wks)**
  - **Polylactic acid (4wks)**
- **Non-resorbable**
  - **Silk, Nylon, Polypropylene, Stainless steel**
- **Monofilament vs. Polyfilament**
- **Sutures sized by USP (United States Pharmacopoeia) scale**
  - **6-0 = 0.07 mm**
  - **5-0 = 0.10 mm**
  - **4-0 = 0.15 mm**
  - **3-0 = 0.20 mm**
  - **2-0 = 0.30 mm**
  - **0 = 0.35 mm**
  - **1 = 0.40 mm**
  - **2 = 0.5 mm**

NEEDLE HOLDER:
- **Locking handle**
- **Beak face crosshatched**

- **Traditional Grip: fast opening and closing**
- **Palm Grip: finesse; cannot grip/release readily**
- **Reverse Grip: manuever; cannot grip/release readily**

CASTROVIEJO SUTURE NEEDLE HOLDER:
- **Pen grasp**
- **Can be damaged by use with large needles**
- **Learning curve**

WOUND CLOSURE:
- **Interrupted sutures**
- **Mattress sutures**
- **Continuous**
- **Adhesives**
- **Dressing**

SUTURE TECHINQUES:
Interrupted Suture
- **Simple loop**
  - **primarily for approximation**
  - **NOT TO RESIST FORCE**
- **Figure 8 modification**
  - **inverts tissue**

Alternative wound closure:

- **Tissue Adhesive**
    - **n-butyl, isobutyl, and octyl cyanoacrylate**
    - **bacteriostatic**
    - **polymerizes rapidly in presence of moisture**
- **Do NOT use Superglue**
    - **methyl 2-cyanoacrylate, ethyl-2-cyanoacrylate**

INTERRUPTED:

- **SIMPLE LOOP:**
    - **Approximated mobile flaps**
    - **Individual tied and cut**
    - **Advantage: loss of one = inconsequential healing**
    - **Disadvantage: time consuming**

FIGURE 8:

- **Simple loop buccal, lingual passes outside flap**
- **Advantage: technically easier**
- **Disadvantage: material interposed b/w flaps after closure**

MATTRESS SUTURES:

- **Indications: muscle pull, high tension**
- **Everts wound edges**
- **Allow greater tension to tissue closure w/o tearing**
- ***Passive, tension free flaps still a MUST**
- **HORIZONTAL & VERTICAL techniques**

VERTICAL MATTRESS:

- **Far-Near Near-Far Variant**
    - **Helps expand tissue to achieve approximation under high tension**
    - **Disperses tension points**
        - **Sites of Mucosa**
    - **Technically complicated**

CONTINUOUS SUTURES:

- **Indications: spans of 4+ interrupted sutures**
- **Places less tension on suture line and tissue**
- **Advantage: Faster vascularization of reflected soft tissue flaps**
- **Disadvantage: Tendency to loosen, compromise knot integrity**

CONTINUOUS LOCKING SUTURES:

- **Long incision lines requiring rapid, uniform closure (e.g., extraction sites, ridge augmentation flaps)**
- **Advantages: Faster, tension control, hemostasis & compression**
- **Disadvantages:**
    - **Loss of 1 suture compromises all**
    - **↑ material contact ↑ inflammation & biofilm**
    - **Not ideal for precise papilla positioning/flap adaptation**
    - **Time consuming removal**

POST-SURGICAL MANAGEMENT:

A. **Hemostasis**
B. **Periodontal Dressing (optional)**

C. **Pain Control**
D. **Ice packs**
E. **Antibiotics**
F. **Antimicrobials**
G. **P.O. Instructions**