PREPROSTHETIC SURGERY

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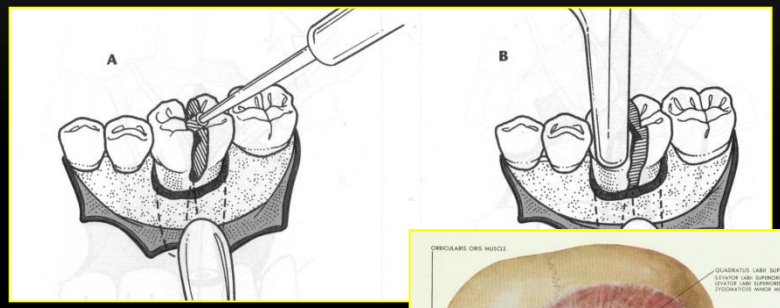
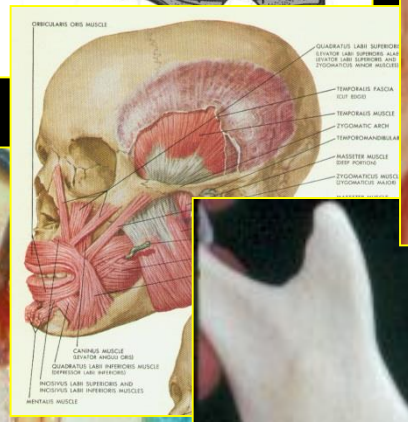
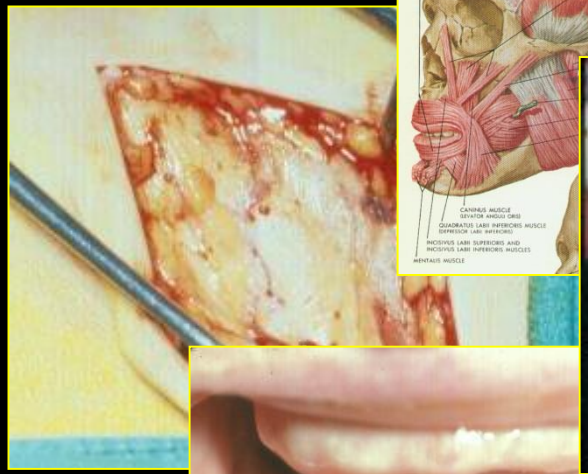
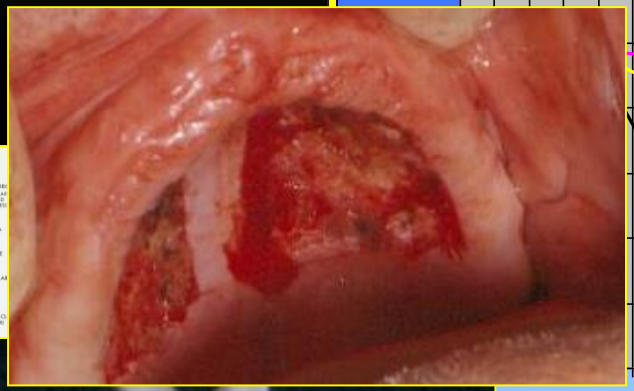
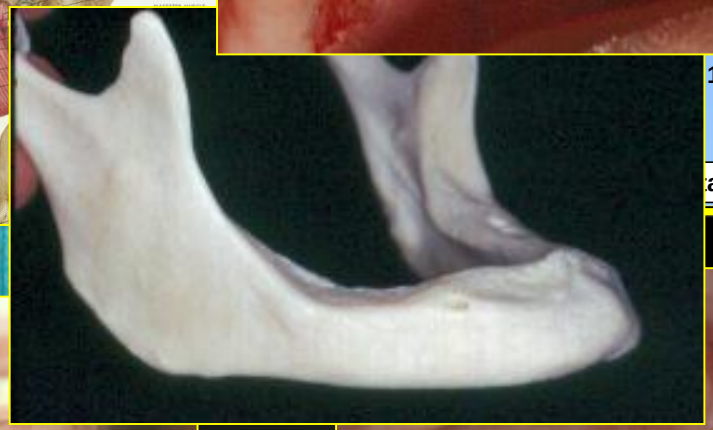
Preprosthetic Surgery

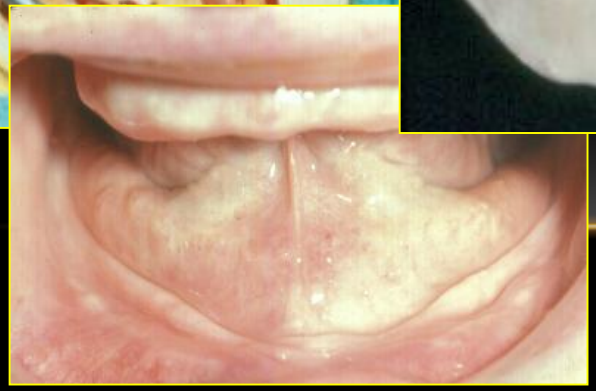


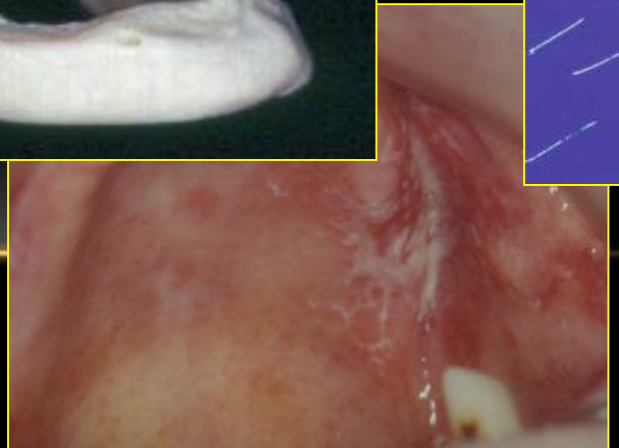


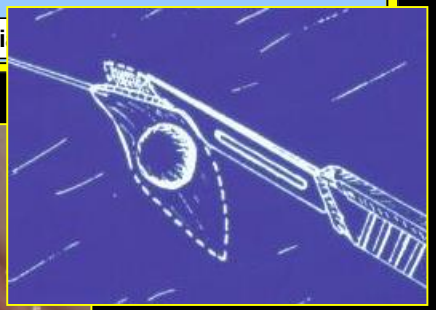


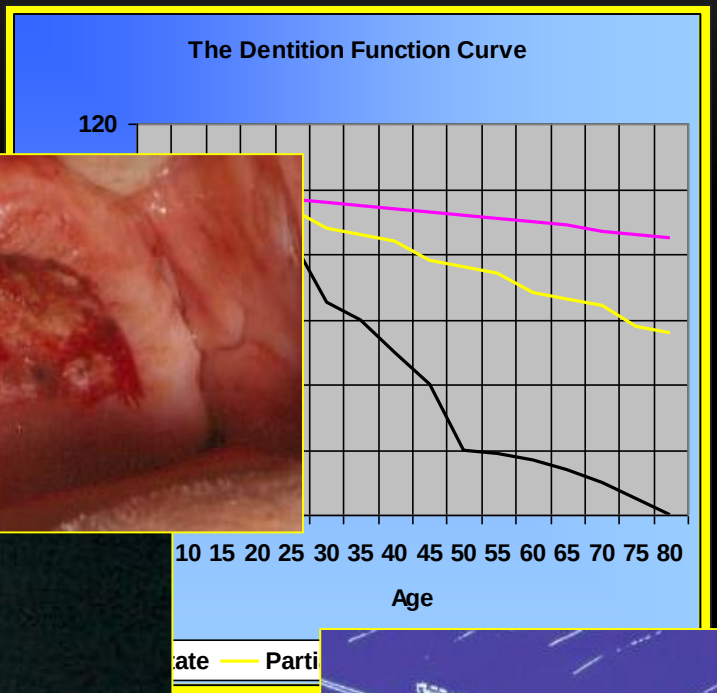






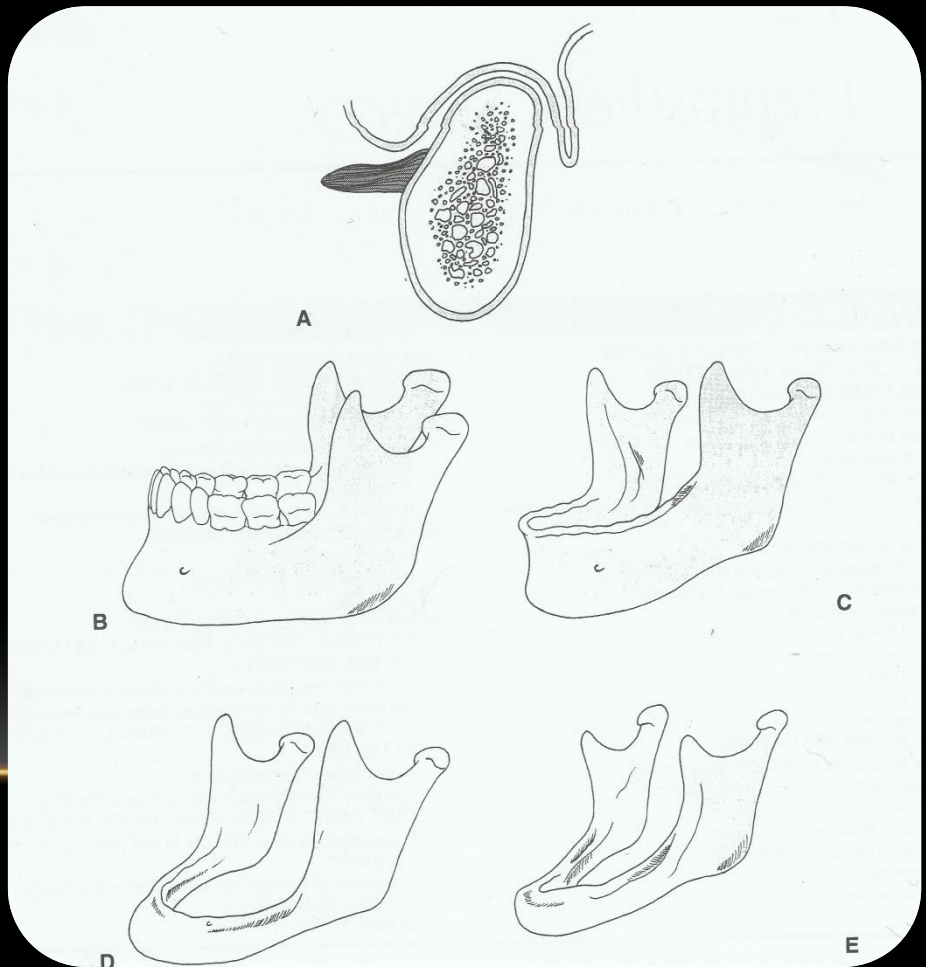




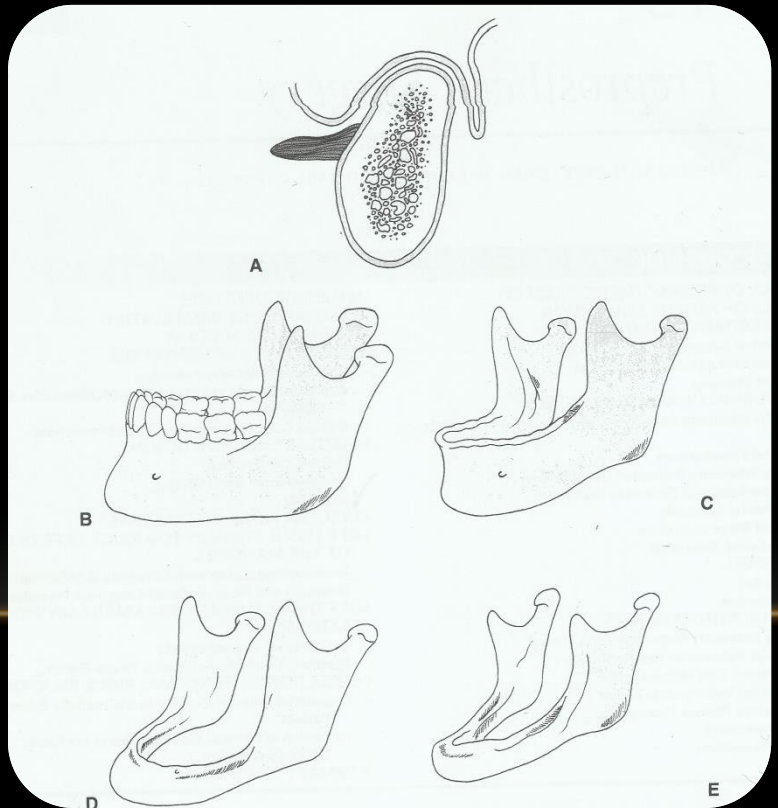


LOSS OF NATURAL TEETH

- Unpredictable pattern of bone resorption
  - Stabilize after a period
  - Total loss of alveolar bone



- **Bone loss**
  - Denture
  - Mandible more severely than maxilla
    - Decreased surface area
    - Less favorable distribution of occlusal forces

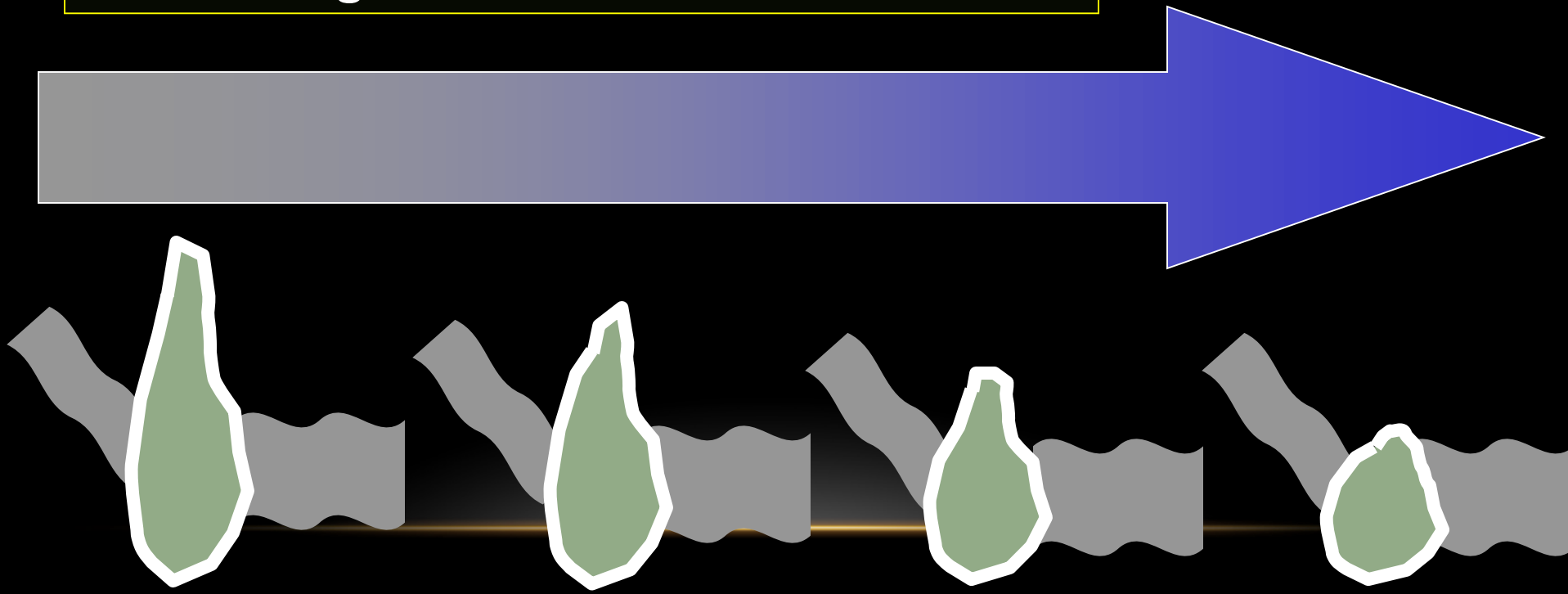


Effects of facial structure on resorption patterns:

1. the actual volume of bone present in the alveolar ridges varies with facial form
2. individuals with low mandibular plane angles generate higher bite force and greater pressure on the alveolar ridge areas

Factors that impact on fit: atrophy

1. Atrophy
   a. Decreasing bone b. Increasing soft tissue



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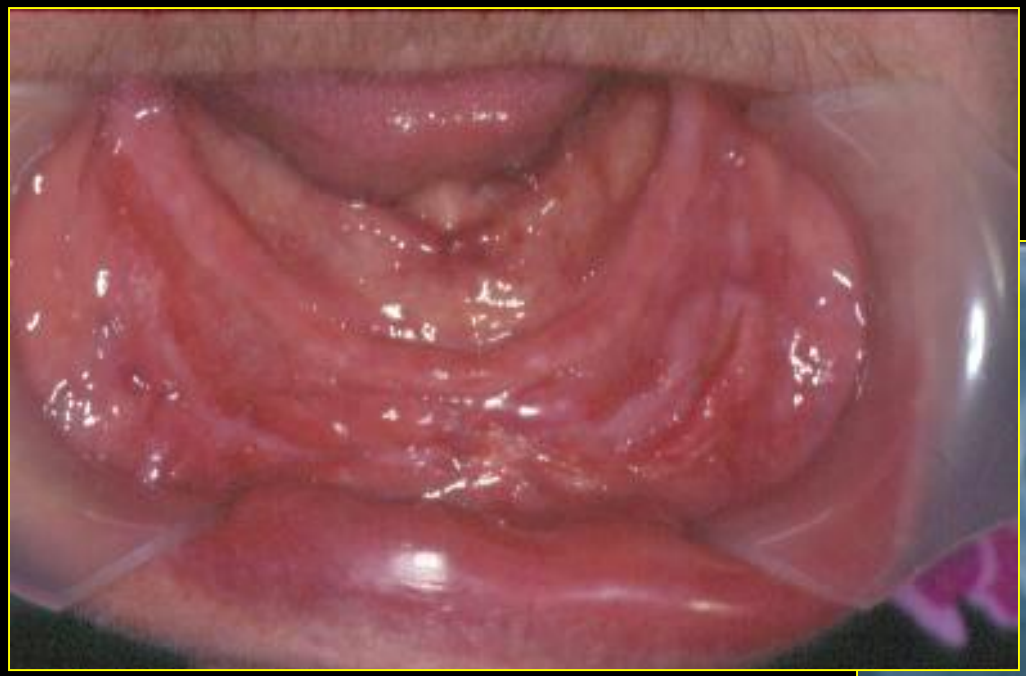
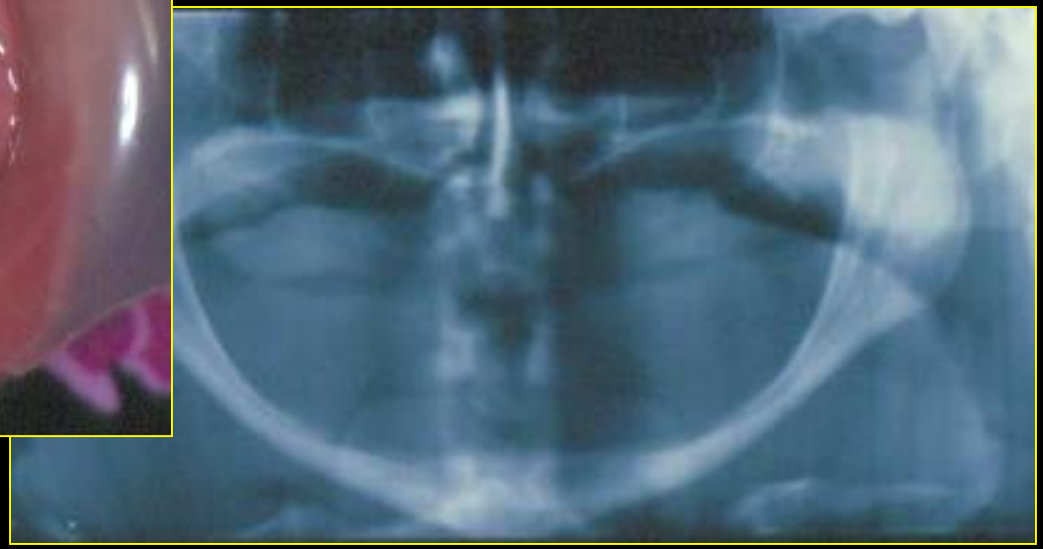
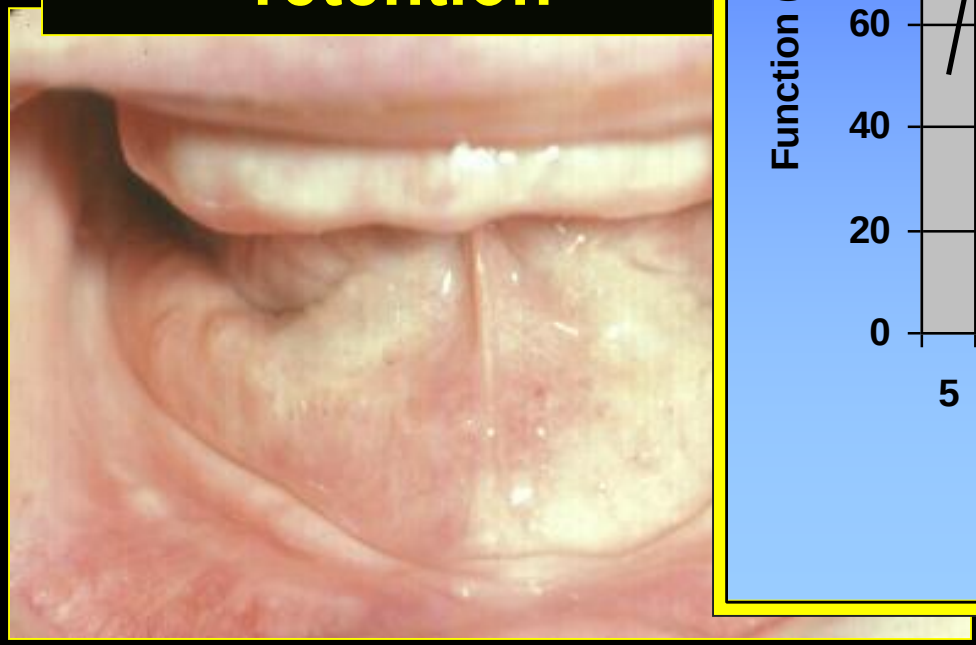
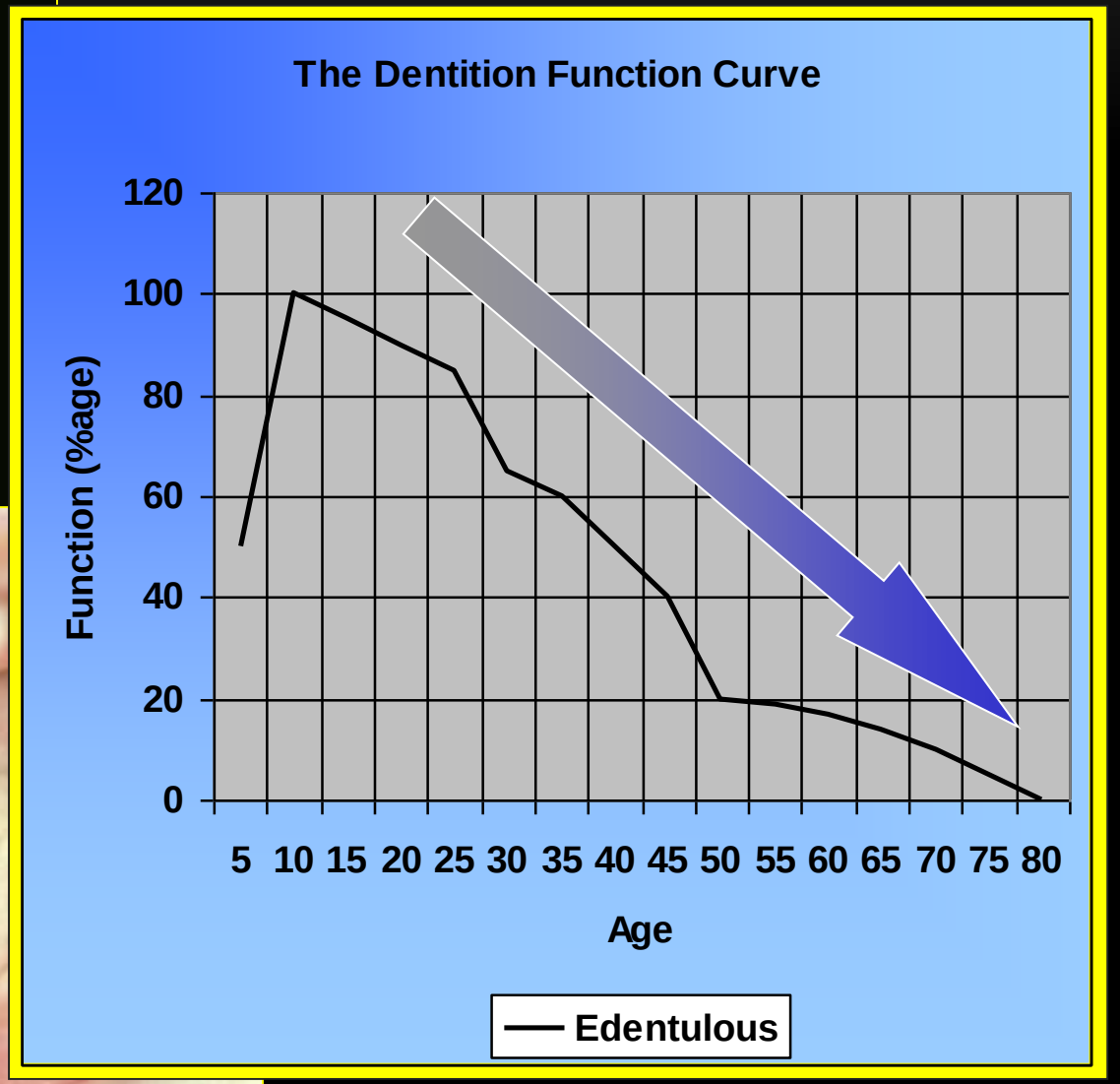




Factors that impact on fit: atrophy

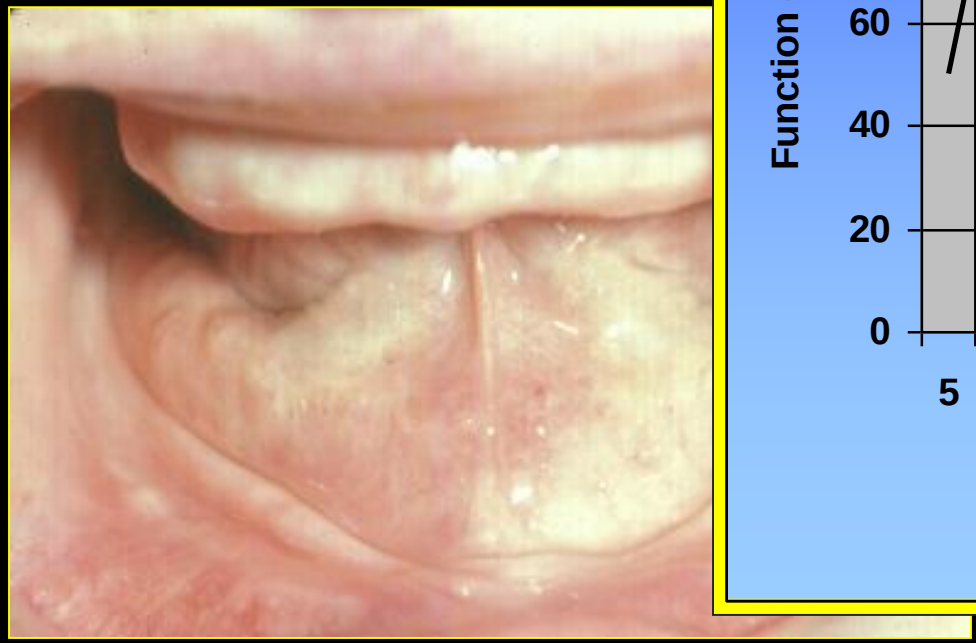
1. Atrophy:
   end result
   … loss of
   support &
   retention

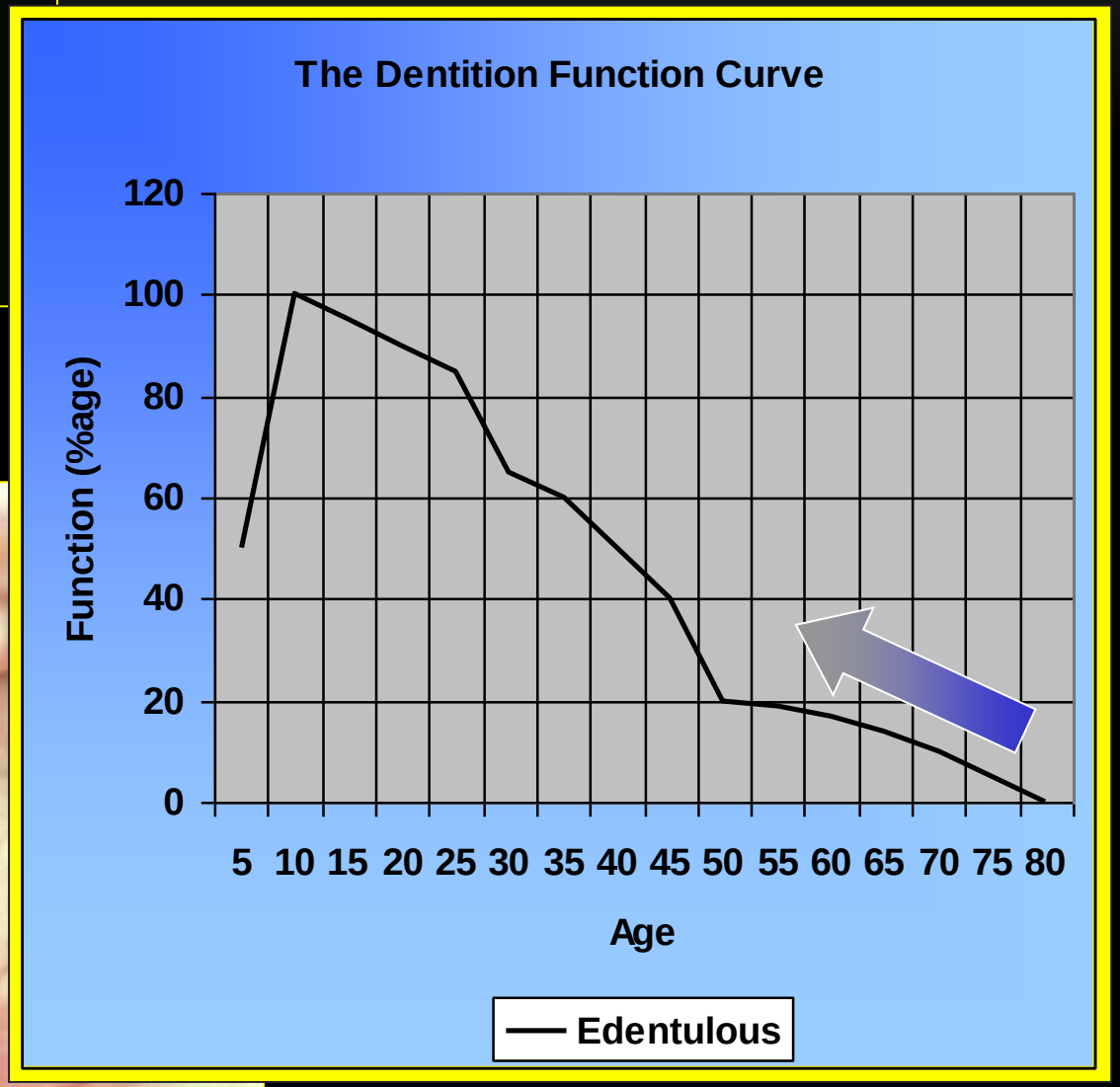




Preprosthetic Surgery

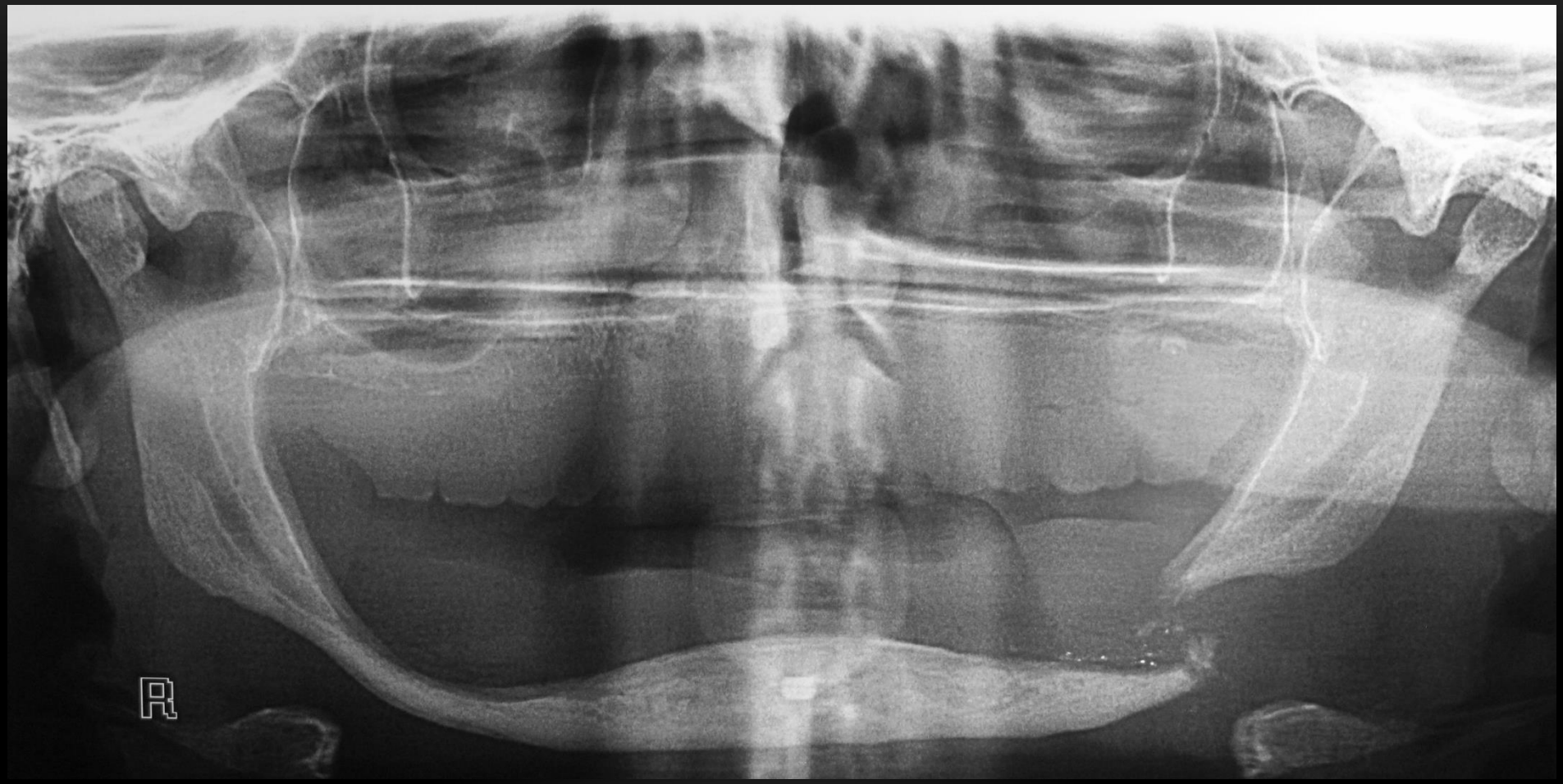
An attempt to reverse the trend …





OBJECTIVES OF PREPROSTHETIC SURGERY

- 1. No evidence of pathologic conditions
- 2. proper interarch jaw relationship
- 3. ideal shape of alveolar process
- 4. no protuberances or undercuts
- 5. adequate palatal vault form
- 6. proper posterior tuberosity notching
- 7. attached keratinized mucosa
- 8. vestibular depth
- 9. added strength where mandibular fracture may occur
- 10. protection of neuromuscular bundle
- 11. adequate tissue for implant placement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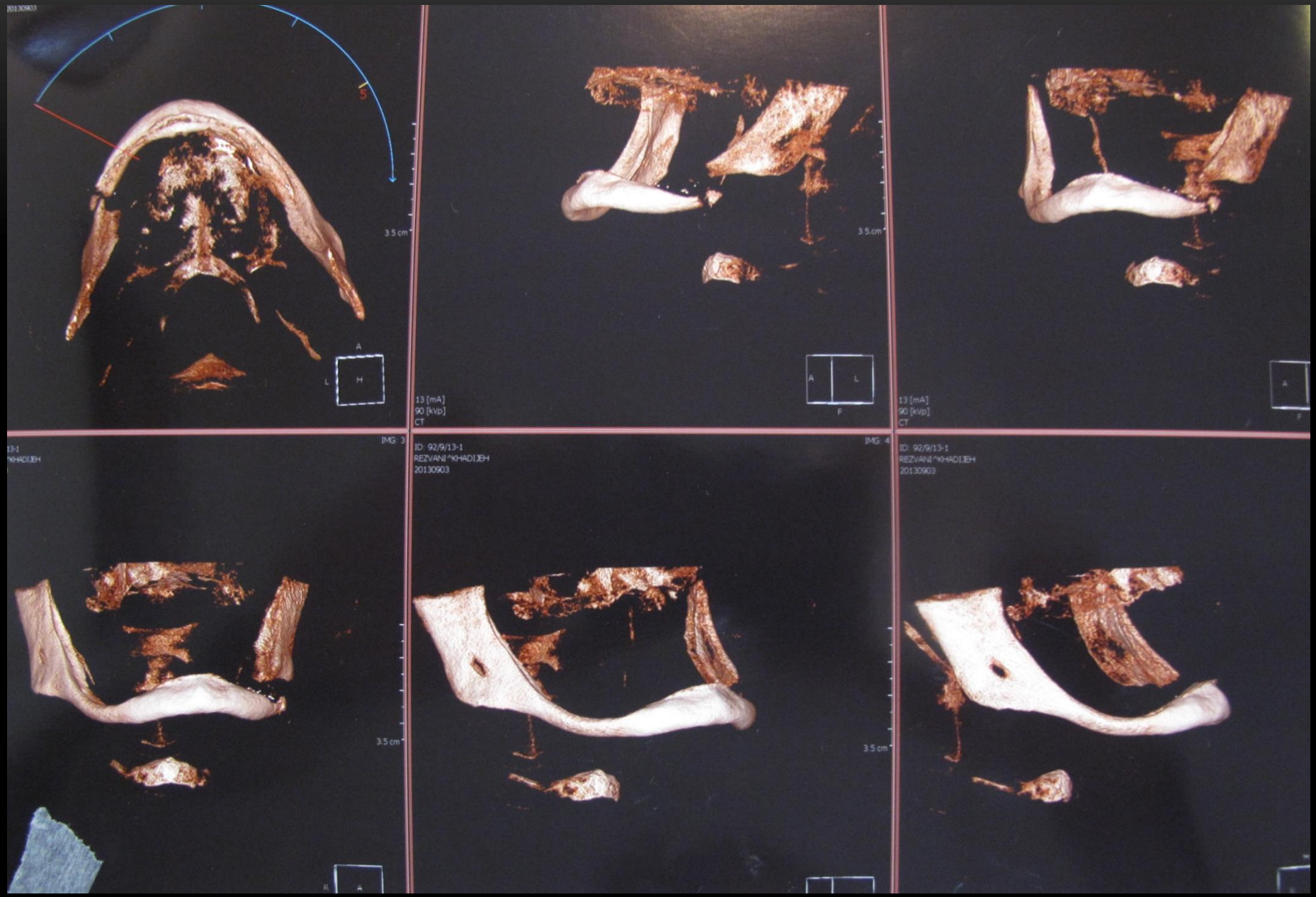
3.5 cm
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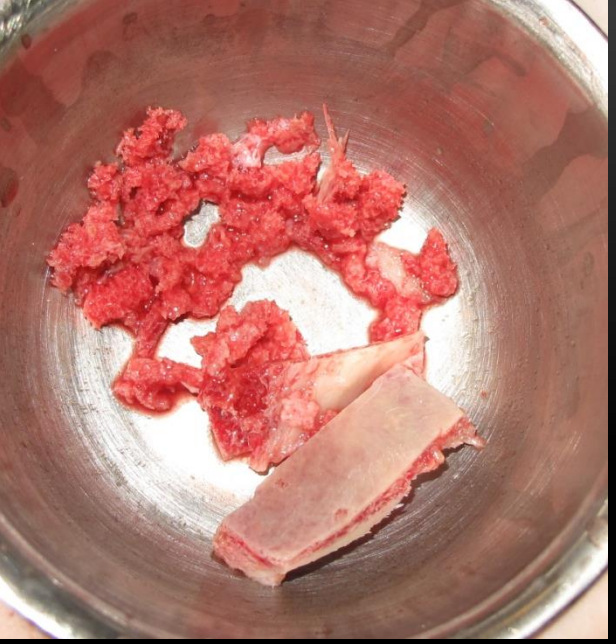

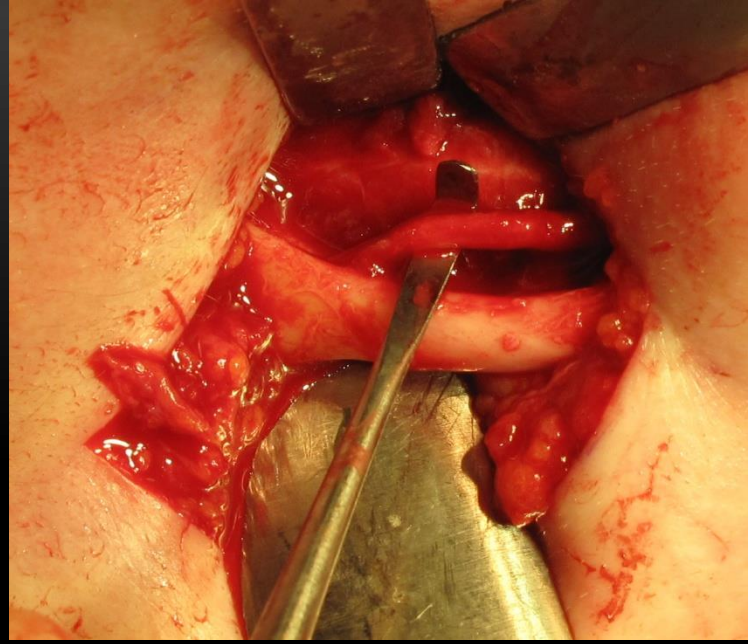

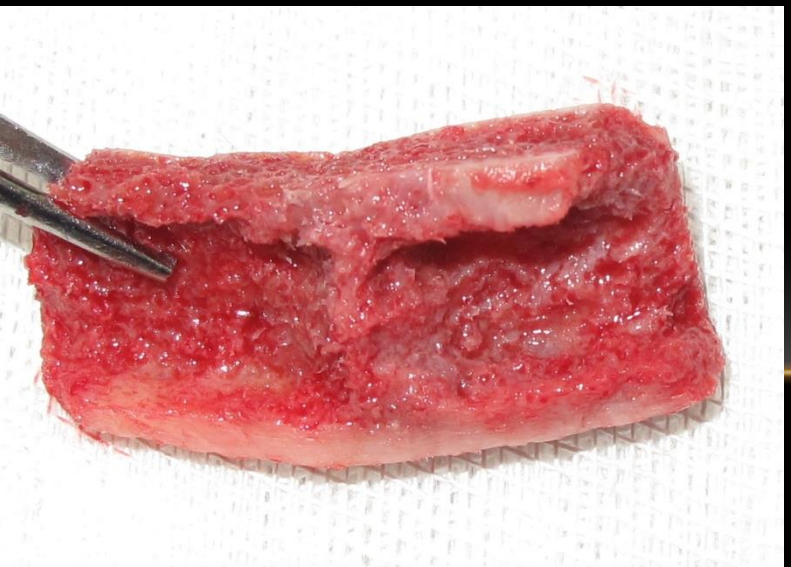

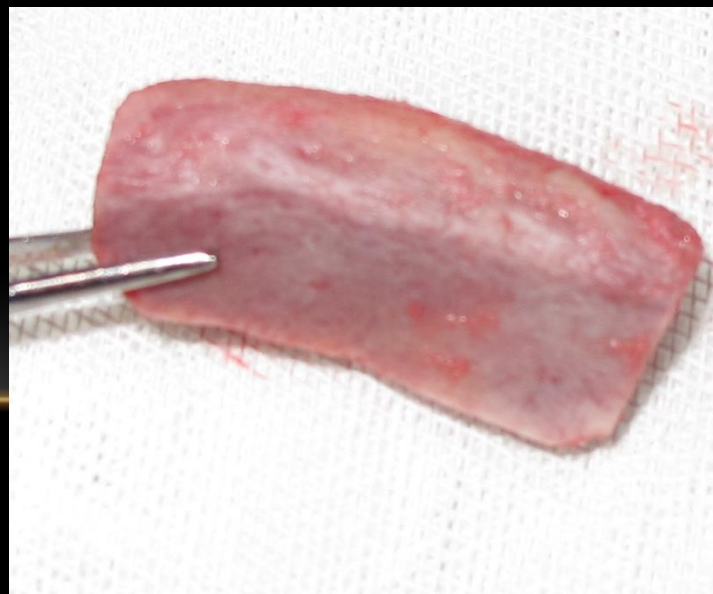

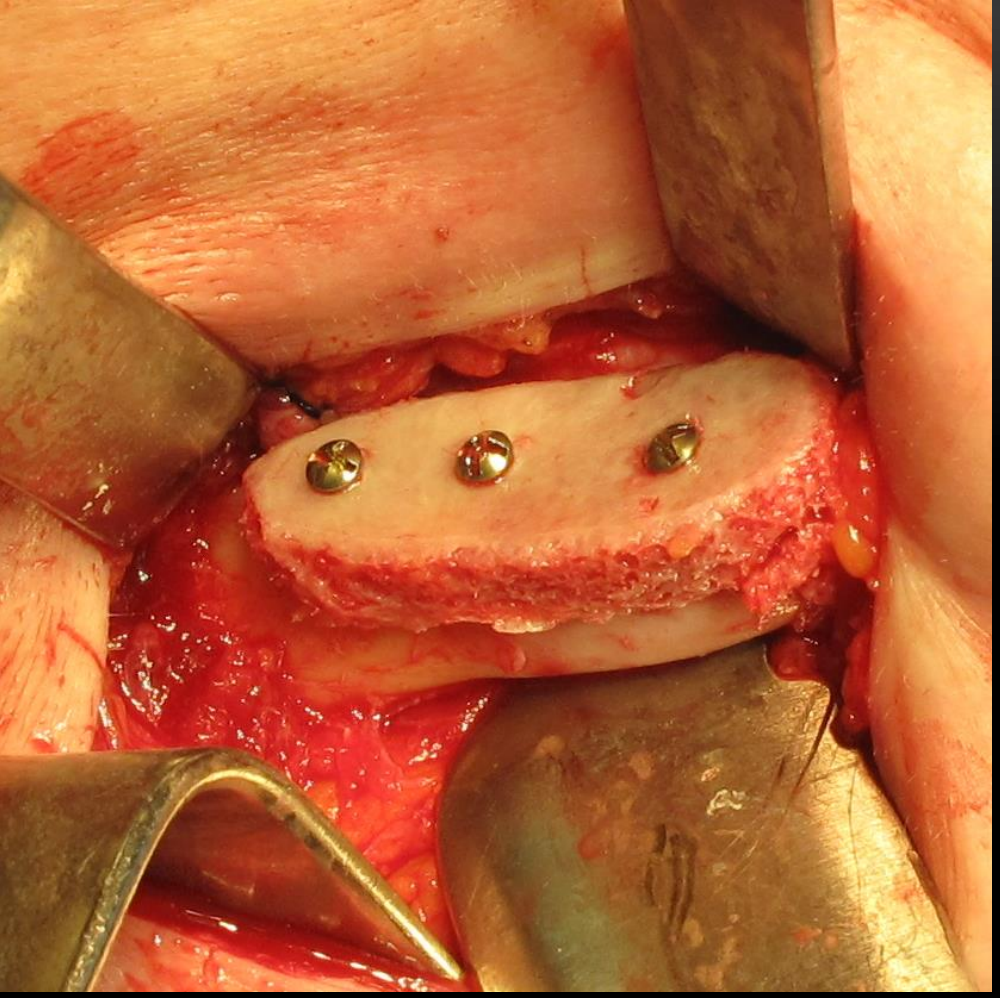

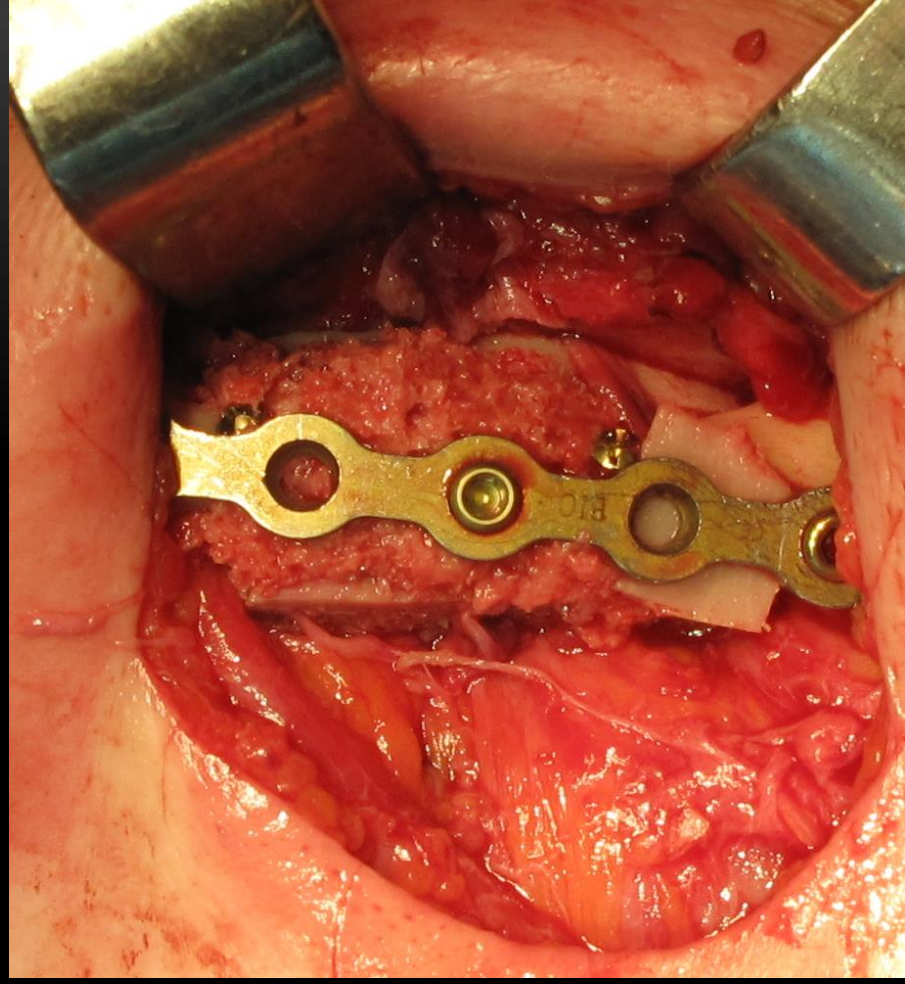

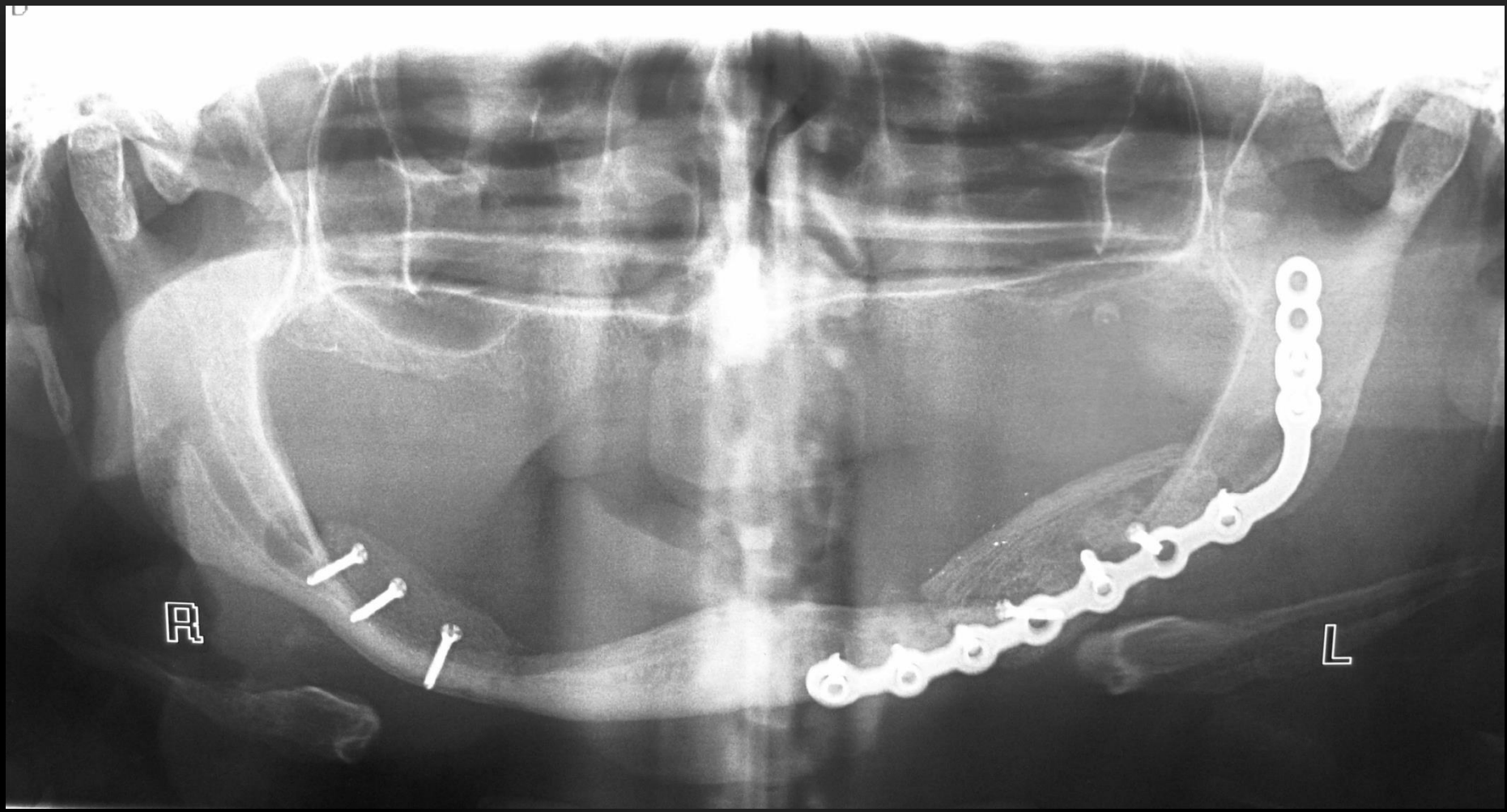
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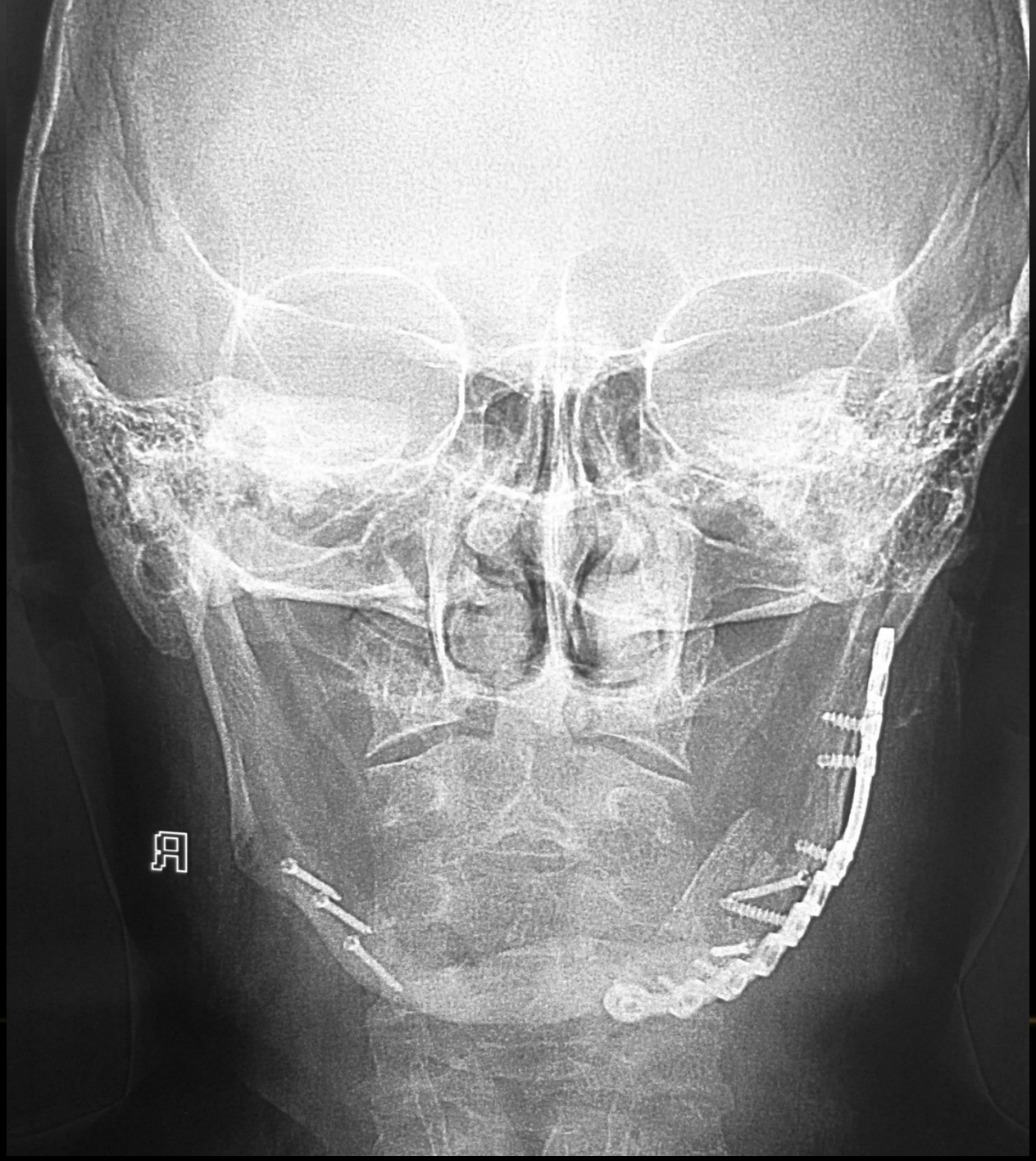
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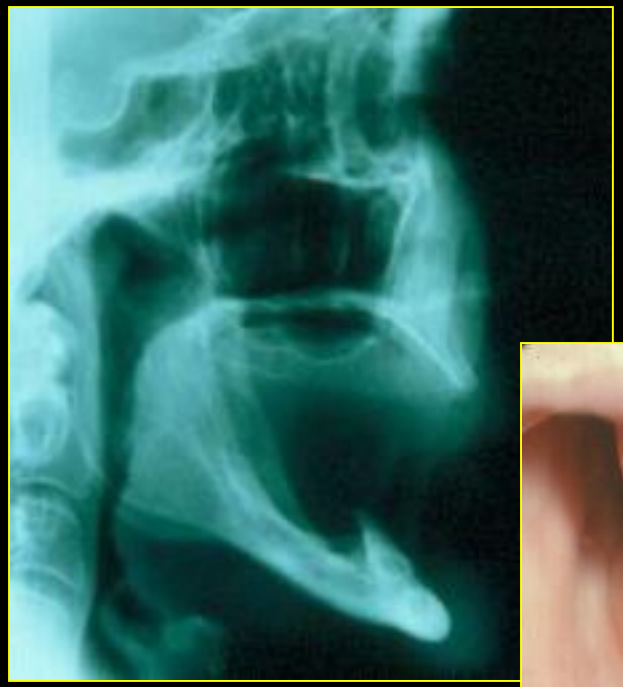
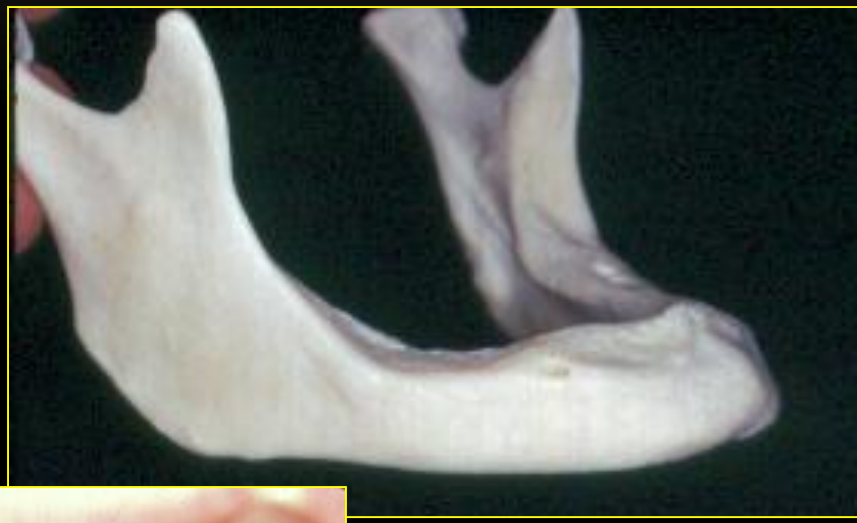
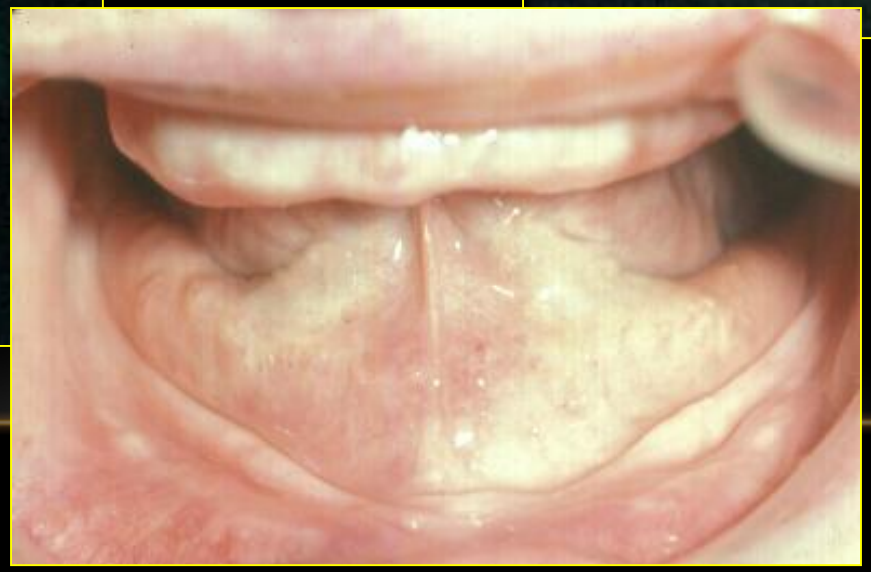
Factors that impact on fit: anatomy

1. Bone quantity







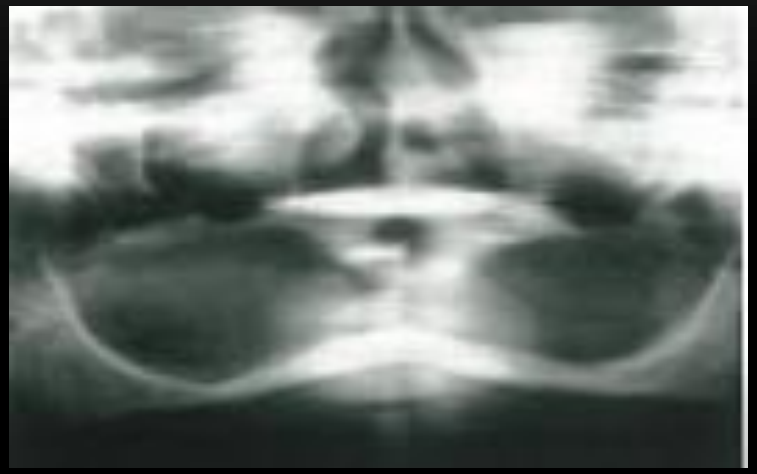
PATIENT EVALUATION

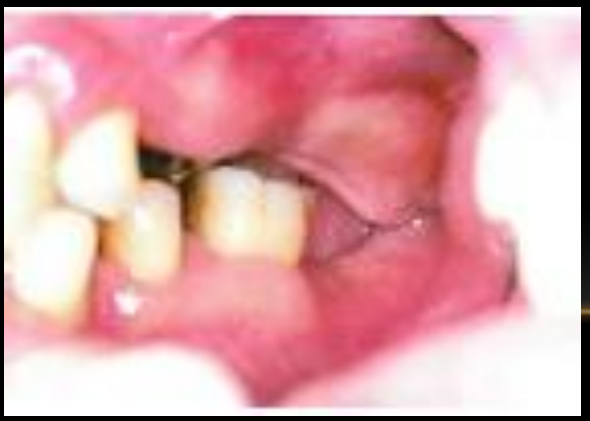
- History and physical examination
  - Systemic disease
  - Laboratory tests

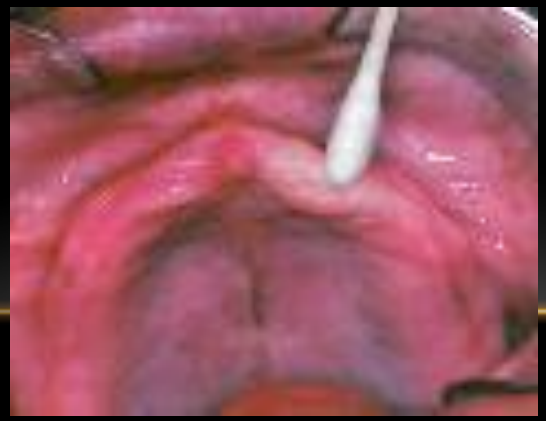
- Extraoral and intraoral examination

EVALUATION OF SUPPORTING BONE

- Palpation of denture bearing area
- Interarch relationship
  - Vertical, AP
  - Overclosure….. Cl 3
  - Lat and PA ceph.







TREATMENT PALNNING

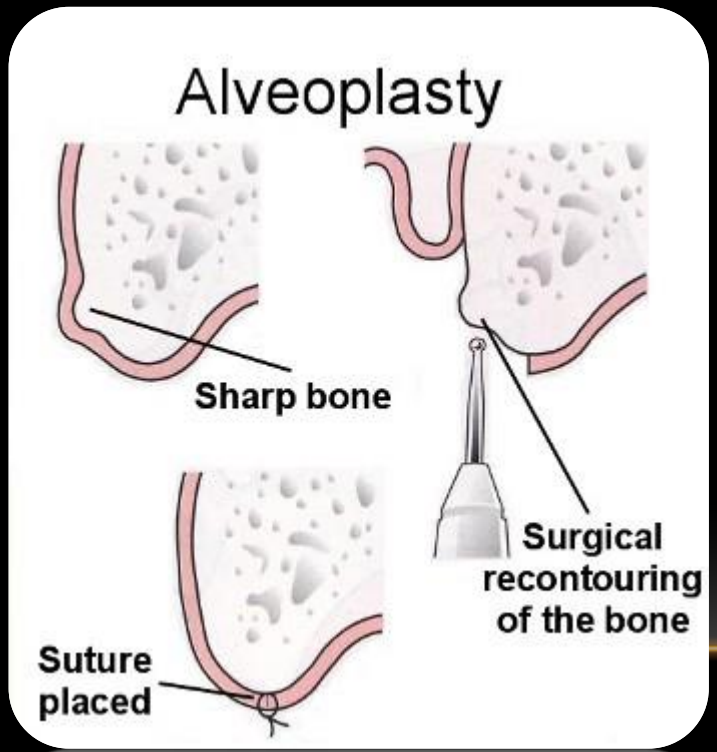
- Ridge height , width and contour
  - Older patient with moderate resorption …. Soft tissue surgery
  - Young patient with the same atrophy…… bone augmentation

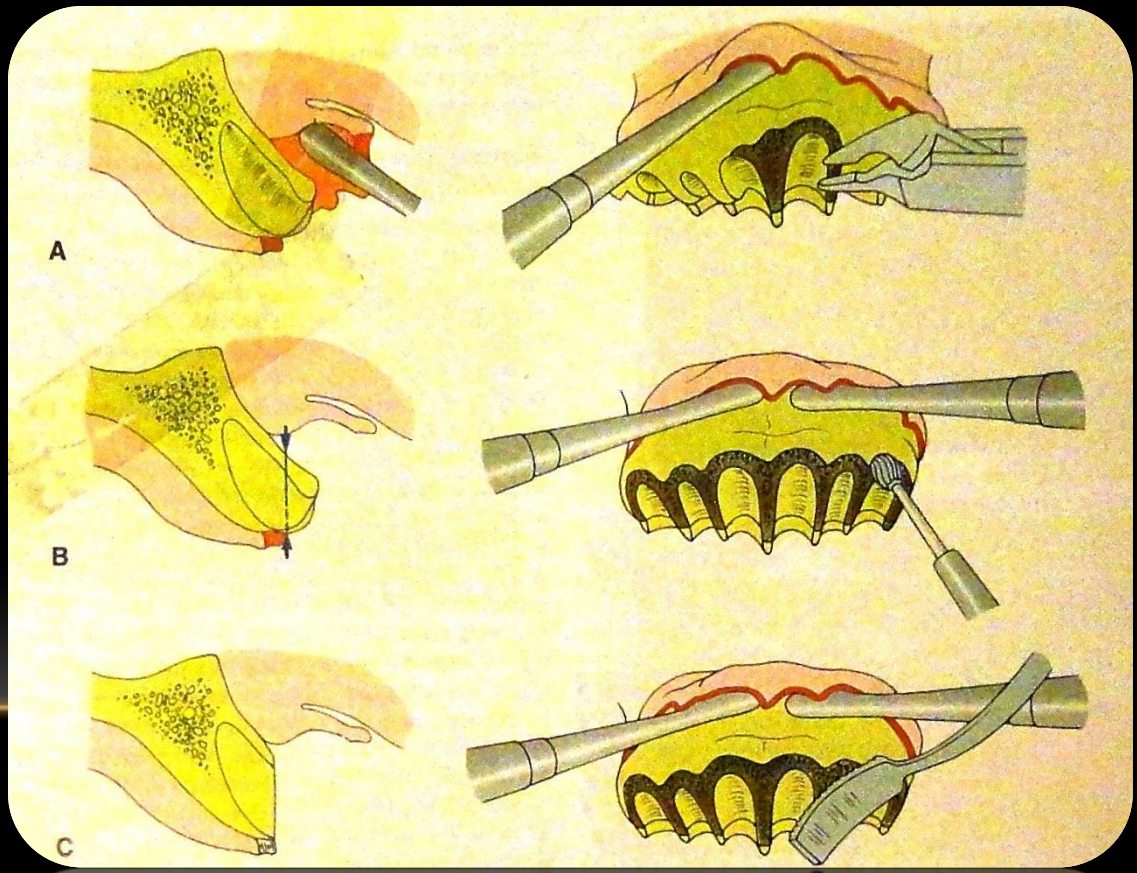
- Delay definitive soft tissue procedures after bone augmentation
  - Simultaneous: when extensive grafting or complex treatment of bony abnormalities is not required

RECONTOURING OF ALVEOLAR RIDGE

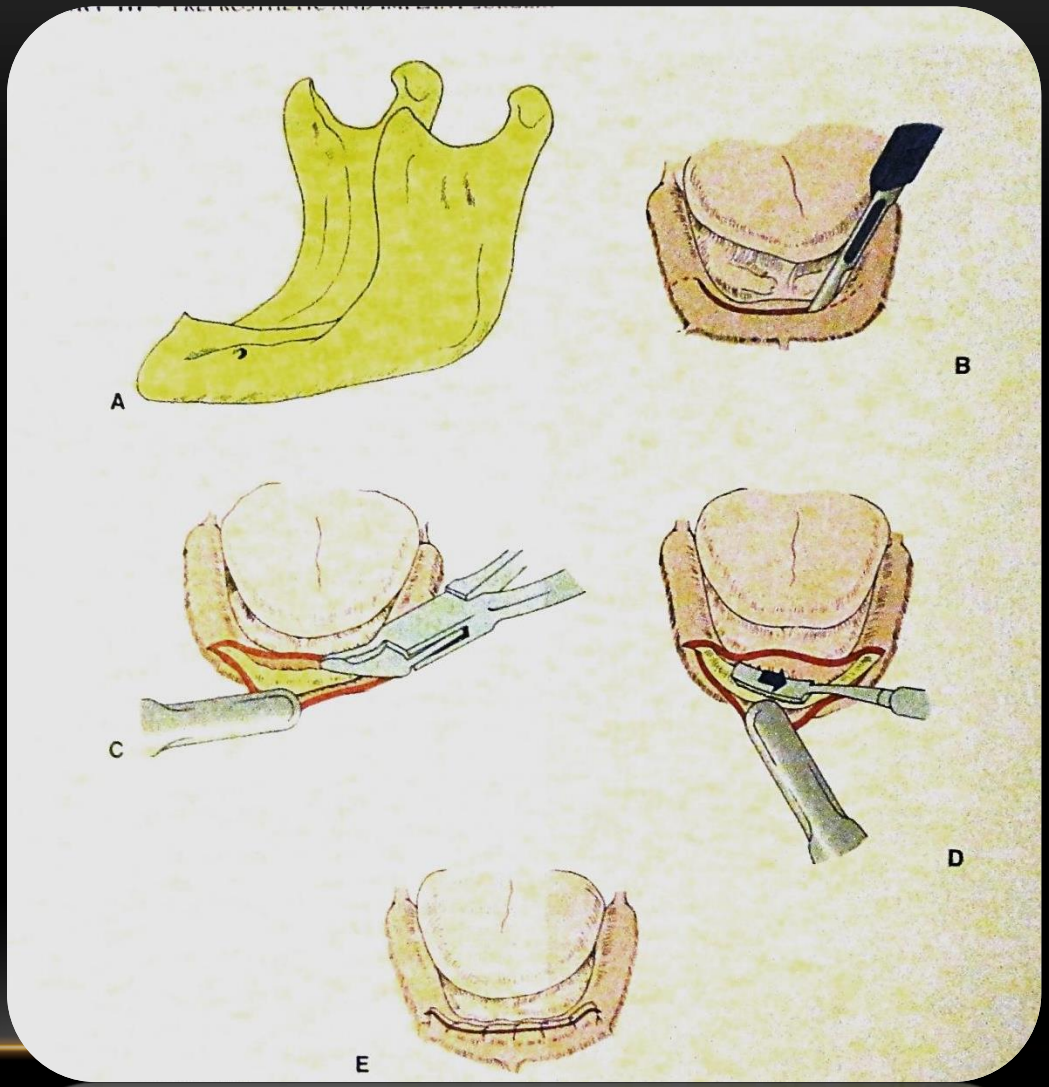
SIMPLE ALVEOPLASTY ASSOCIATED WITH TEETH REMOVAL

- Compression of lateral walls
- Flap



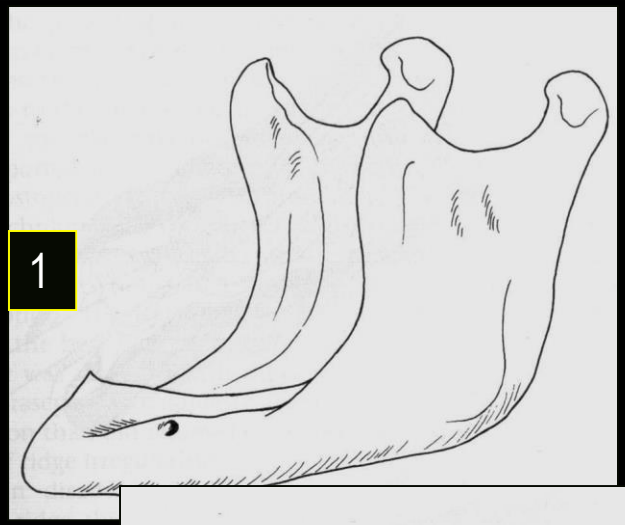


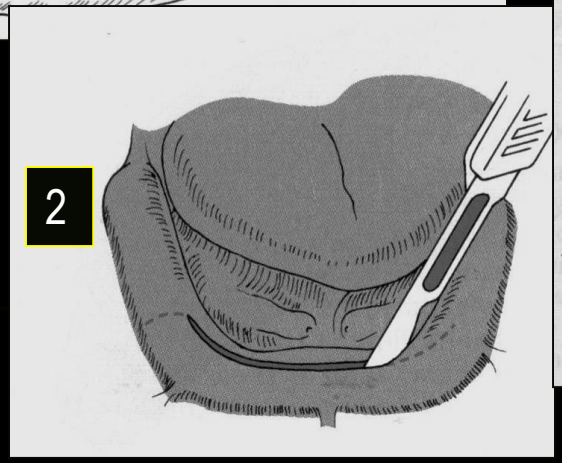
- Sharp knife-ridge
- Flap…1 cm
- Augmentation

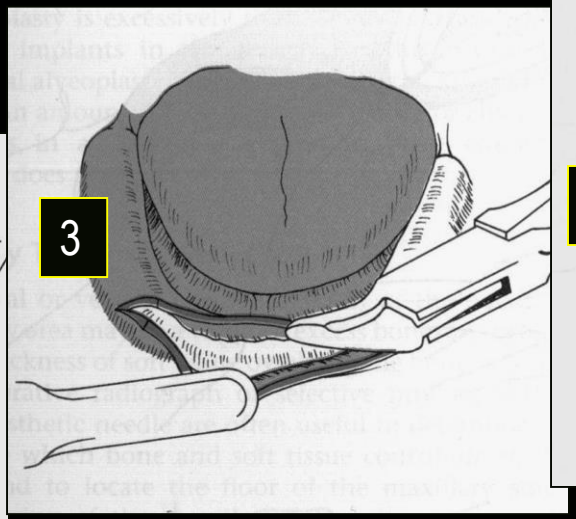


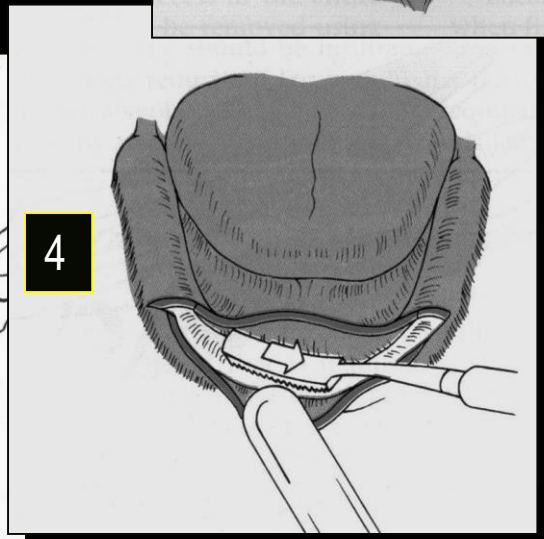
Preprosthetic Surgery

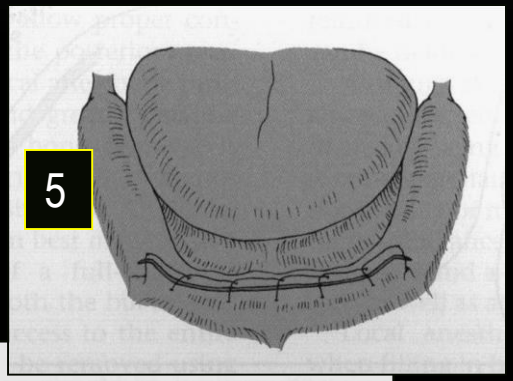
e. Alveoplasty: flap…recontour…close











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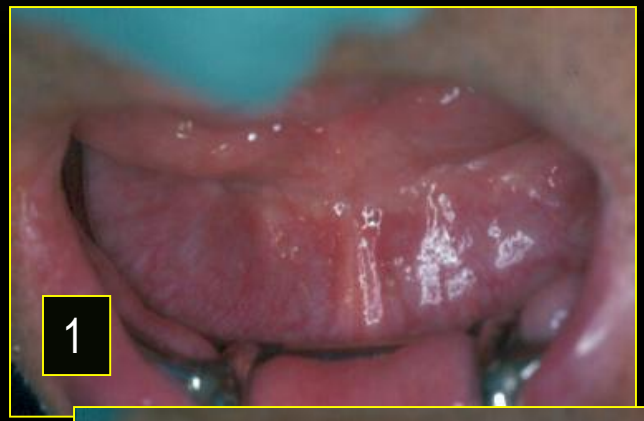
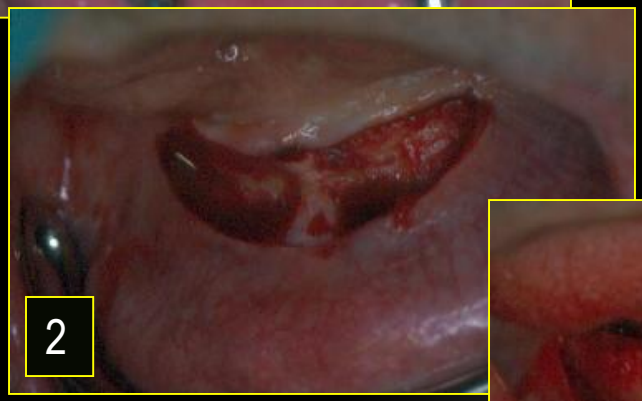
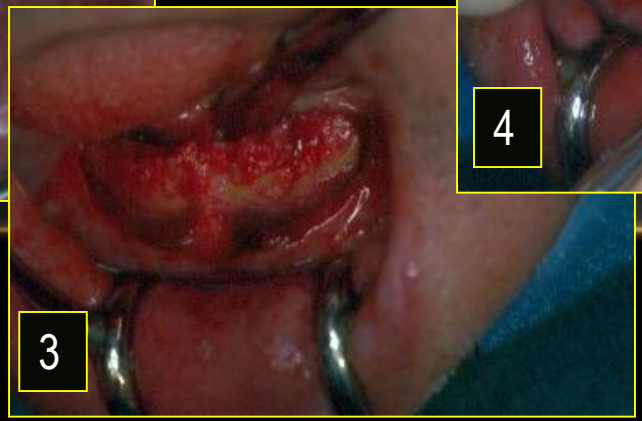
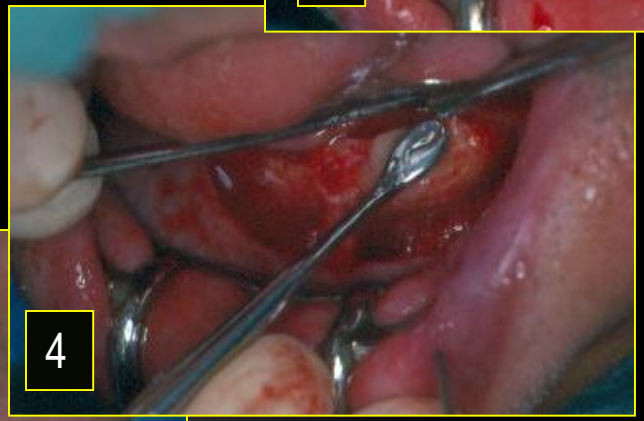
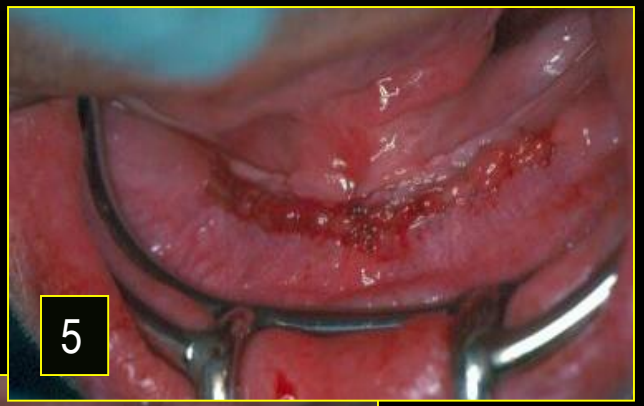




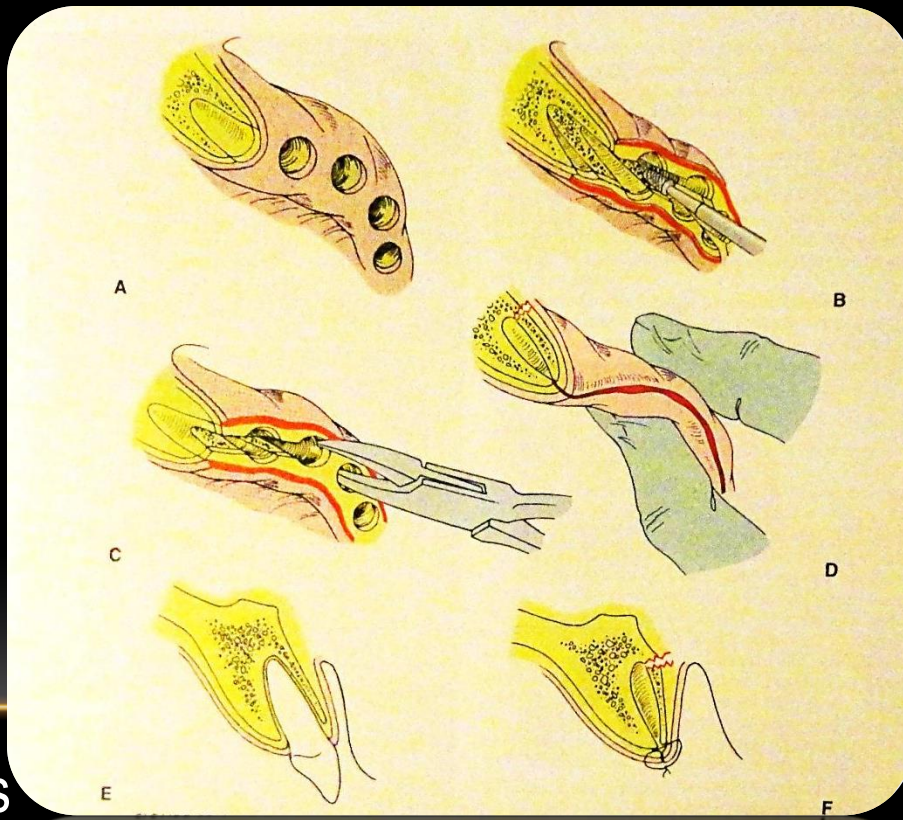






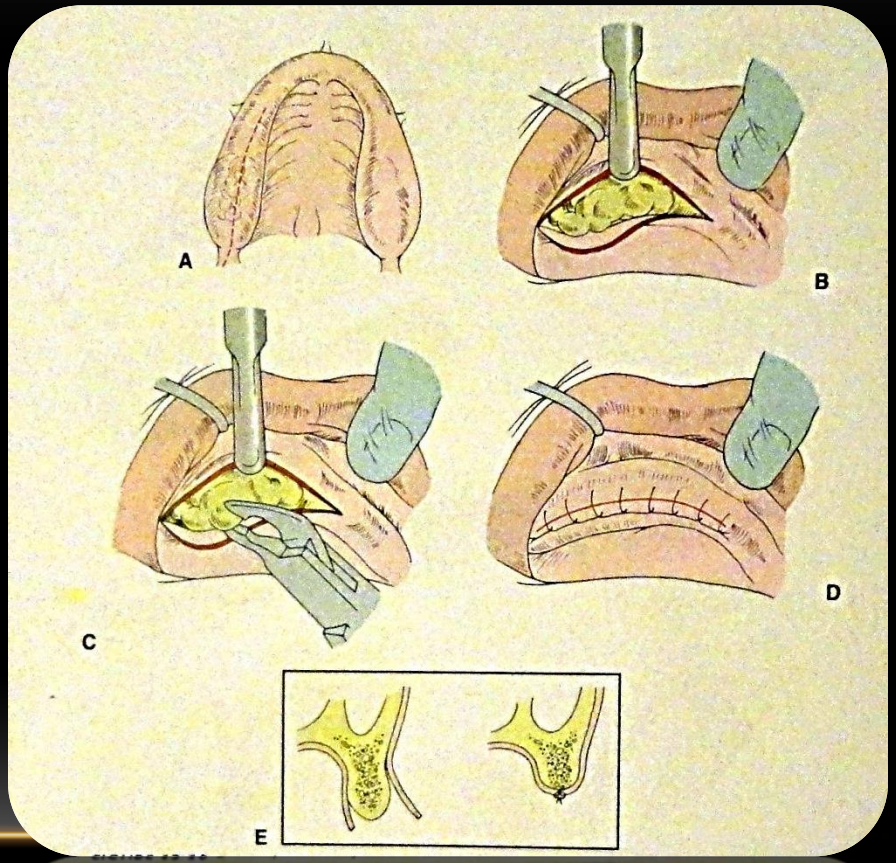
INTRASEPTAL ALVEOLOPLASTY

- Dean’s technique
- Ridge with regular contour and adequate height but with undercut
- Splint
- Advantages
  - No reduction in height
  - Peristeal attachment
  - Muscle attachment
- Disadvantage:
  - Decrease in ridge thickness



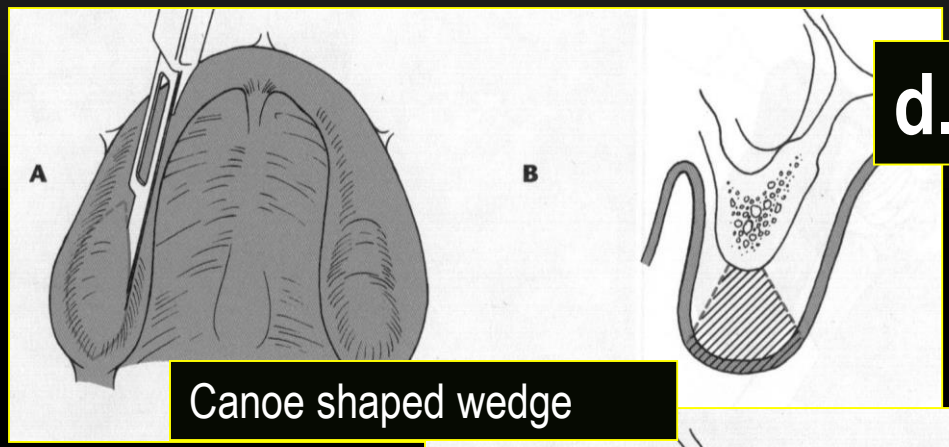
MAXILLARY TUBEROSITY REDUCTION

- Hard or soft tissue
- Sinus perforation
- Impression after 4 weeks

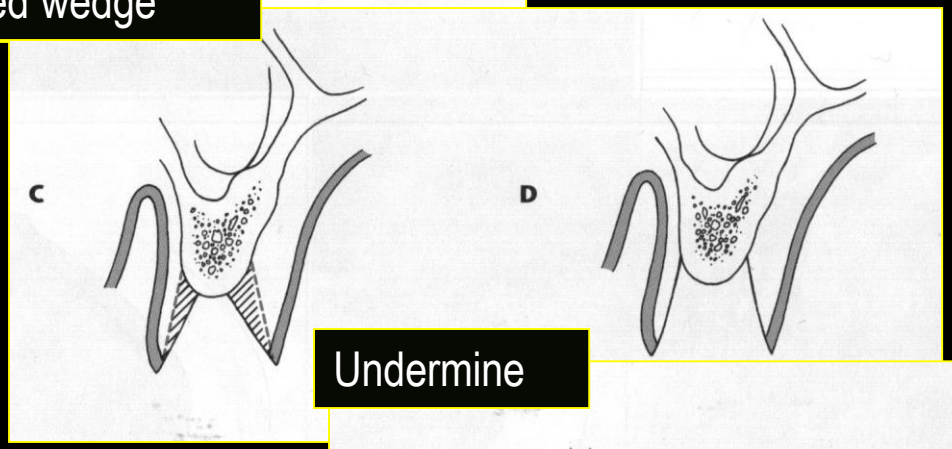


Preprosthetic Surgery

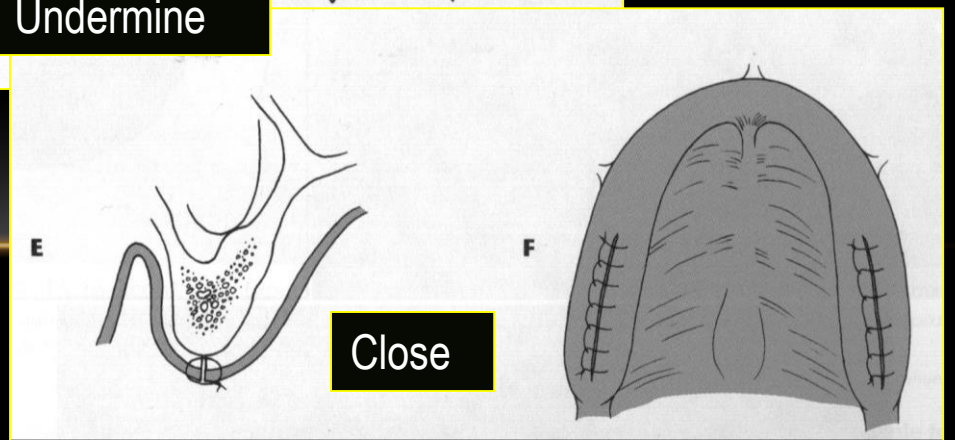
d. Tuberosity reduction



Canoe shaped wedge



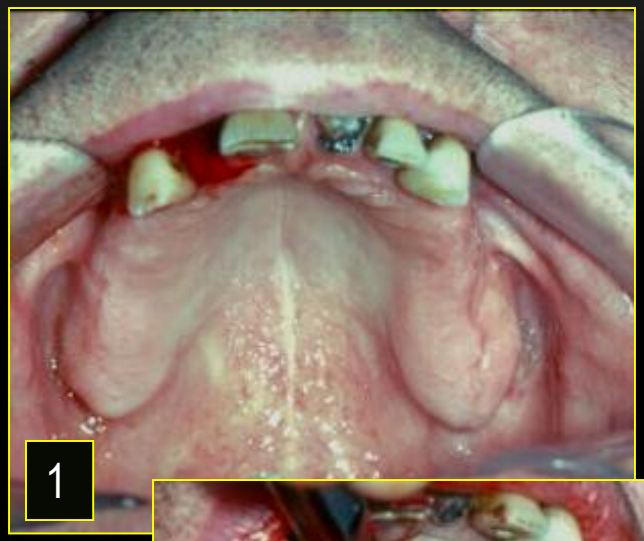
Undermine

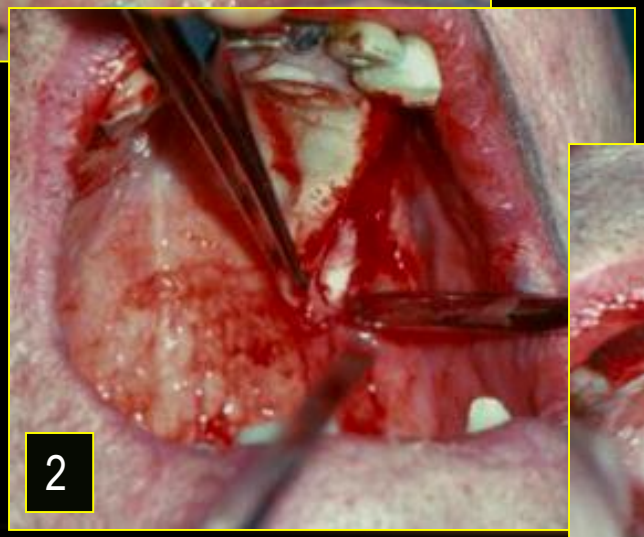


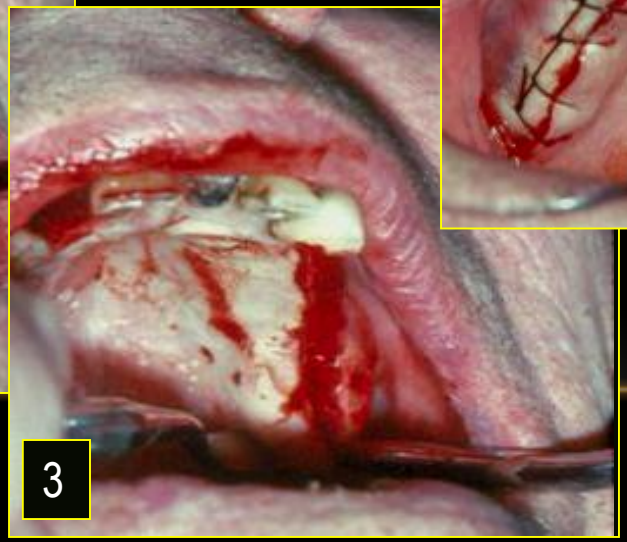
Close

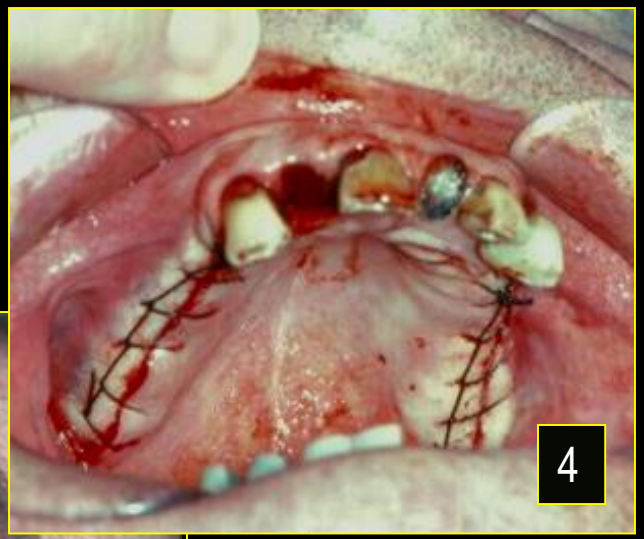
Preprosthetic Surgery

d. Tuberosity reduction



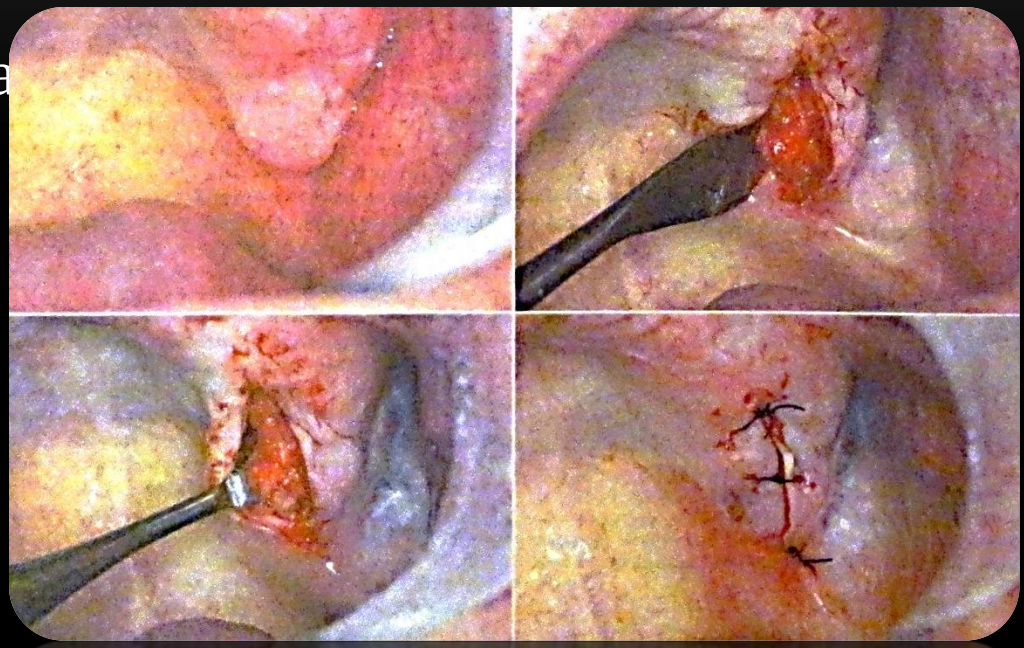


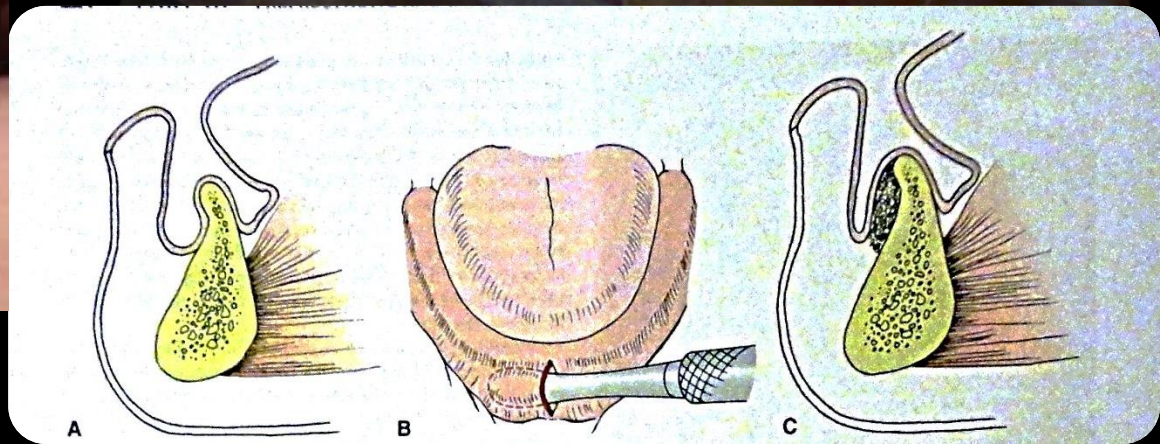




BUCCAL EXOSTOSIS

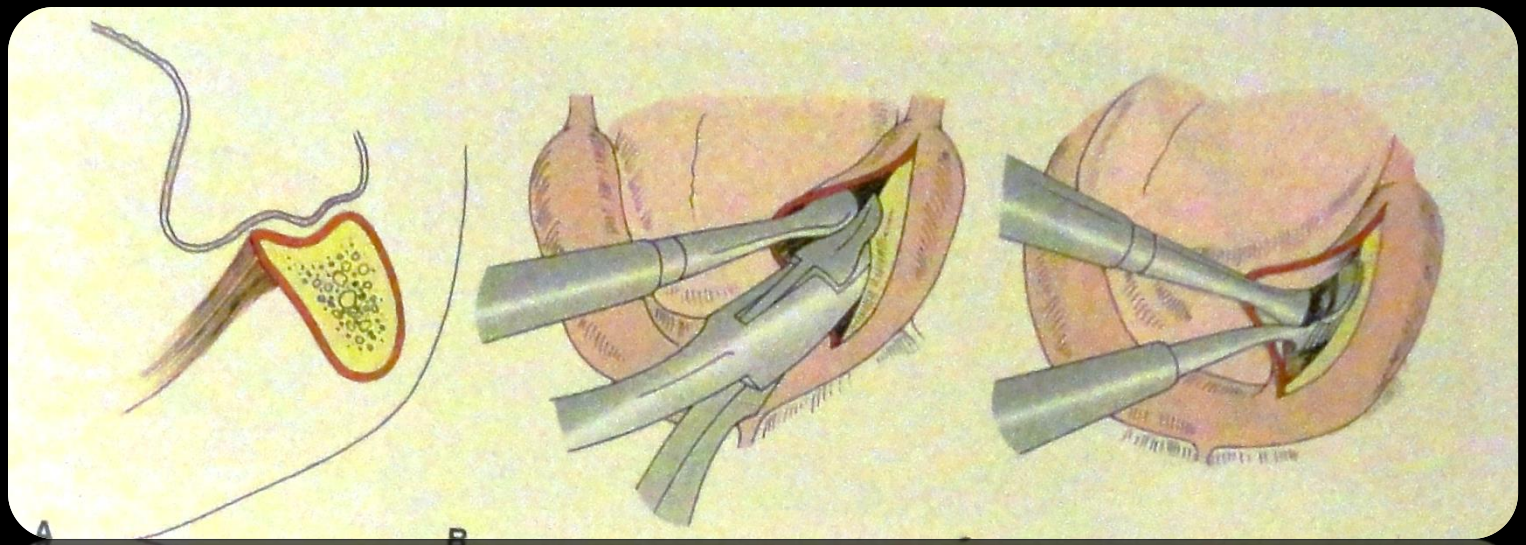
- More common in maxilla
  - Removal
  - Augmentation





MYLOHYOID RIDGE REDUCTION

- Severe resorption …. Concave surface…. Augmenation



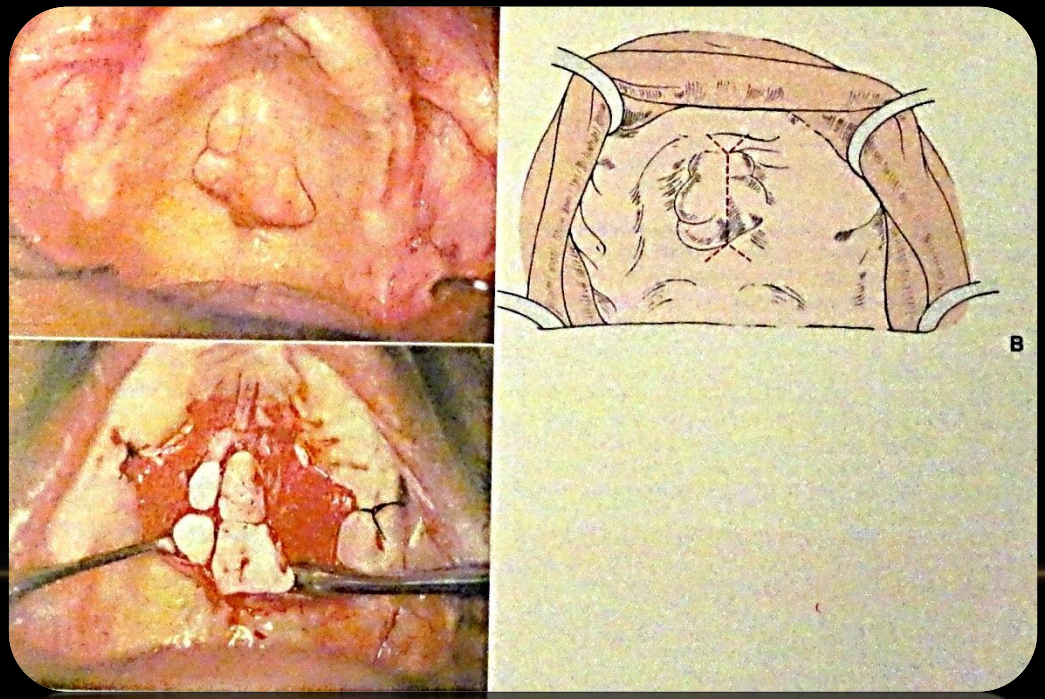
- Splint ….unpredictable….

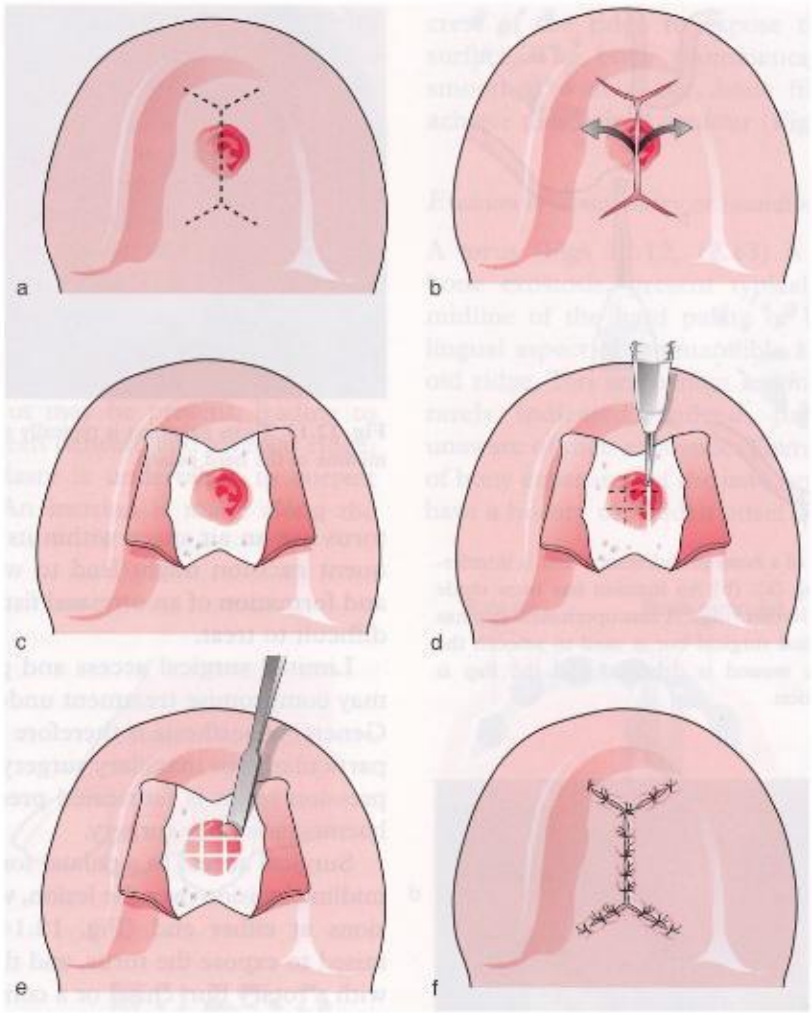
GENIAL TUBERCLE REDUCTION

- genioglossus muscle
- Augmentation

MAXILLARY TORI

- f/m :2/1
- Multiple shapes
- Even small tori with irregular, extremely undercut or in the region of posterior seal area

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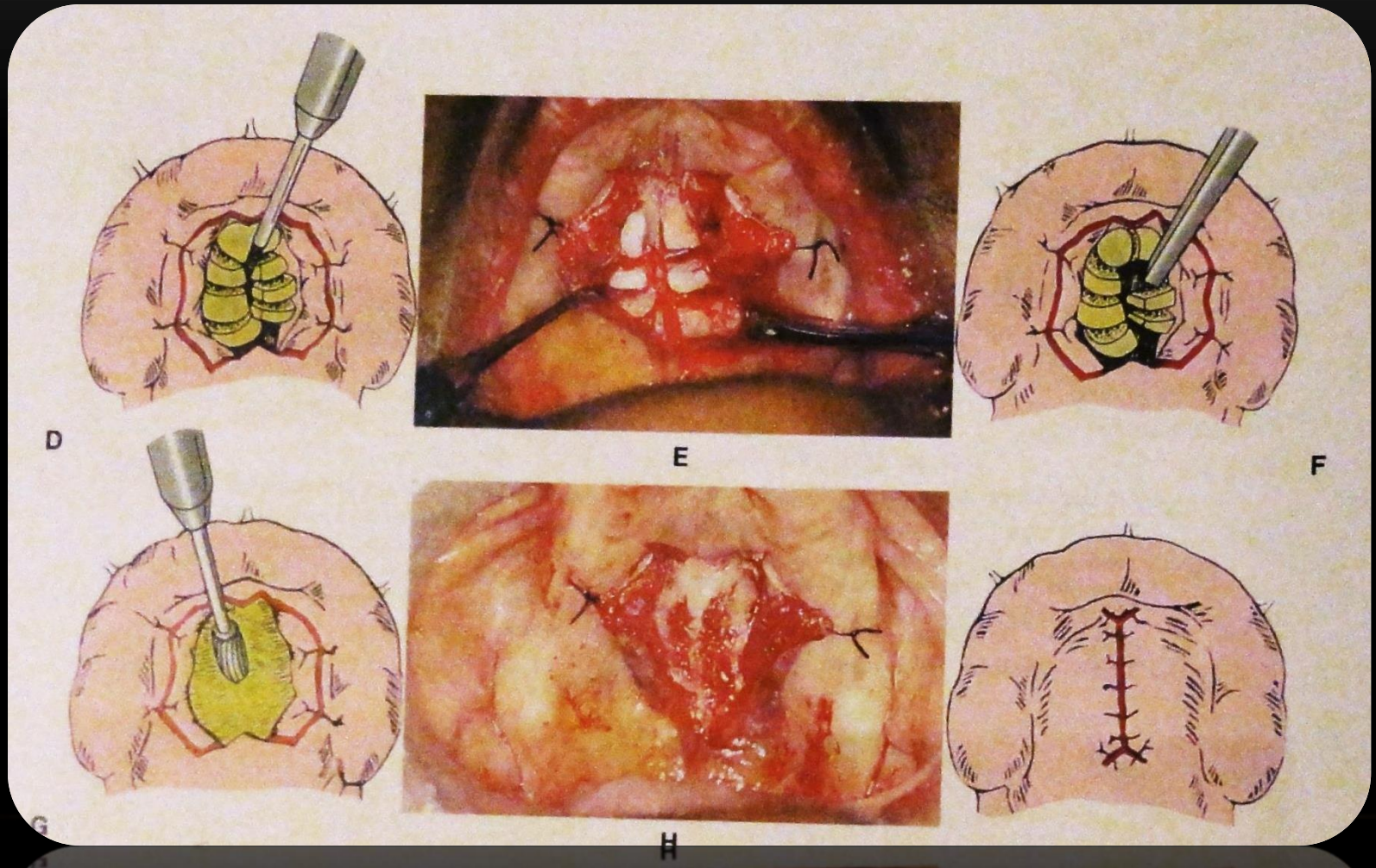
D
E
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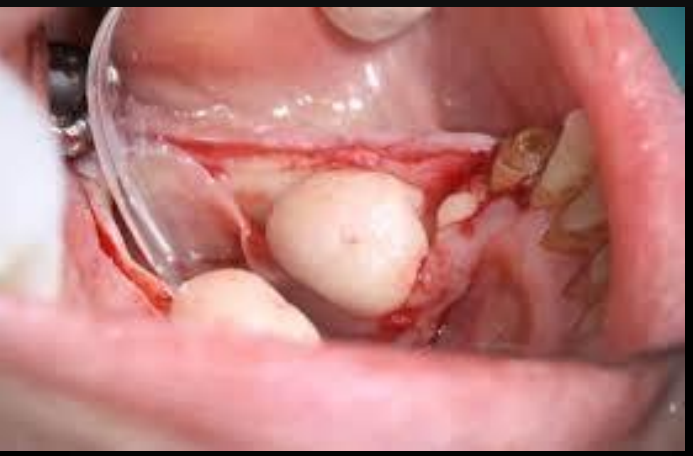
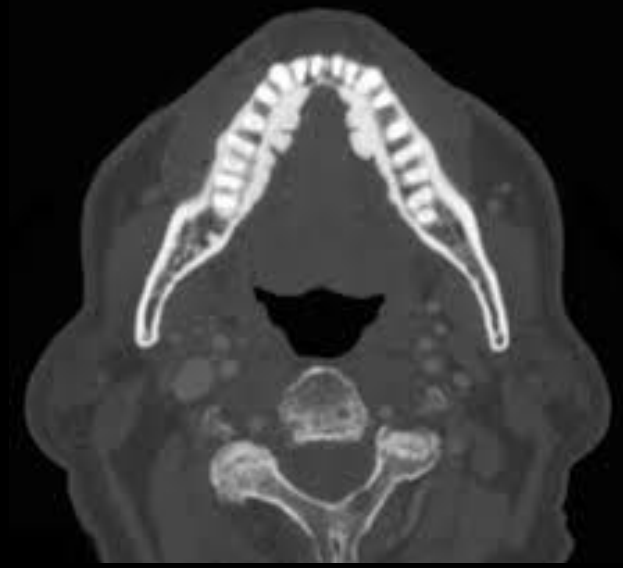
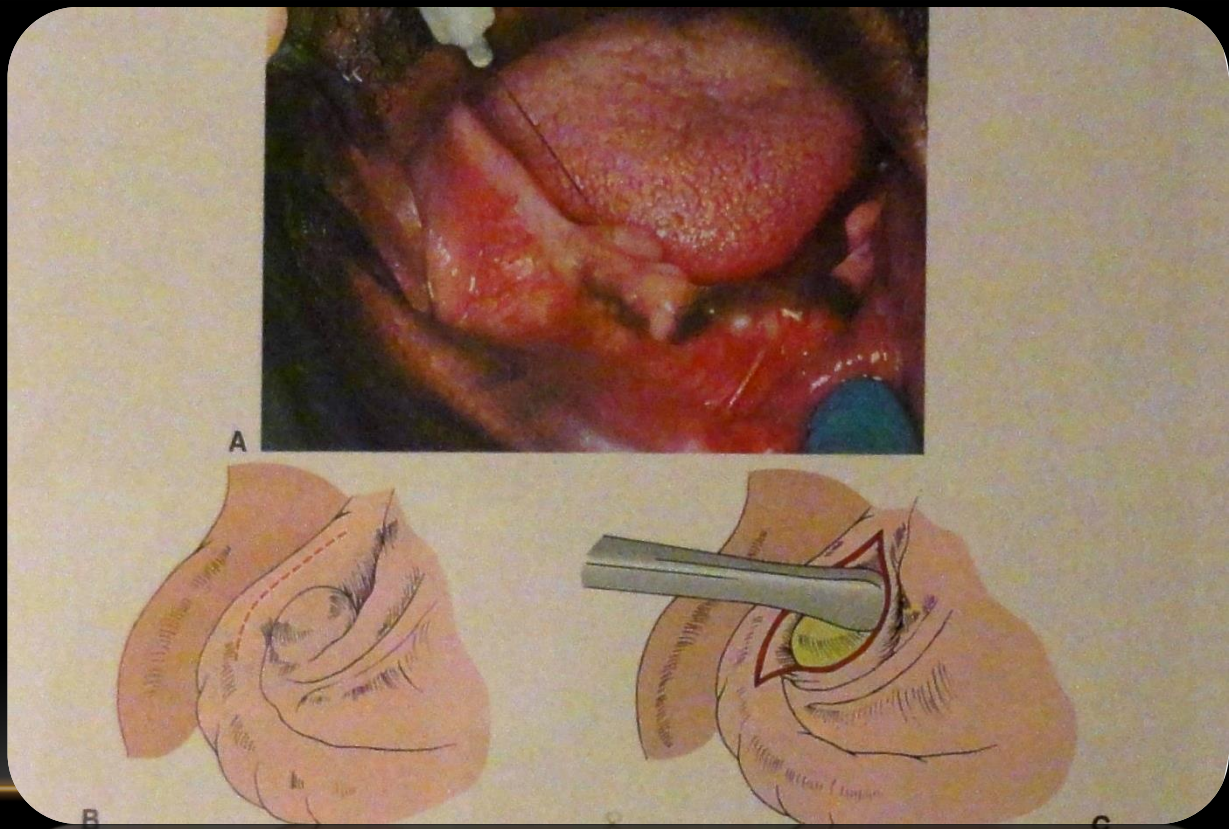
G
H

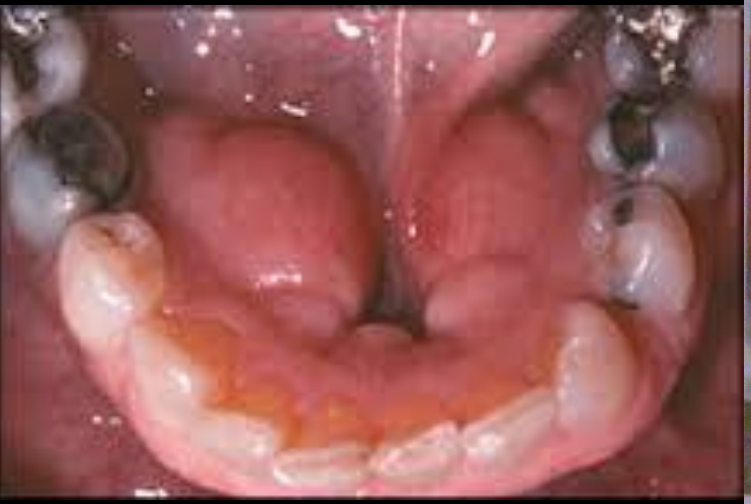
- **Major complications:**
  - Hematoma formation
  - Fracture or perforation of the floor of the nose
  - Necrosis of the flap

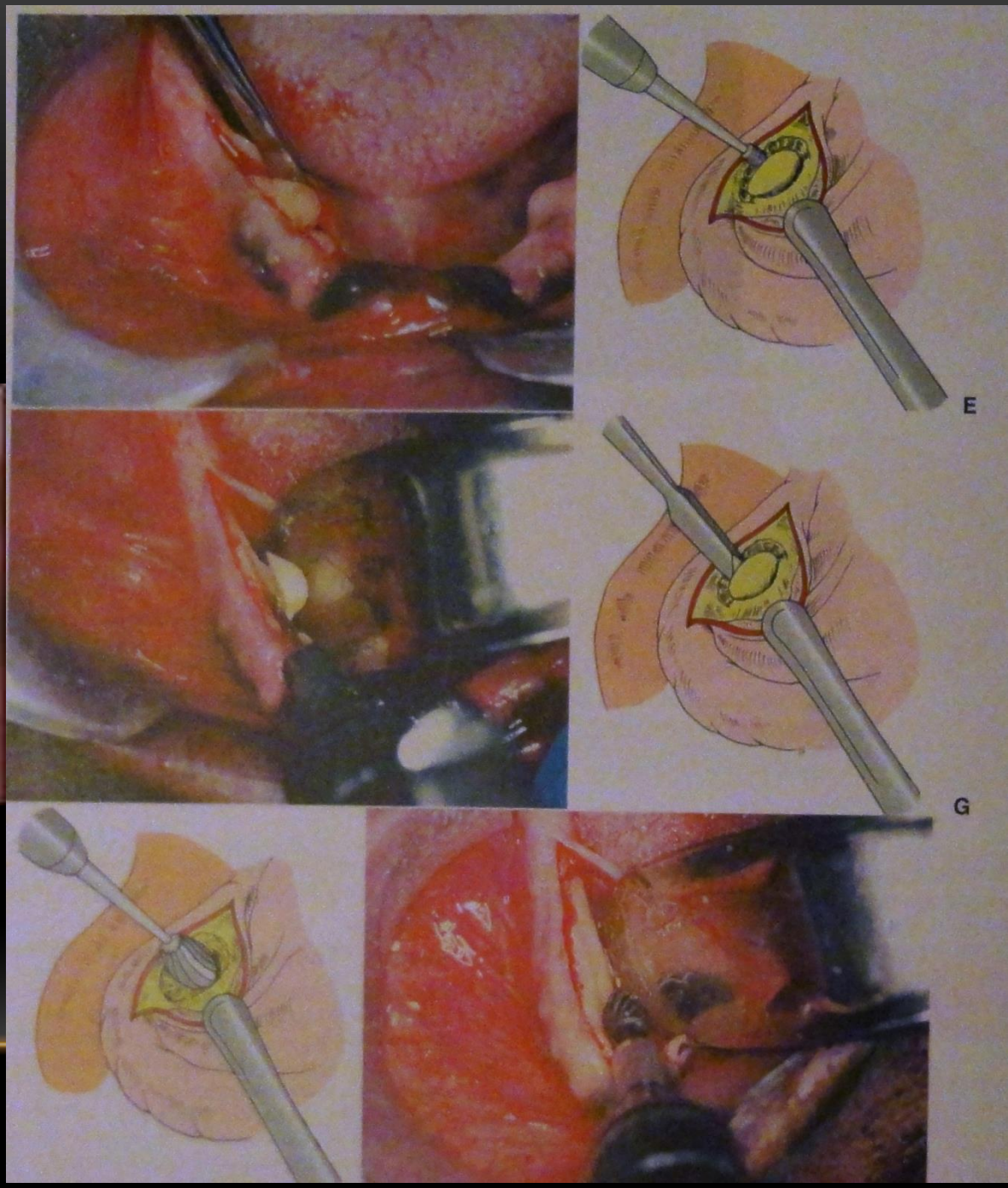
MANDIBULAR TORI










E
G

Soft tissue abnormalities

Long-term treatment planning

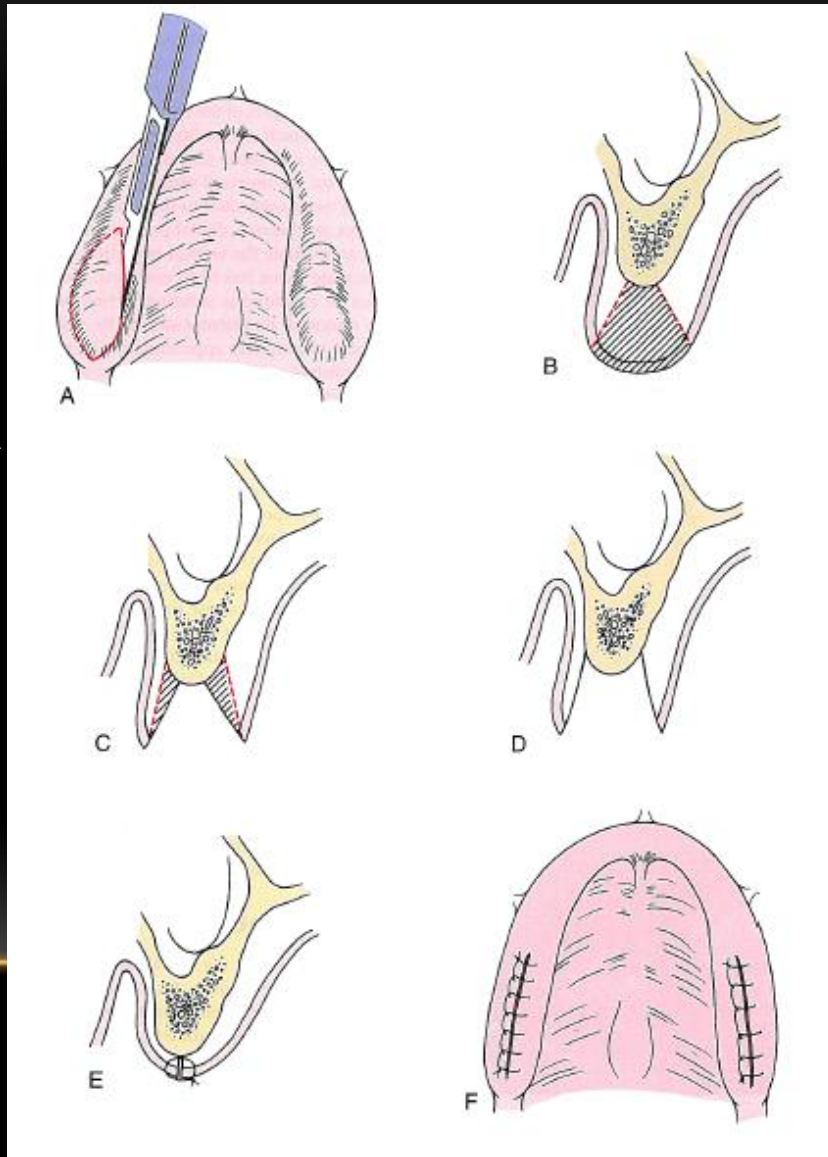
- Soft tissue that initially appears to be flabby and excessive may be useful
- Pathologic soft tissue lesions must be removed

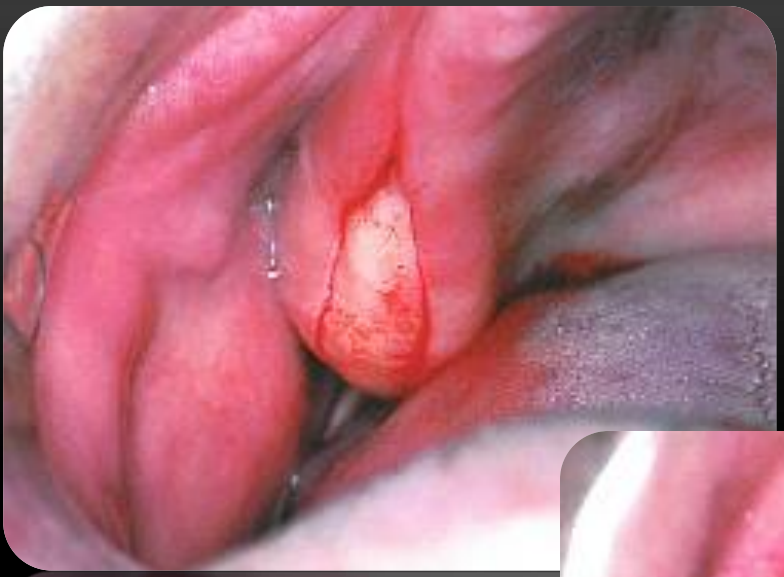
MAXILLARY TUBEROSITY REDUCTION

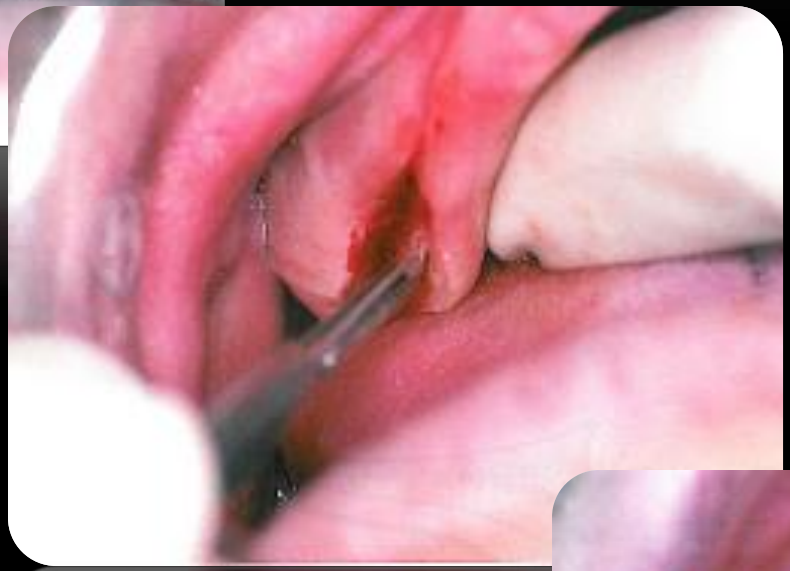
Primary objective:

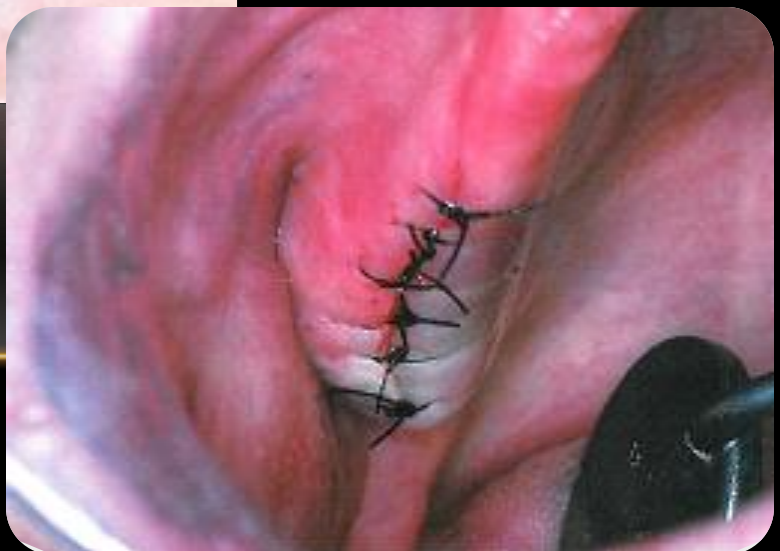
- Adequate interarch space
- Firm mucosal base of consistent thickness at denture bearing area

- Elliptical incision







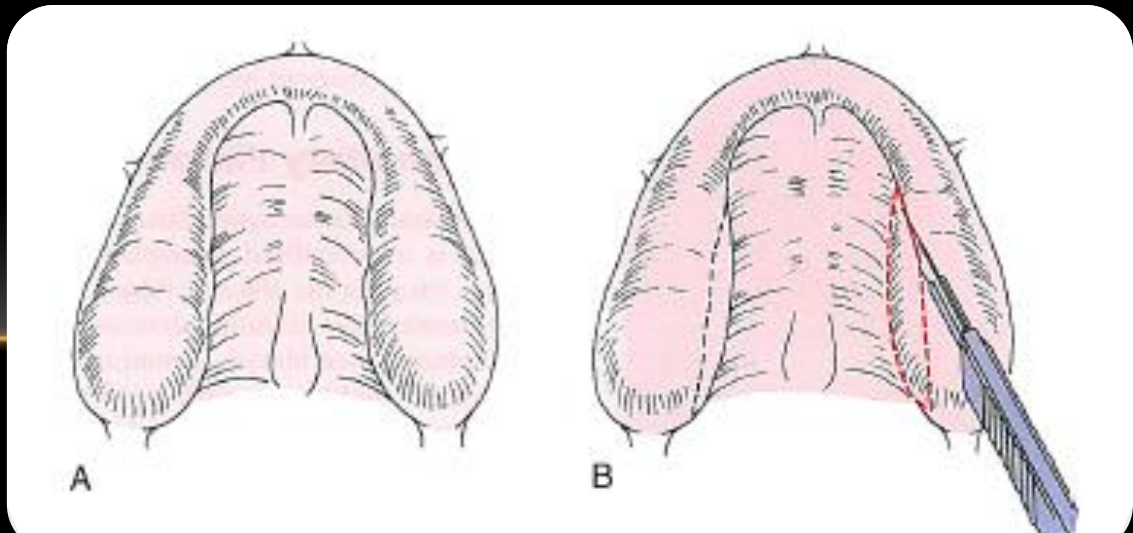


MANDIBULAR RETROMOLAR PAD REDUCTION

- Correct posturing of the mandible
- Elliptical incision
- Majority of reduction on labial aspect
- Laser- assisted recontouring…. Without incision
- Co_2 laser

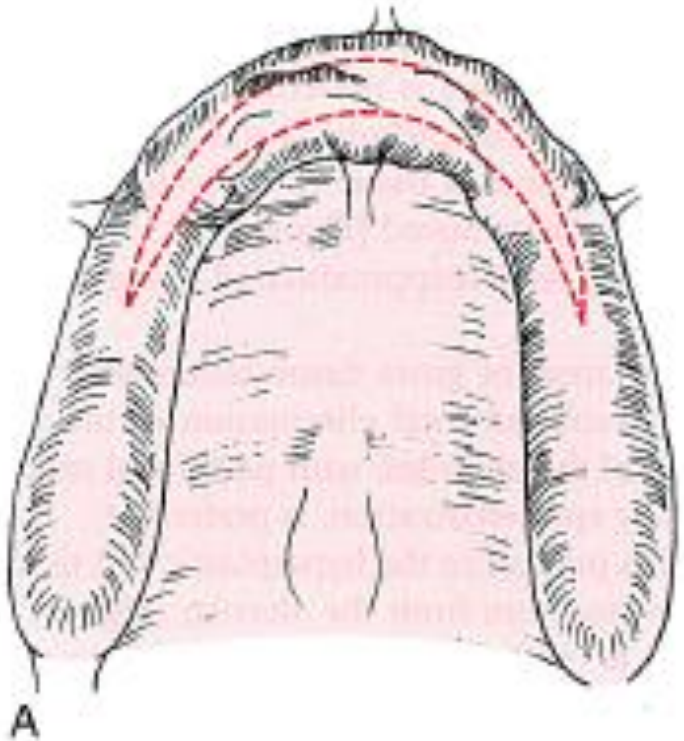
LATERAL PALATAL SOFT TISSUE EXCESS

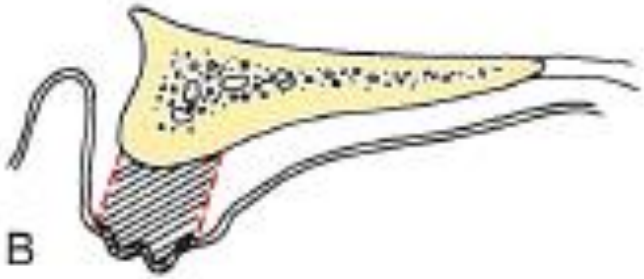
- 1. Submucosal resection
  - Risk of damage to the greater palatine vessels and sloughing of tissue
- 2. **preferred technique** :
    - superficial excision of the soft tissue excess
  - Splint, 5 to 7 days



UNSUPPORTED HYPERMOBILE TISSUE

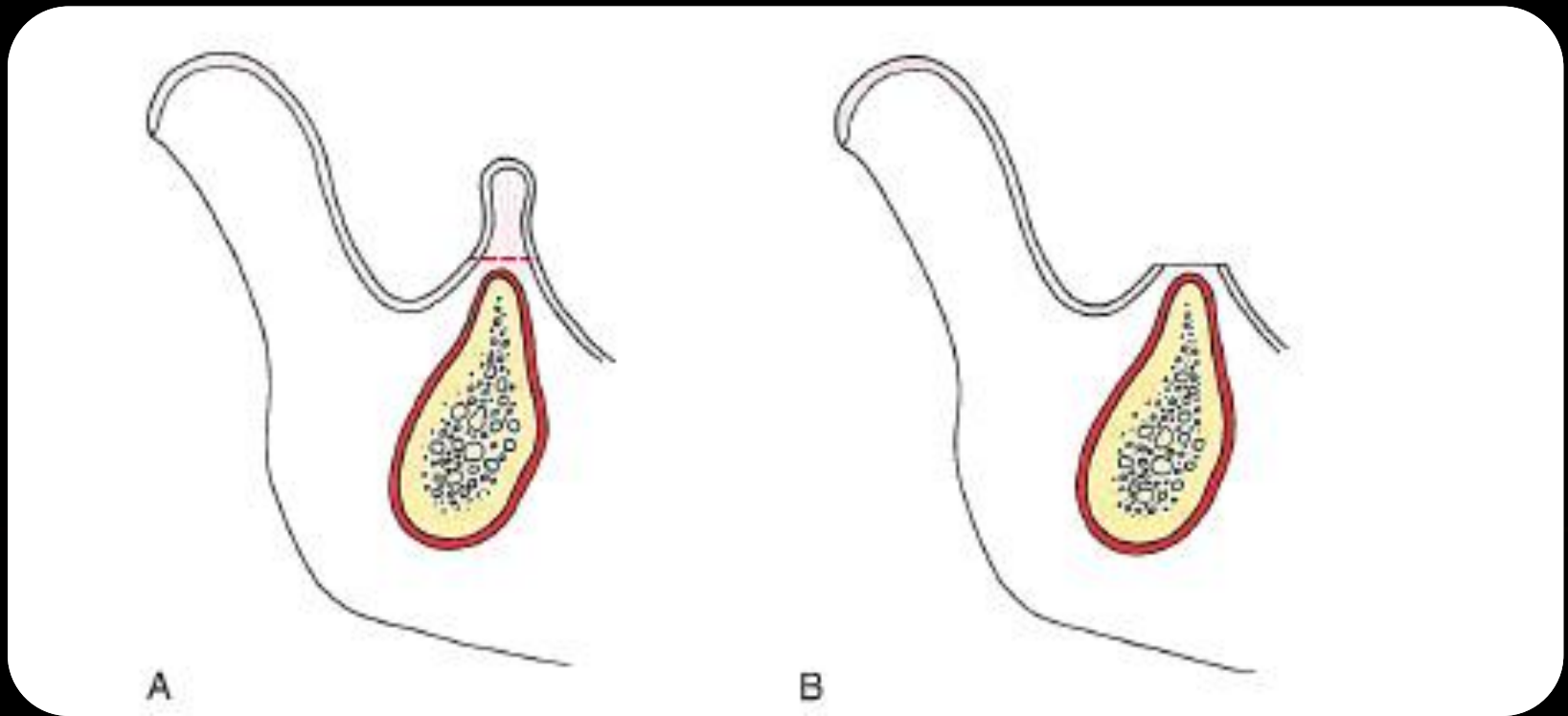
- Excessive hypermobile tissue without inflammation on the alveolar ridge
    - Bone resorption
    - Ill-fitting dentures
- Determination of need to hard tissue augmentation
        - 2 options





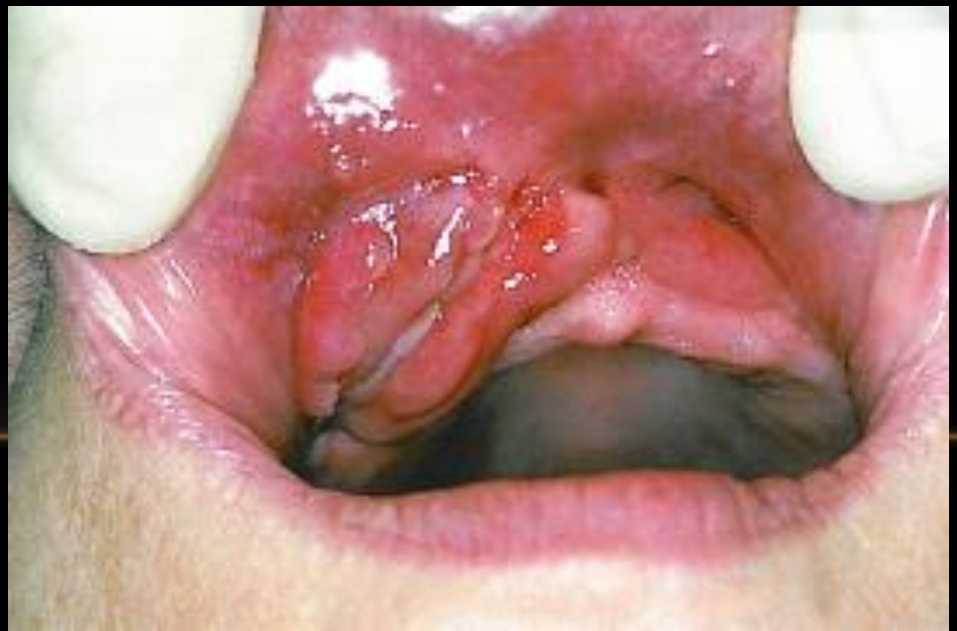
- Impression after 3 to 4 weeks
- Complication: obliteration of the buccal vestibule

- **Small cordlike band of tissue**
- No underlying sharp bony projection
    - Supraperiosteal soft tissue excision
    - No suturing is necessary
    - Denture with a soft liner



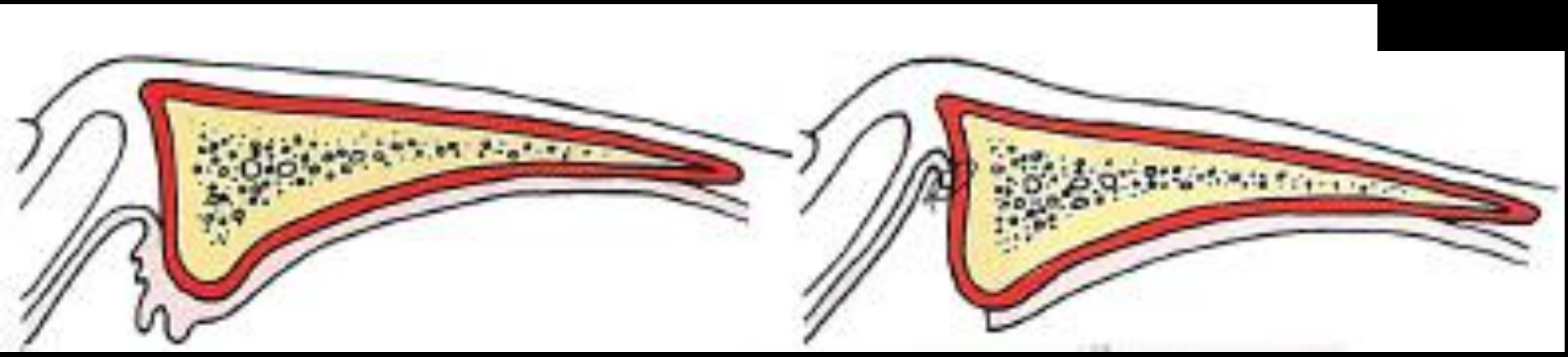
INFLAMMATORY FIBROUS HYPERPLASIA

- Epulis fissurata, denture fibrosis
- Ill-fitting dentures ….. Generalized hyperplastic enlargement of mucosa and fibrous tissue
- Early stage…. Nonsurgical

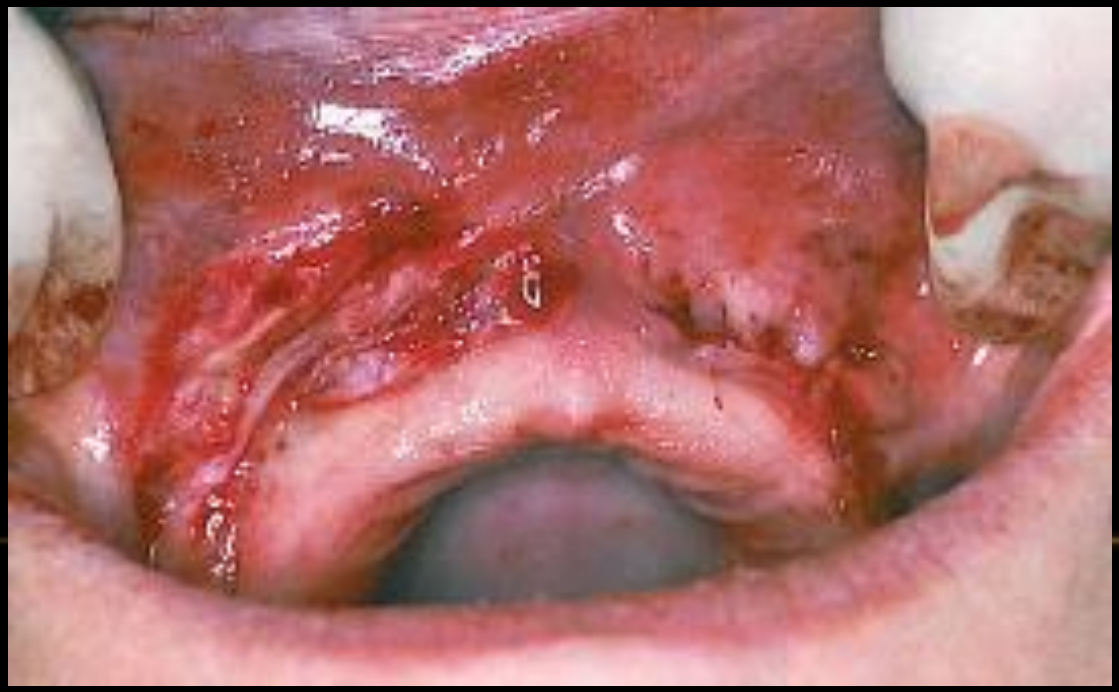


Three techniques:

- 1. Electrosurgery or Laser ….
  - minimally enlarged
- 2. Simple excision and reapproximation ….
  - Extensive tissue mass
- 3. Excision of the epulides, with peripheral mucosal repositioning and secondary epithelialization



- Splint with soft liner for 5 to 7 days
- Impression after 4 weeks
- Laser excision…. Excision without excessive scarring or bleeding
- Pathologic examination….always..



LABIAL FRENECTOMY

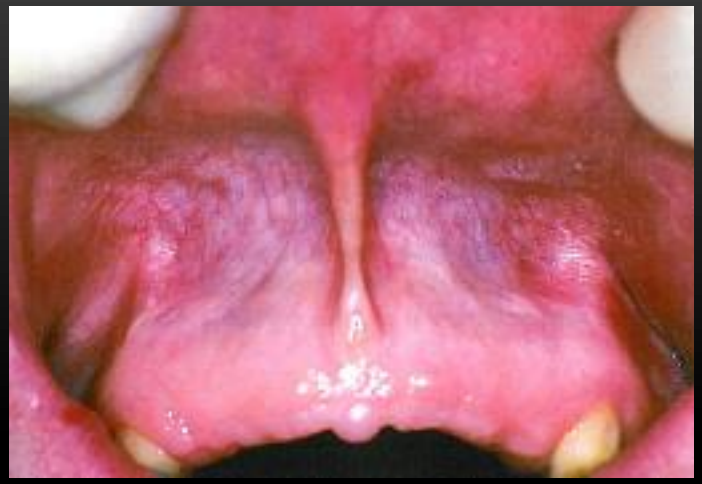
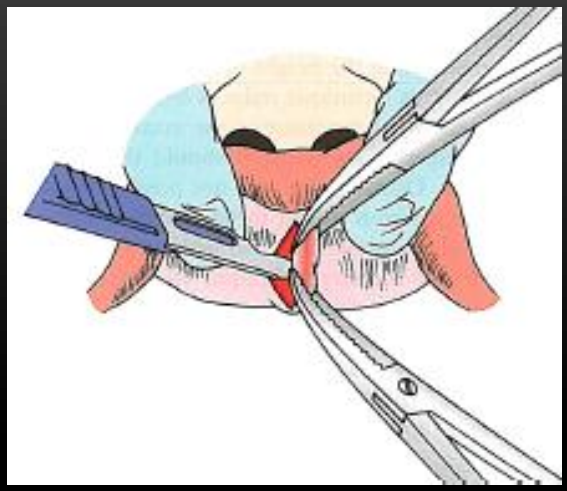
- Thin bands of fibrous tissue covered with mucosa, extending from the lip and cheek to the alveolar periosteum.
- Variable level of attachment
- Diastema

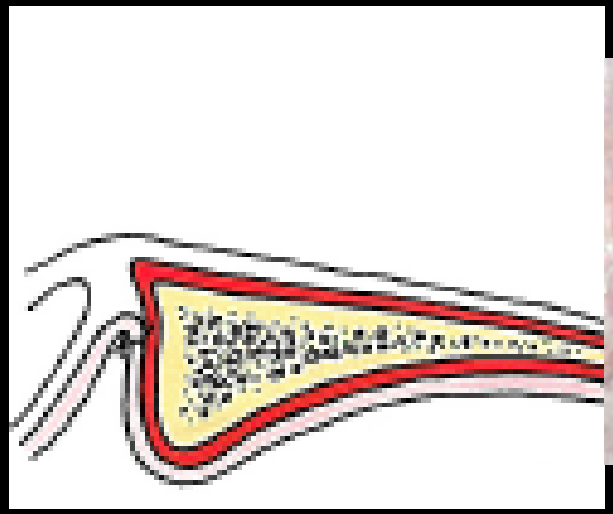
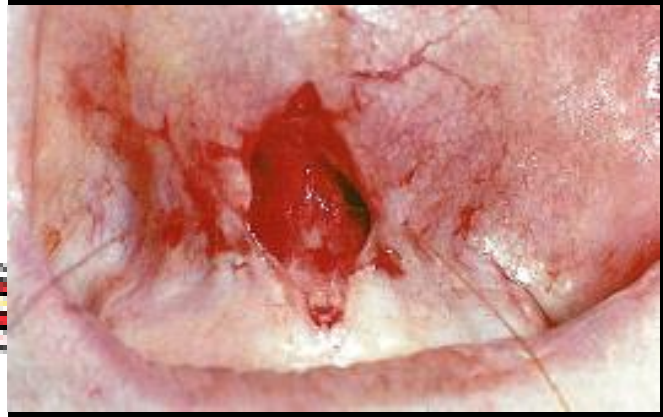
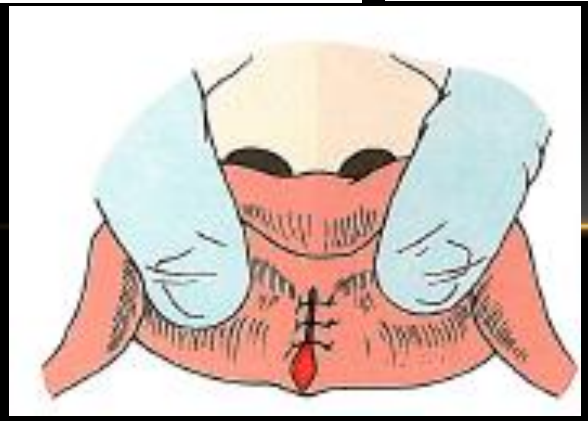
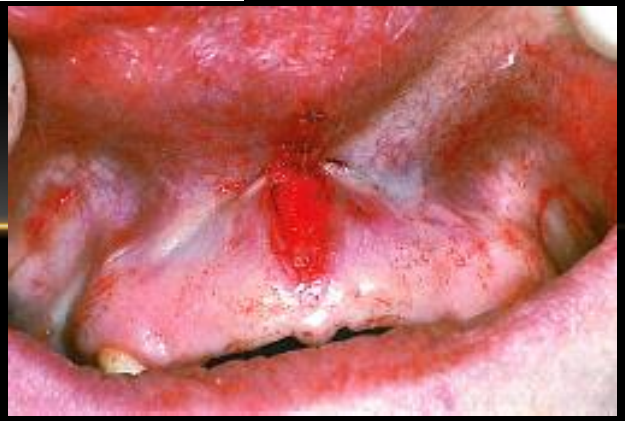
Surgical techniques:

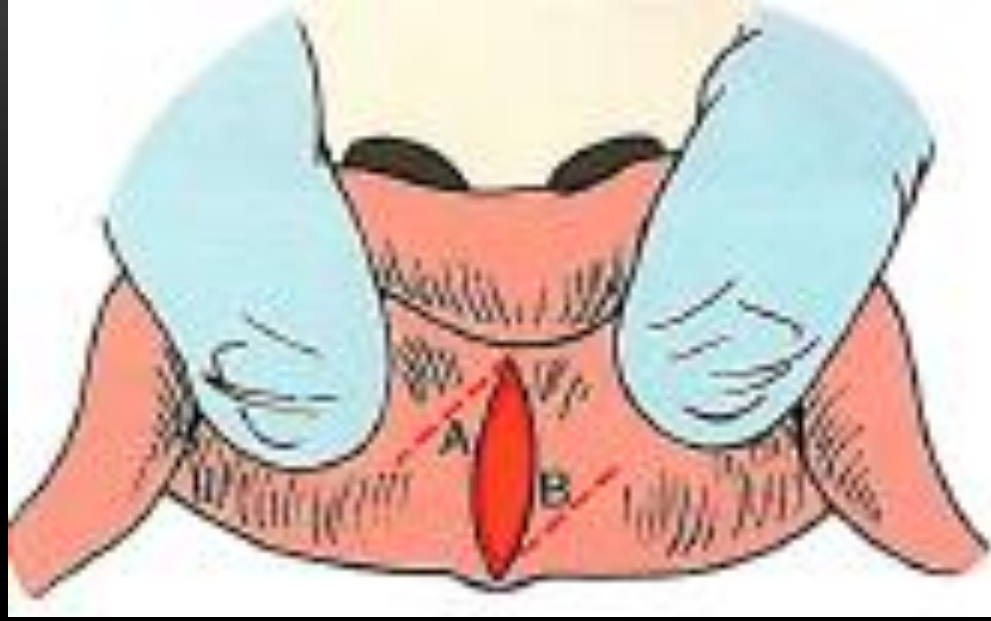
1. Simple excision
2. Z-plasty technique
3. localized vestibuloplasty with secondary epithelialization
4. laser- assisted frenectomy

Relatively narrow band

Frenal attachment with a wide base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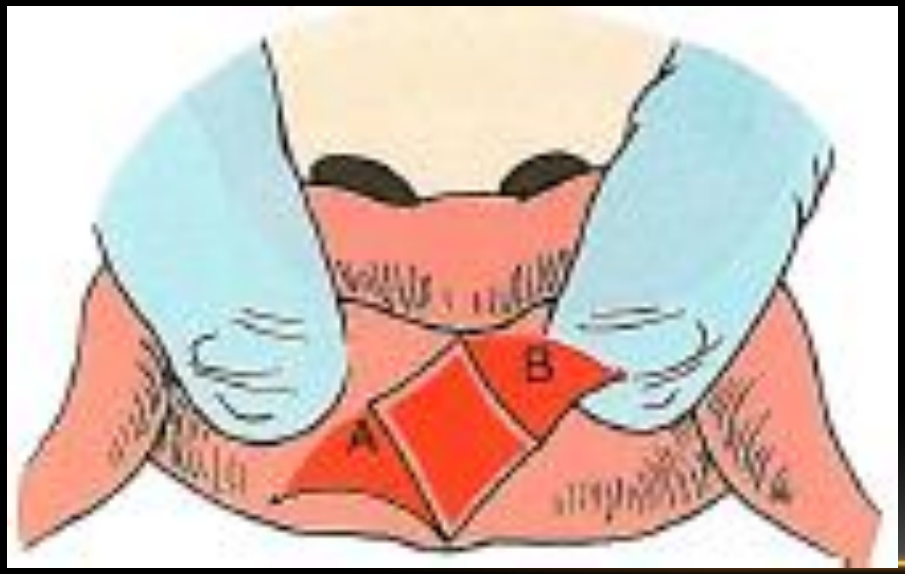
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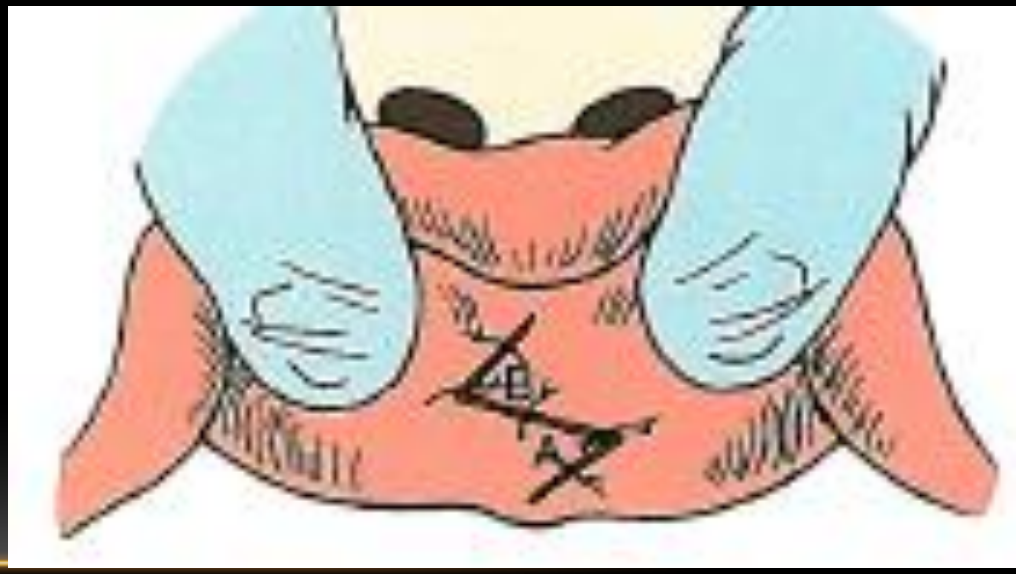
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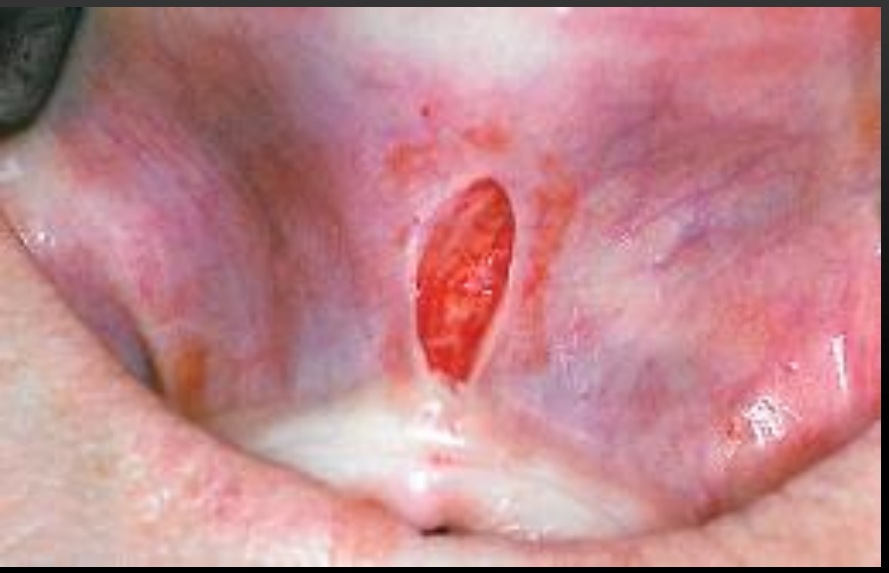
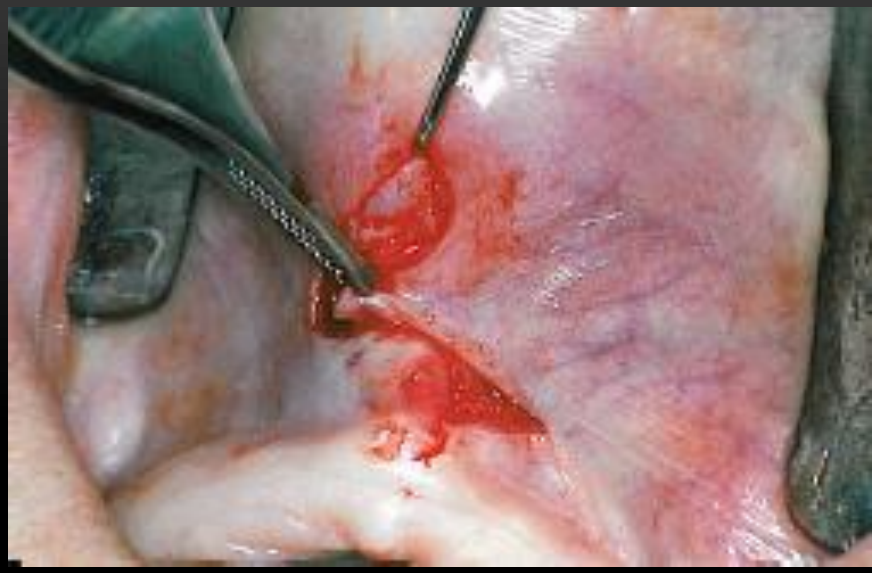
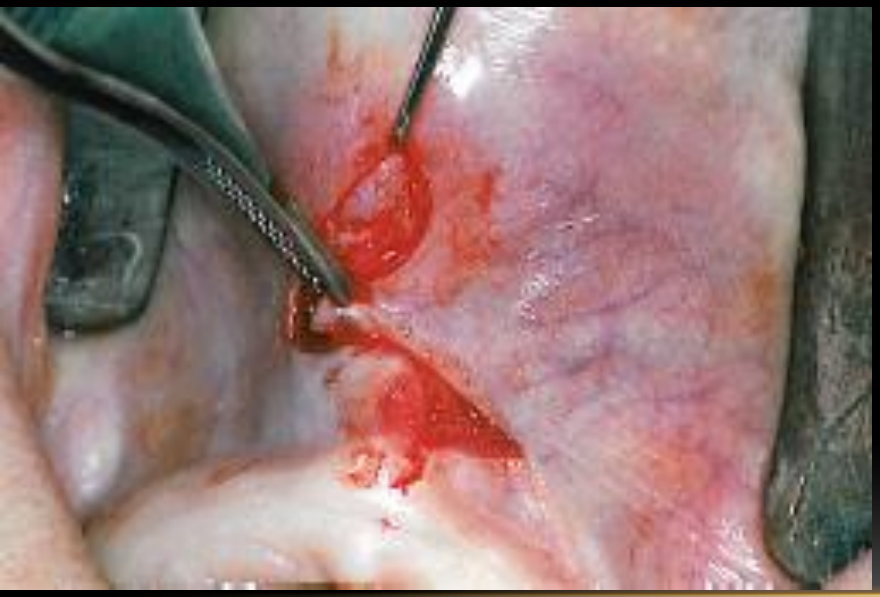
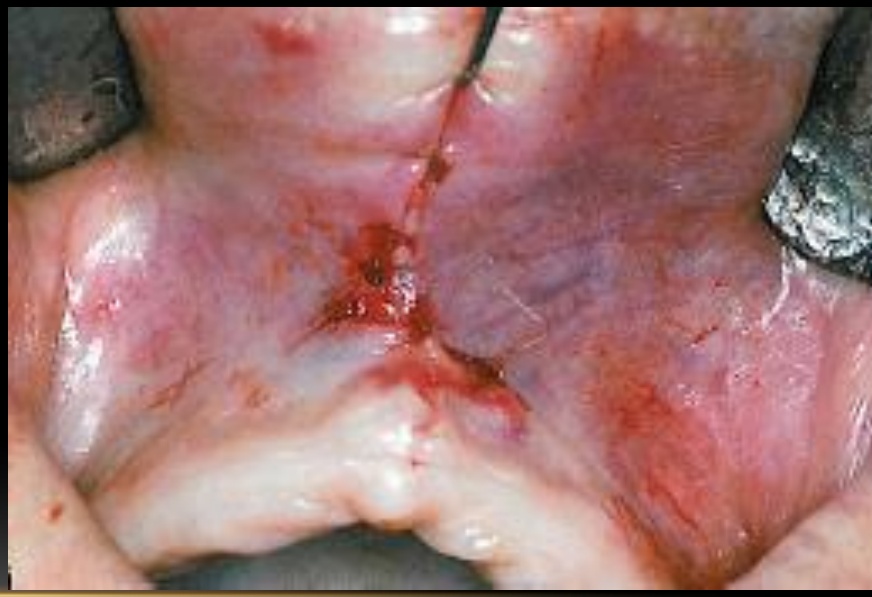
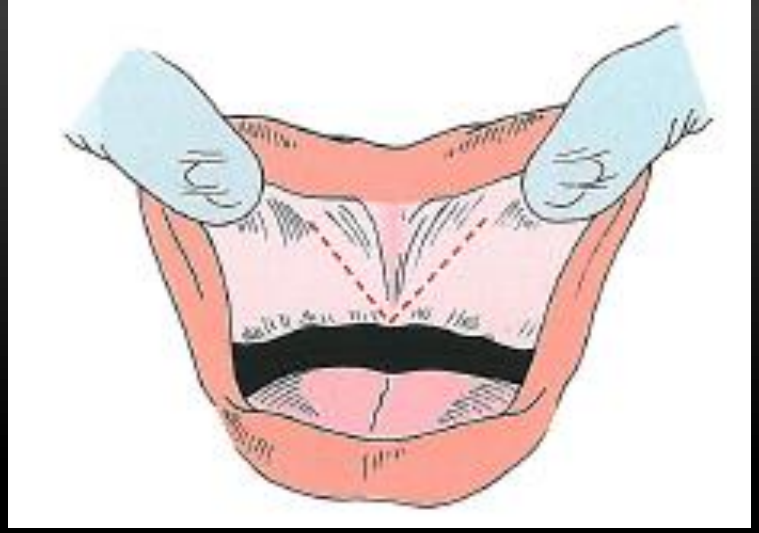
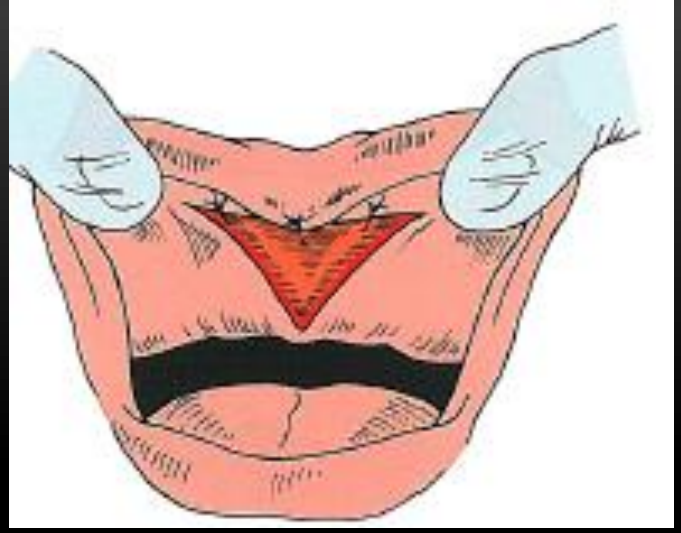
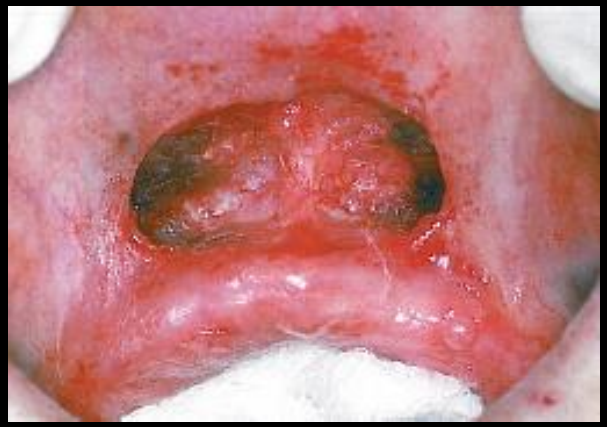
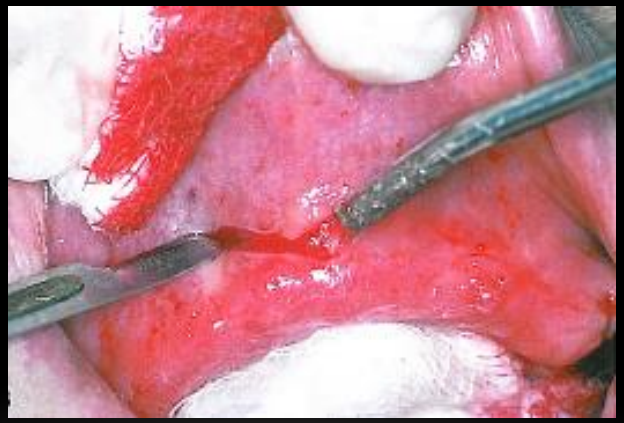
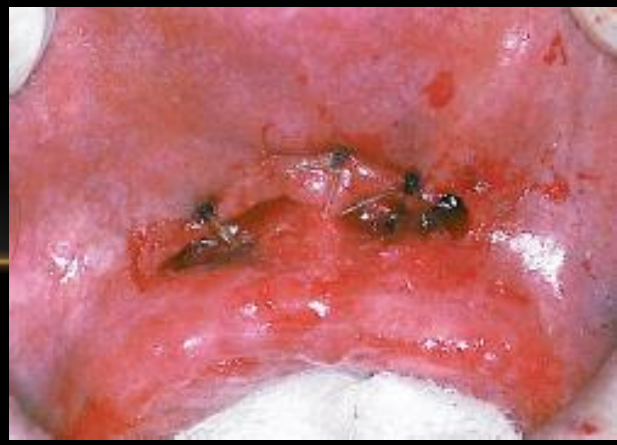





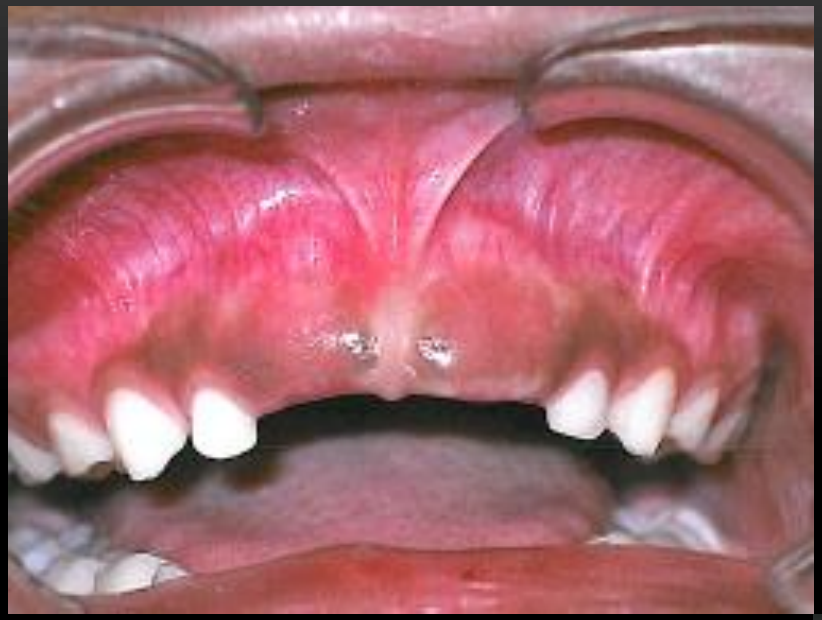


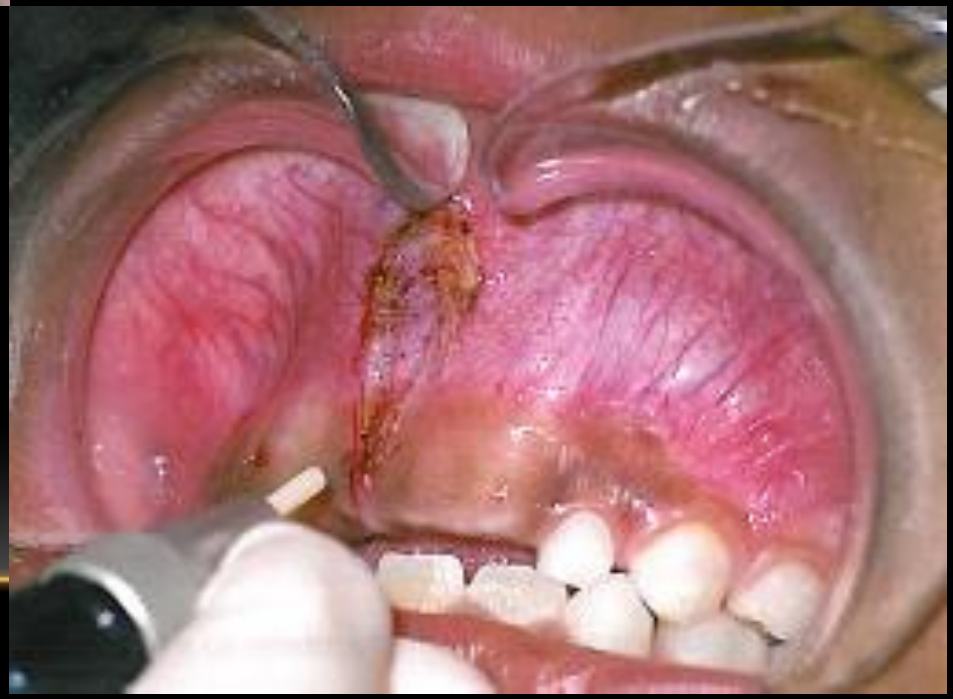






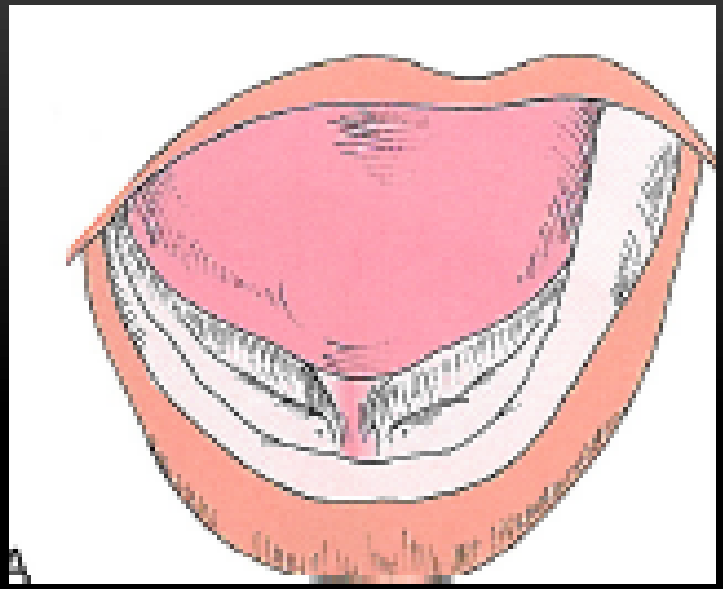


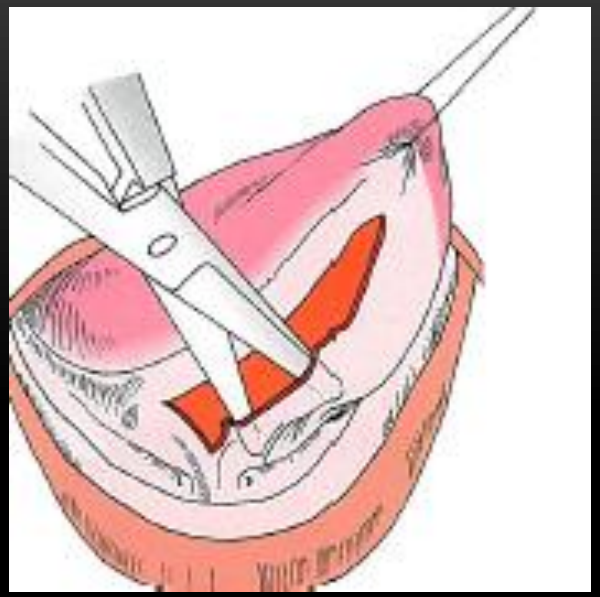


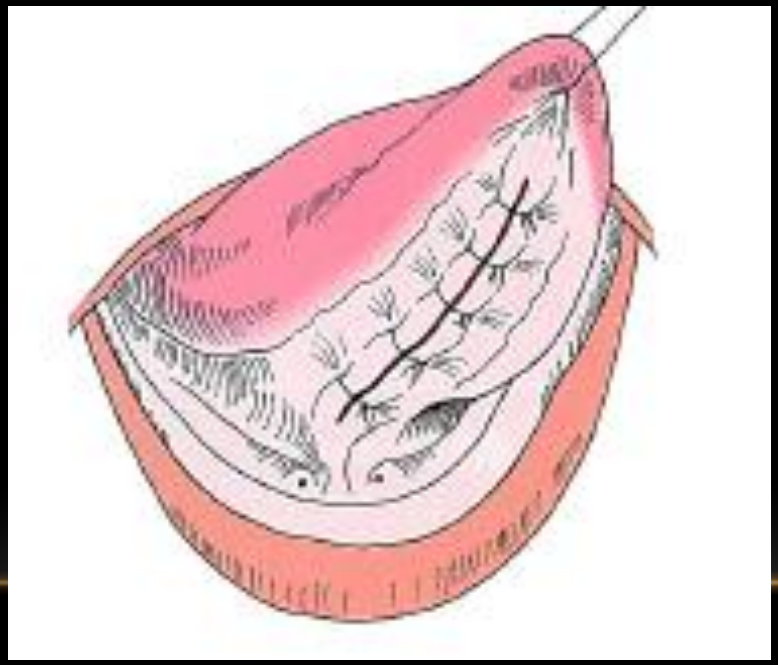


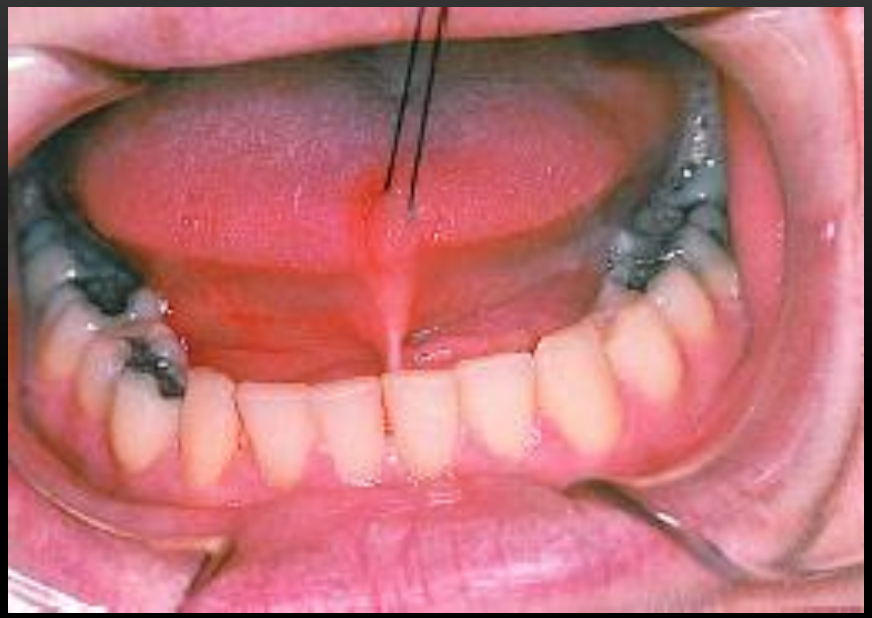
LINGUAL FRENECTOMY

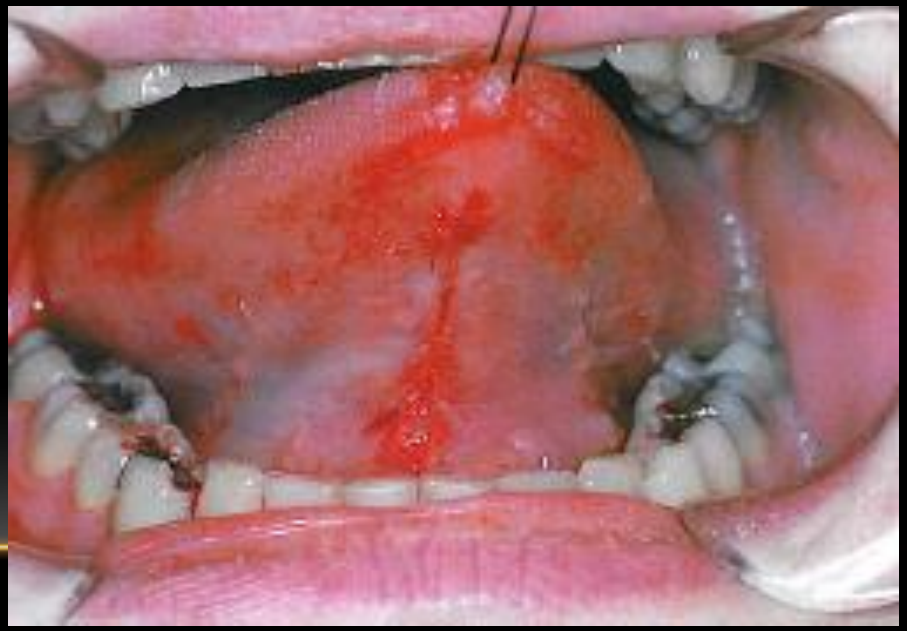
- Consists of mucosa, dense fibrous connective tissue, and occasionally, superior fibers of genioglossus muscle









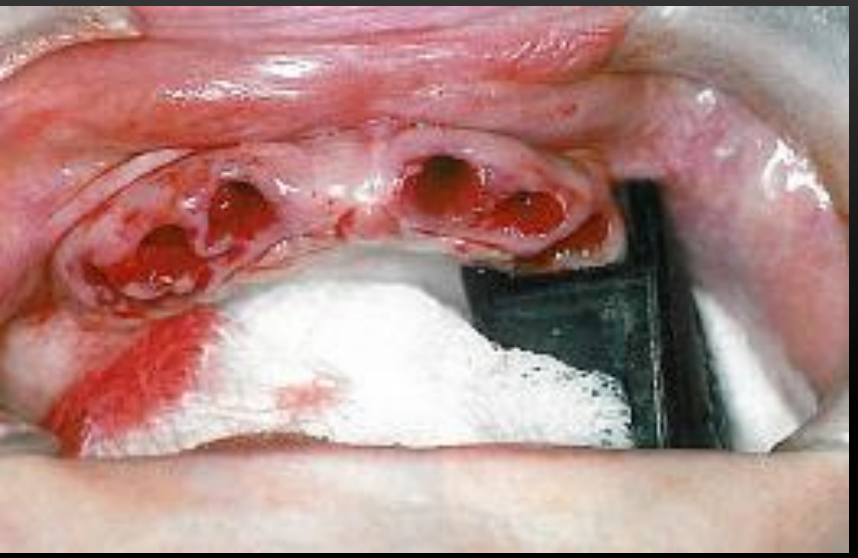
IMMEDIATE DENTURES

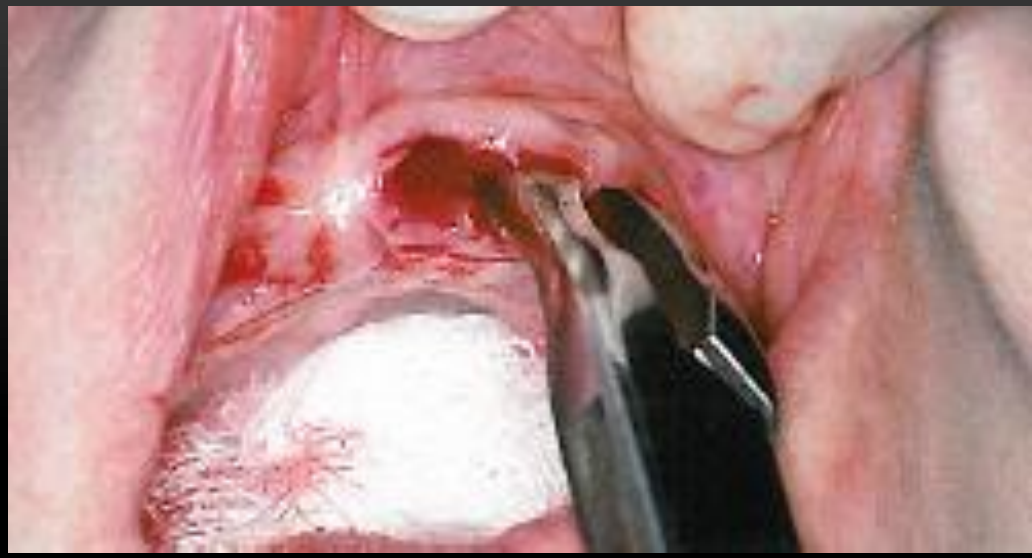
Advantages:

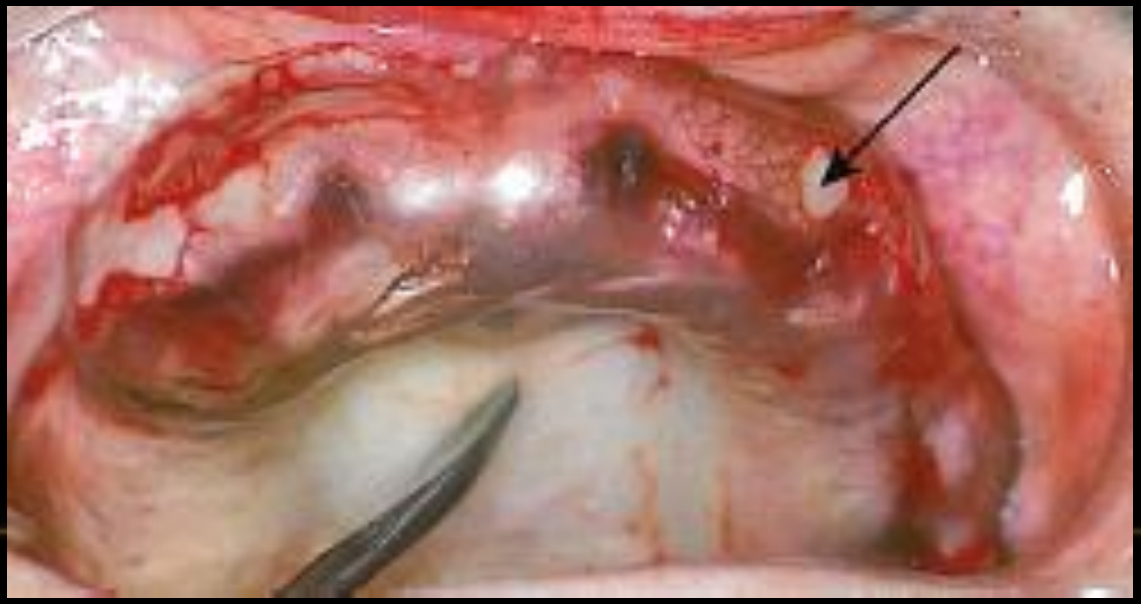
- 1. Immediate psychological and esthetic benefits
- 2. Splint ….reduction of post op bleeding and edema and improved tissue adaptation
- 3. Vertical dimension can be most easily reproduced

Disadvantages:

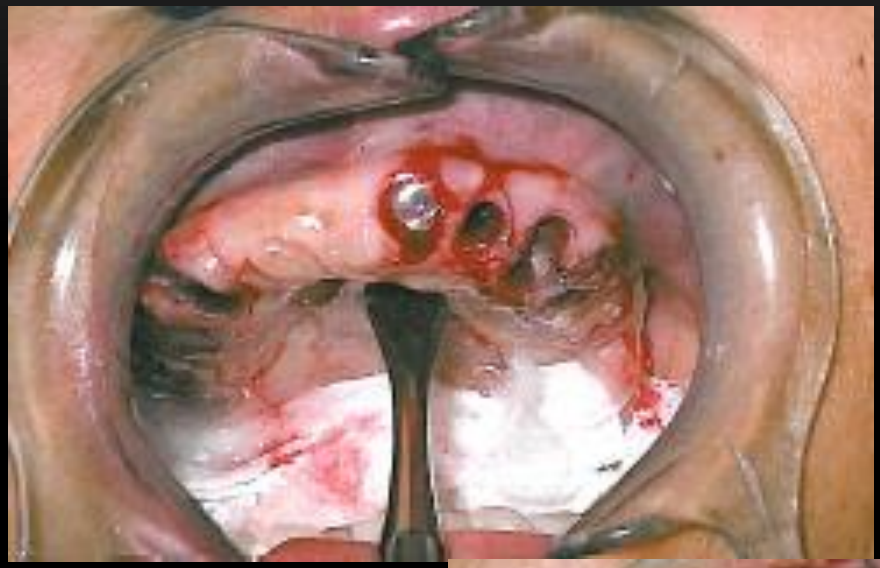
- Need for frequent alteration of the denture and the construction of a new denture after initial healing

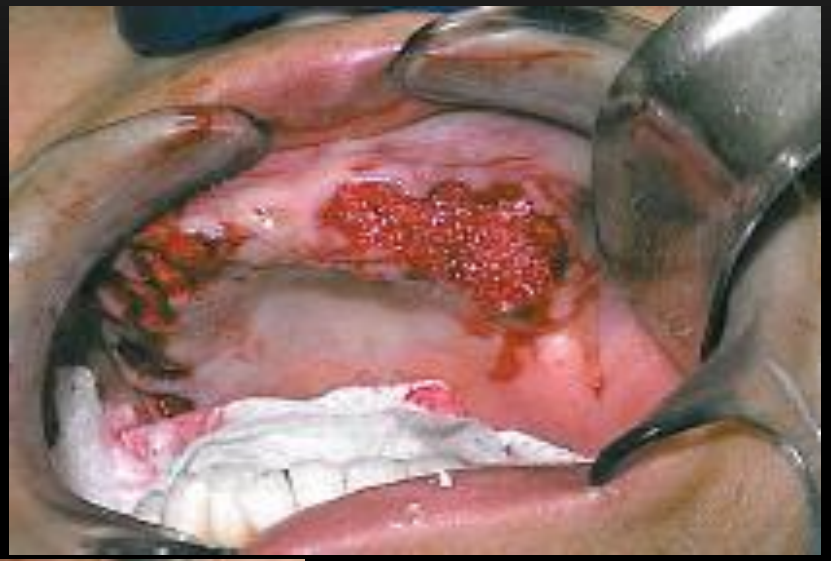


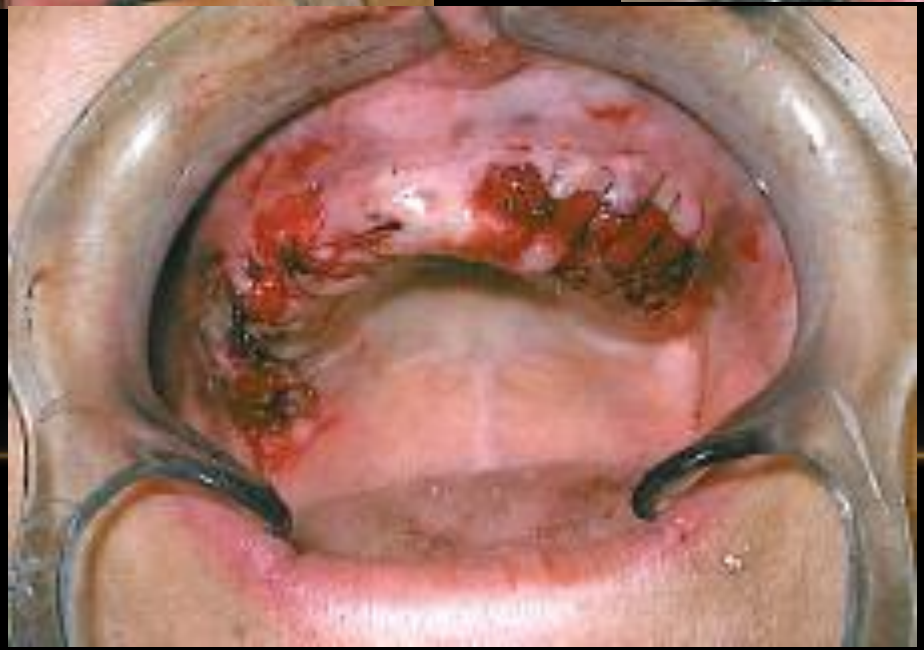




ALVEOLAR RIDGE PRESERVATION







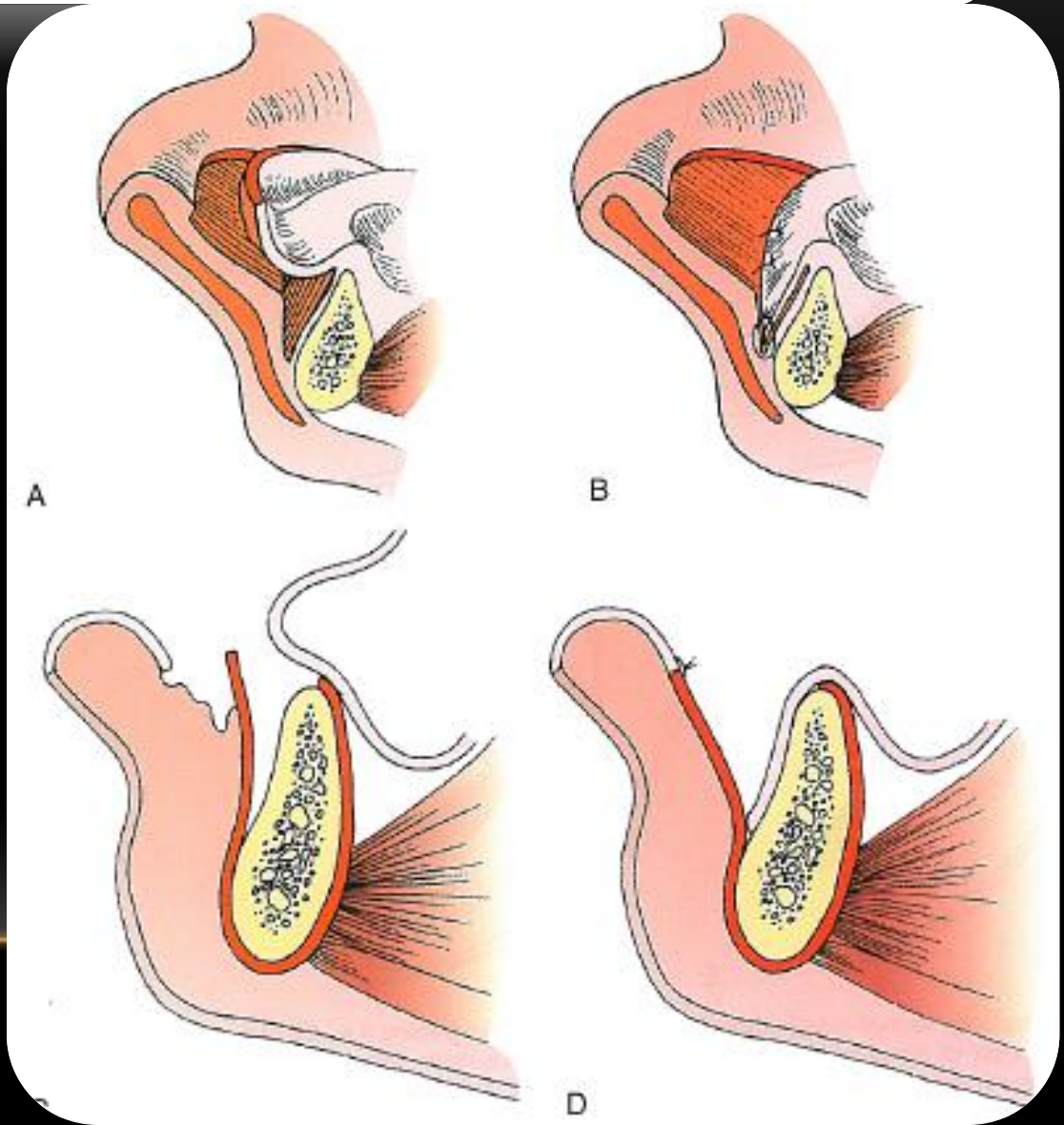
MANDIBULAR AUGMENTATION

Advanced Preposthetic Surgical Procedures

SOFT TISSUE SURGERY FOR RIDGE EXTENSION OF THE MANDIBLE

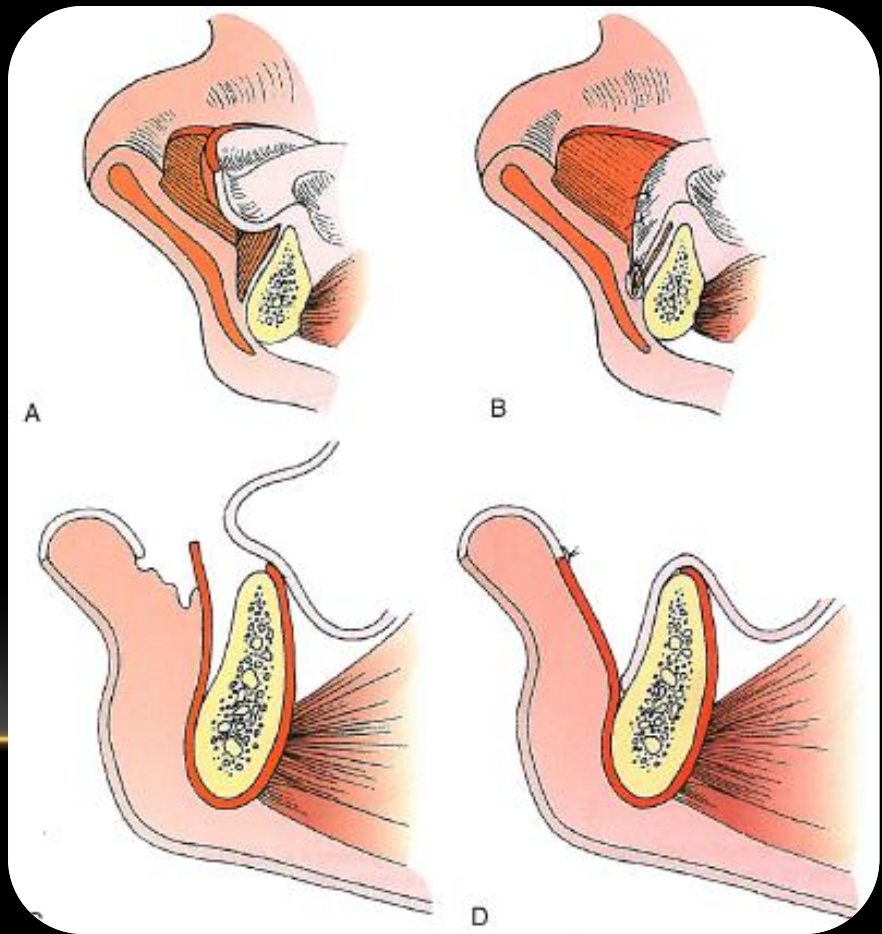
Transpositional Flap Vestibuloplasty (Lip Switch)

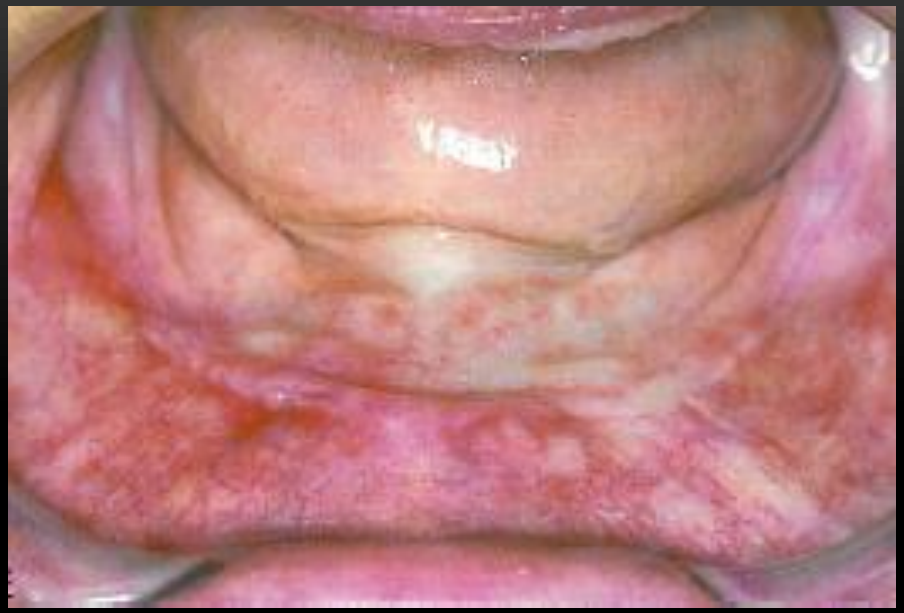
- Kazanjian
- Lingually based flap

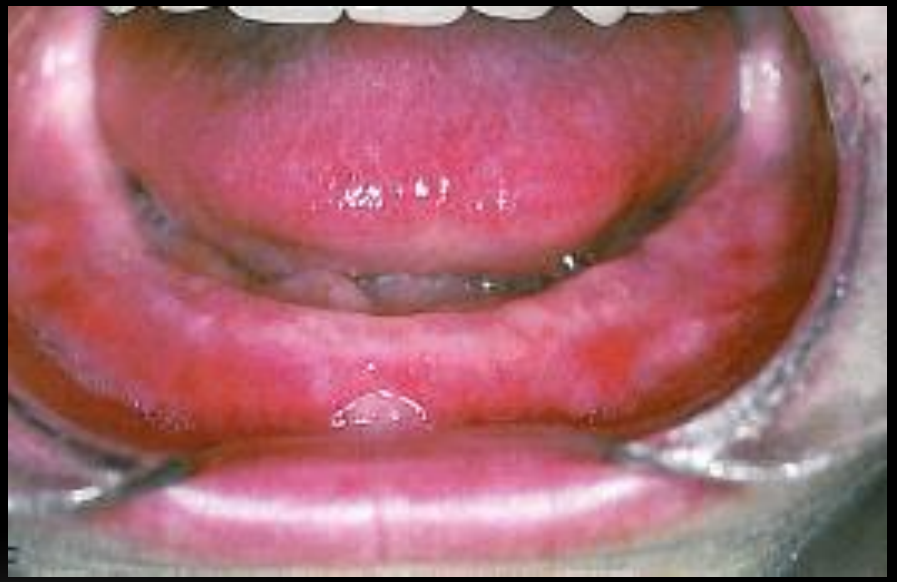


INDICATIONS:

- Adequate ant. height (at least 15mm)
- Inadequate facial vestibular depth
- Adequate lingual vestibular depth







Advantages:

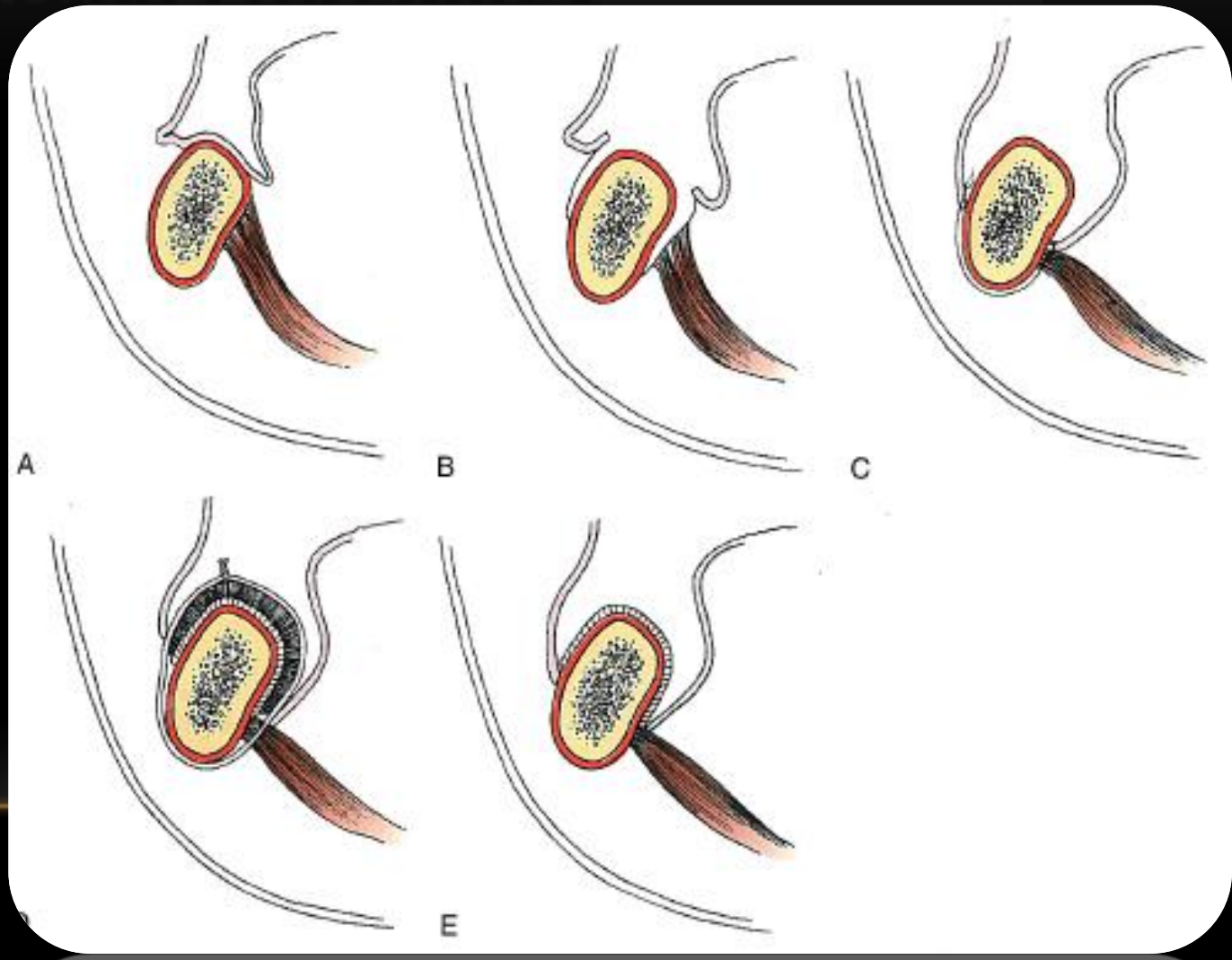
- Do not require hospitalization, donor site surgery, or prolonged time without denture

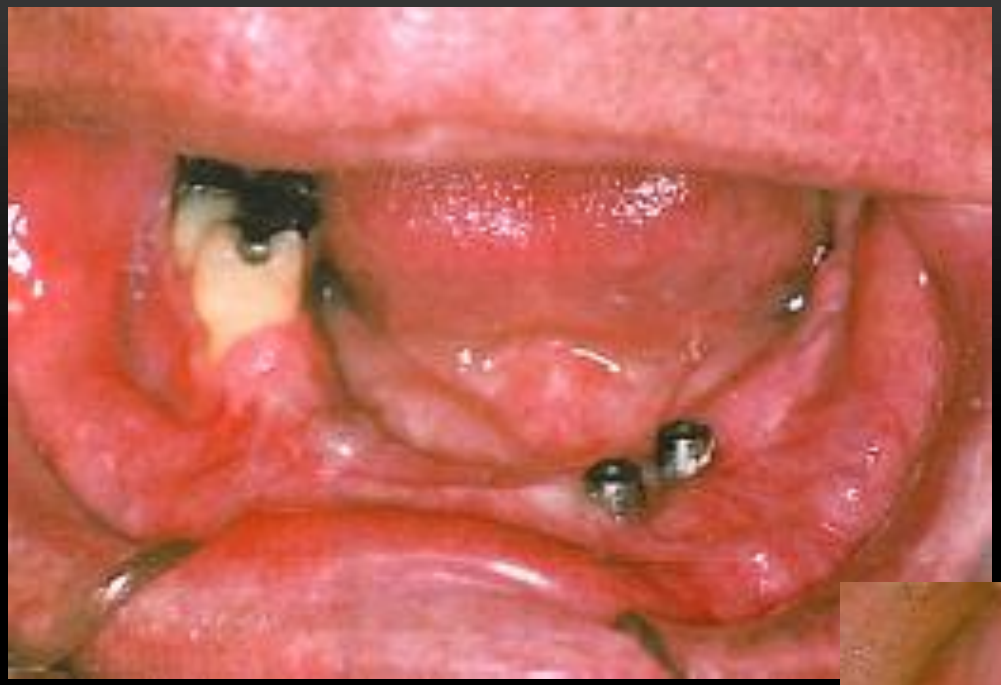
Disadvantages:

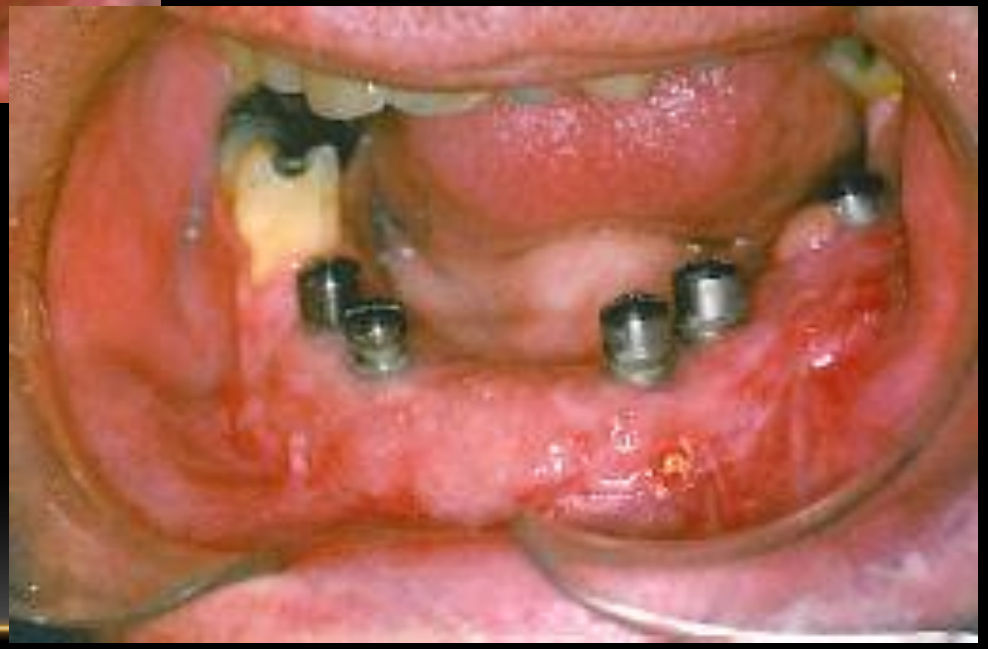
- Unpredictable relapse
- Scar

Vestibule and Floor-of-Mouth Extension Procedures

- Trauner
- Obwegeser

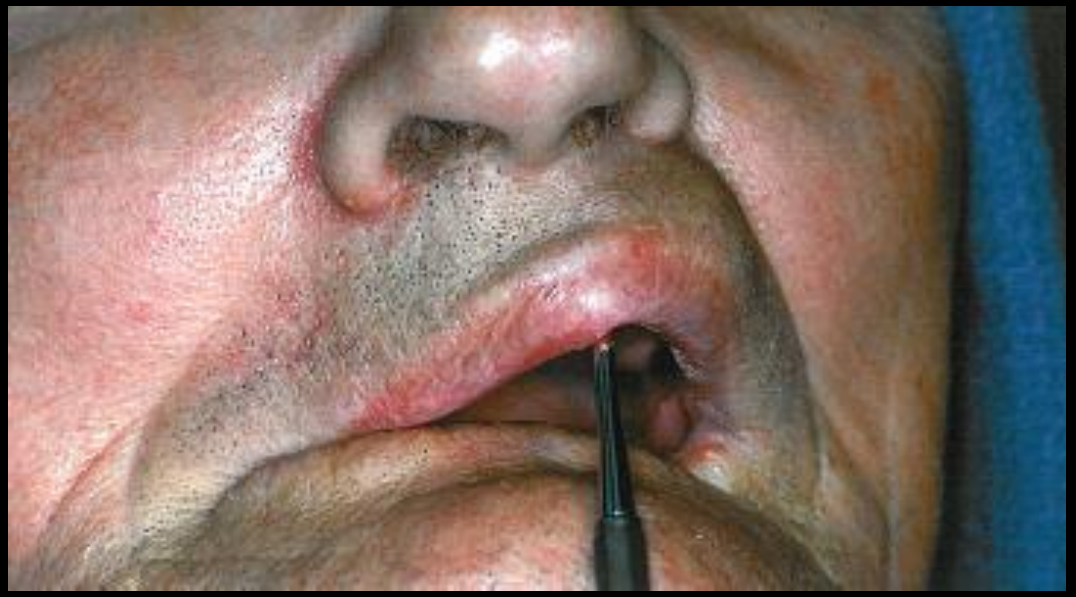


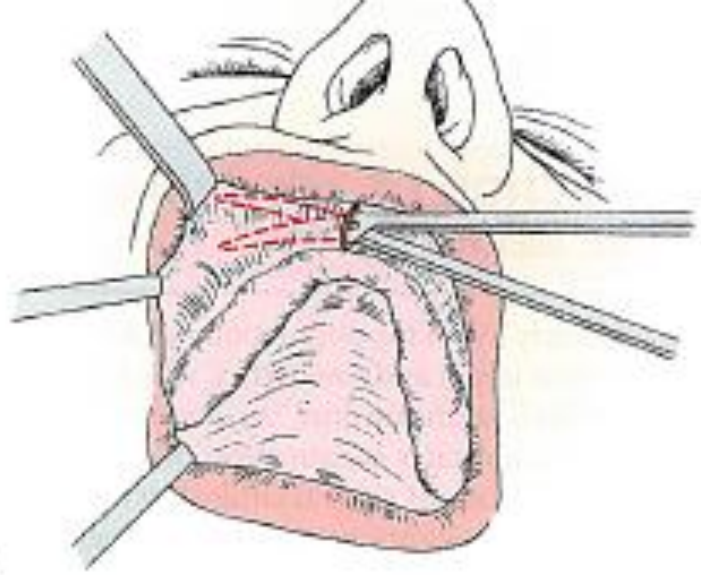




SOFT TISSUE SURGERY FOR MAXILLARY RIDGE EXTENSION

Submucosal Vestibuloplasty





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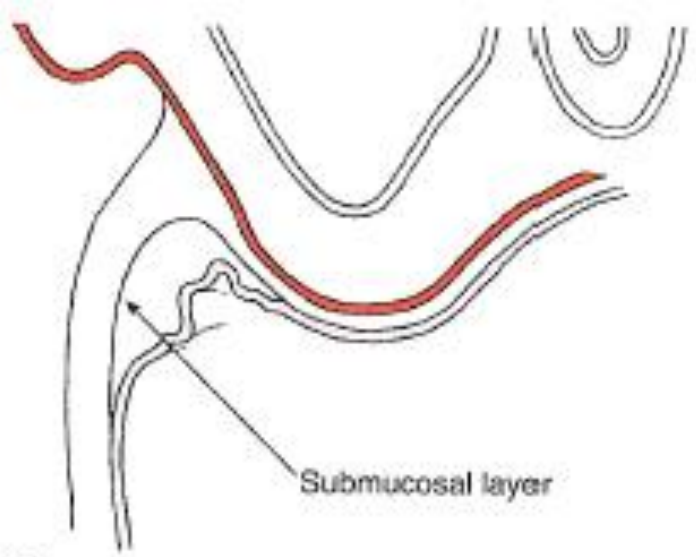

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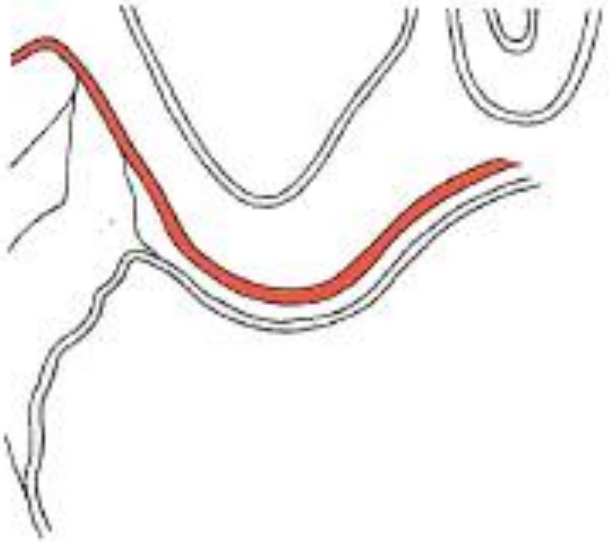

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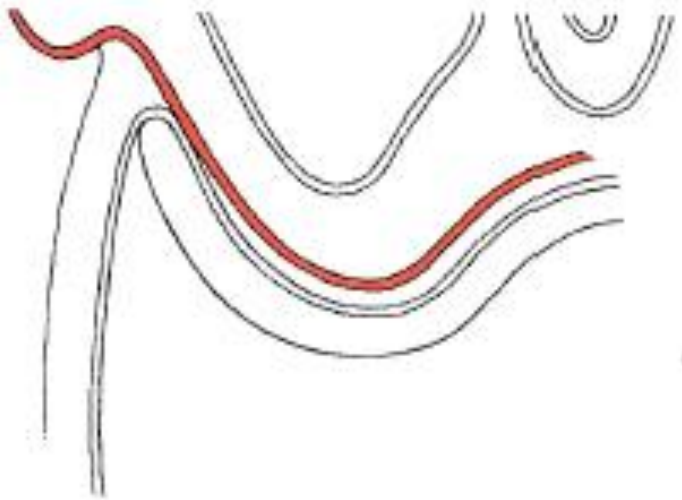
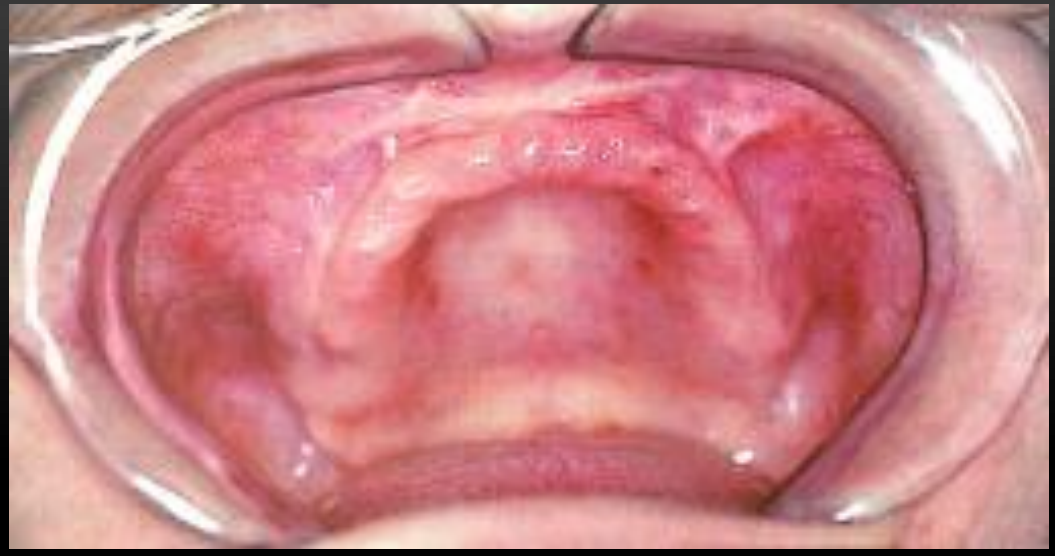
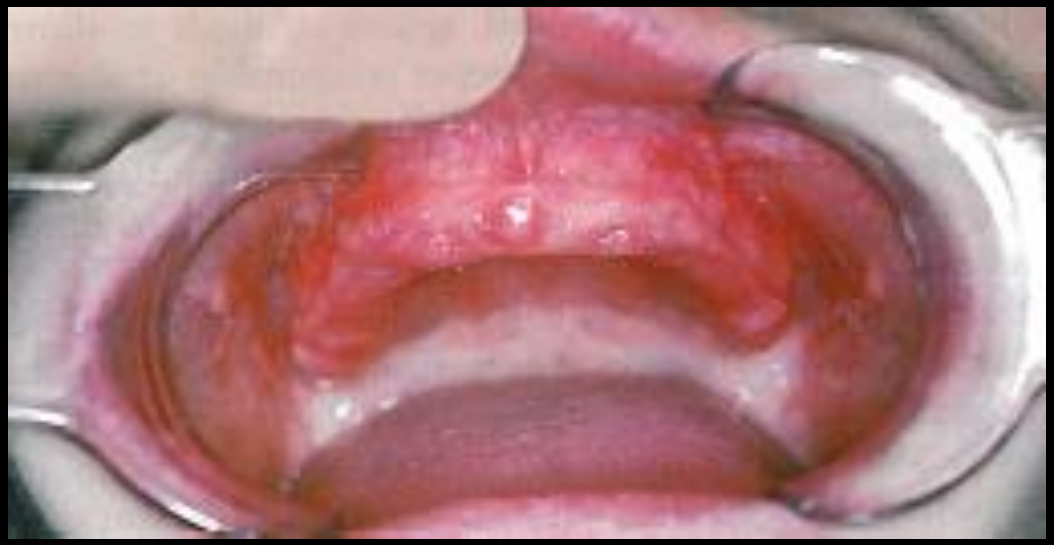


E

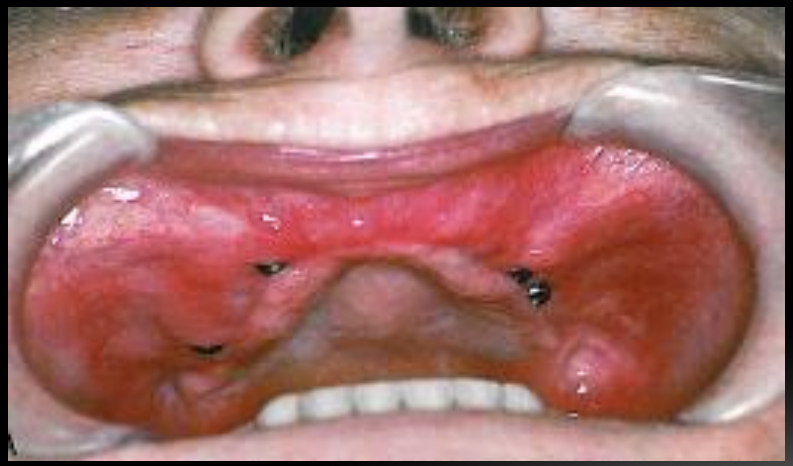
- Splint.. 7-10 days
- Healing within 3 weeks
- Impression after 3 weeks

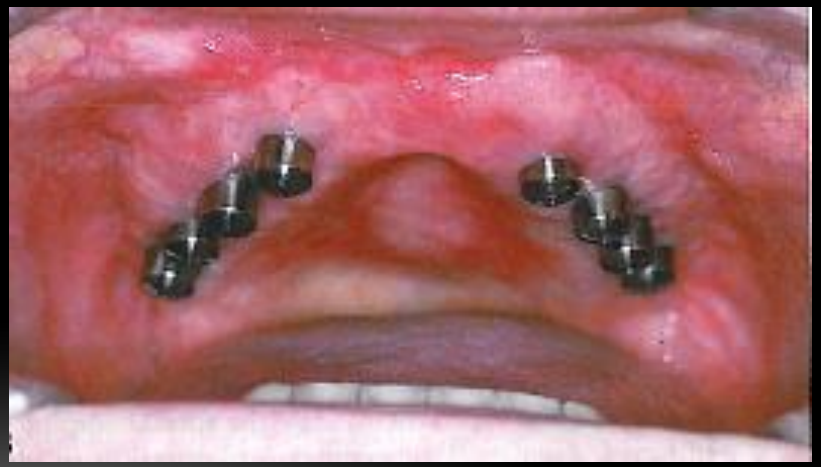




Maxillary Vestibuloplasty with Tissue Grafting

- Clark vestibuloplasty
- Suturing of pedicle of upper lip to the vestibule
- Long healing time…6-8 weeks
- Graft….





CORRECTION OF ABNORMAL RIDGE RELATIONSHIPS

Segmental Alveolar Surgery in the Partially Edentulous Patient