

Preprosthetic surgery II.  
Edentulous jaws. Osteoplasty. Corrections of soft tissues.

SE Arc- Állcsont- Szájsebészeti és Fogászati Klinika BUDAPEST  
2018.

# Objectives of preprosthetic surgery

- surgical preparation of the remaining oral tissues to support the best possible tooth replacement
- in case of total or partial edentulism using dental implants to support and anchor tooth replacements

# Characteristics of the best dental support

- proper jaw relationship in anteroposterior, transverse, and vertical dimensions
- alveolar processes as large as possible
- no bony or soft tissue protuberances
- adequate attached keratinized mucosa in the primary denture bearing area
- adequate vestibular depth

# Evaluation of supporting tissue

- inspection
- palpation
- Radiographic examinations
- Evaluations of models

# Anatomical considerations

- REDUCTION: chronic progressive process
- *TALLGREN A. The continuing resorption of the residual alveolar ridges in complete denture wearers: A mixed longitudinal study covering 25 years. J Prosthet Dent 1972;27: 120-32.*
- CAWOOD & HOWELL: 6 stages of resorption

# Anatomical considerations

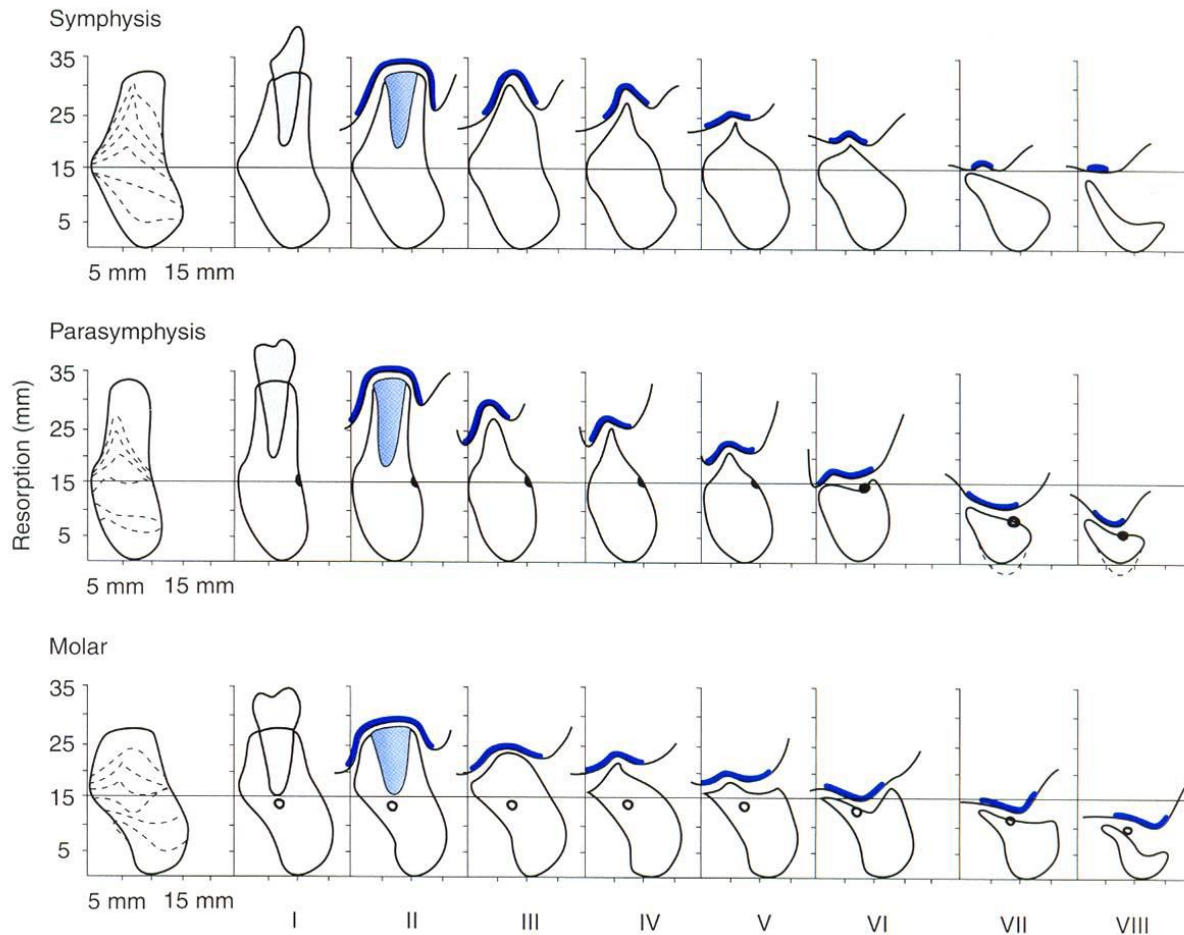
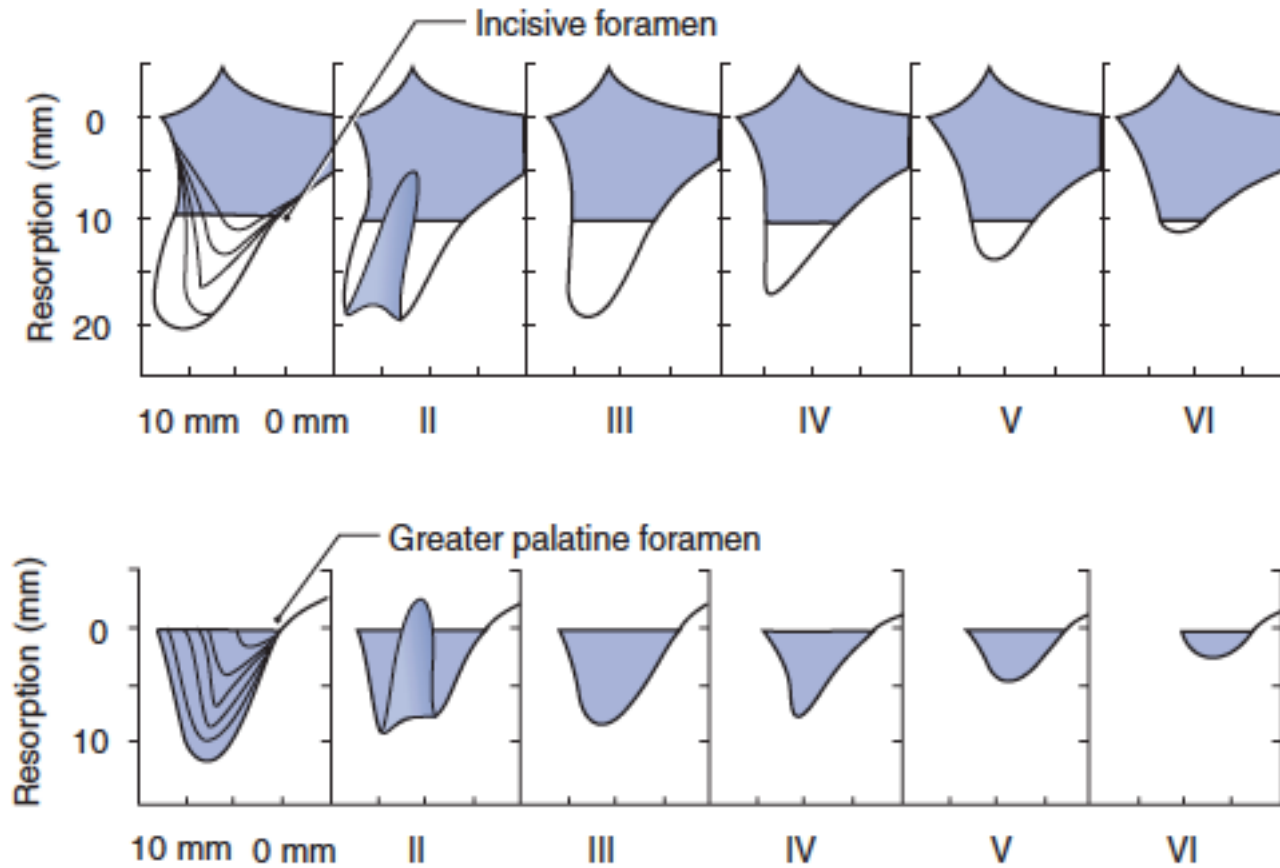


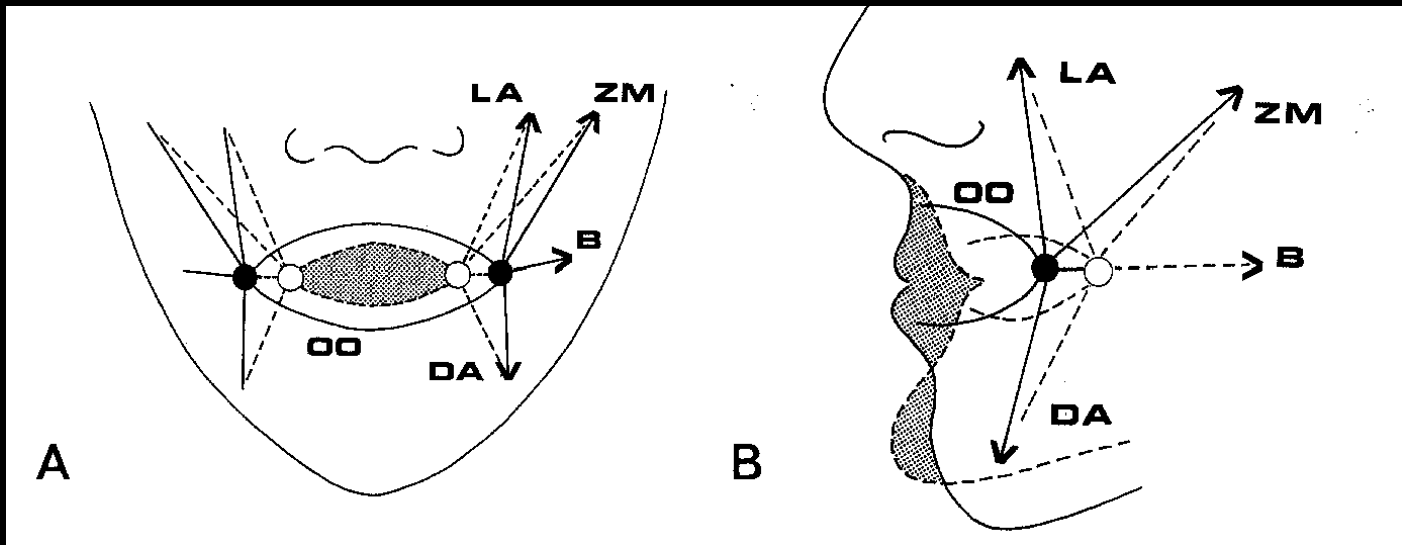
FIGURE 9-3 Modified Cawood and Howell classification of resorption. The thicker line illustrates the amount of attached mucosa, which decreases with progressive resorption. Adapted from Cawood JI, Howell RA.<sup>7</sup>

# Anatomical considerations



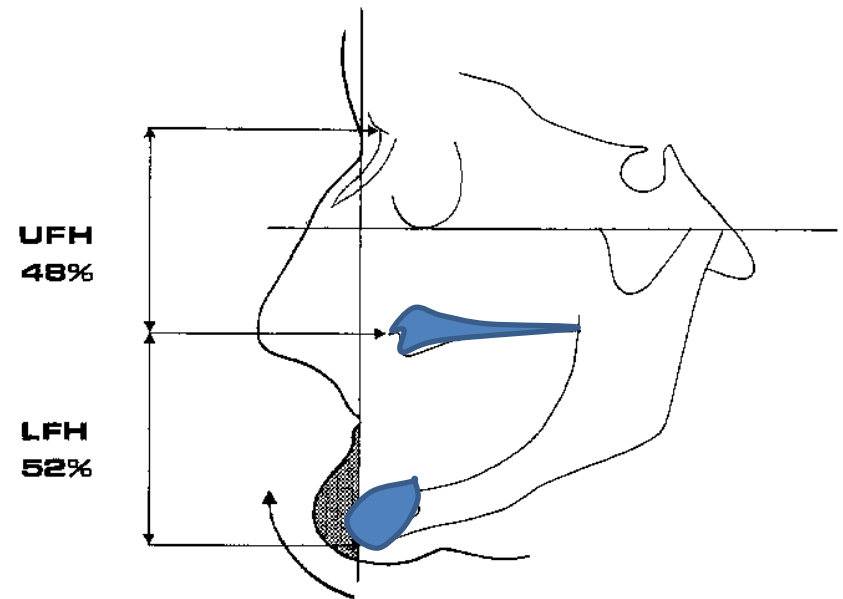
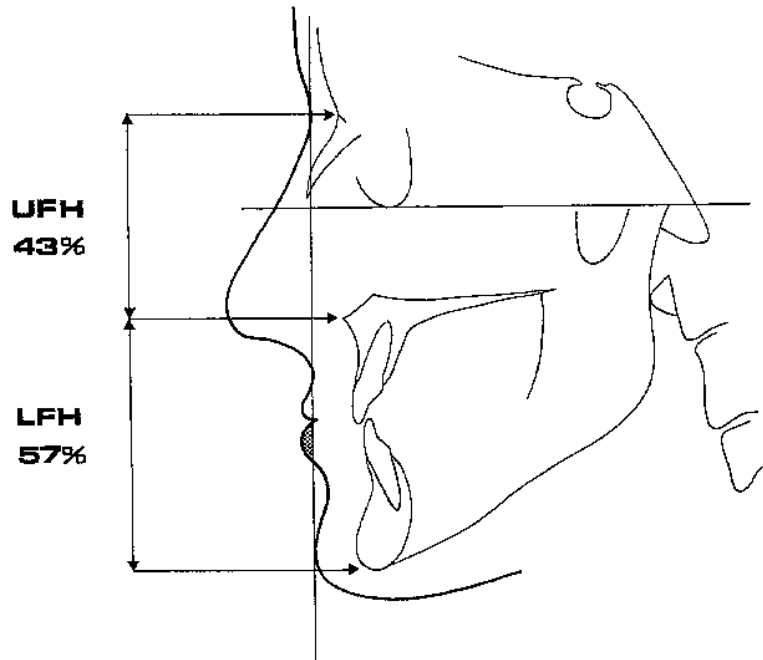
# Anatomical considerations

The loss of the teeth and the reduction of the residual ridge lead to changes in the relationship of the jaws to each other (**INTERARCH CHANGES**), in **muscle relations** and functions, in **oral mucosa** and in **facial morphology**.

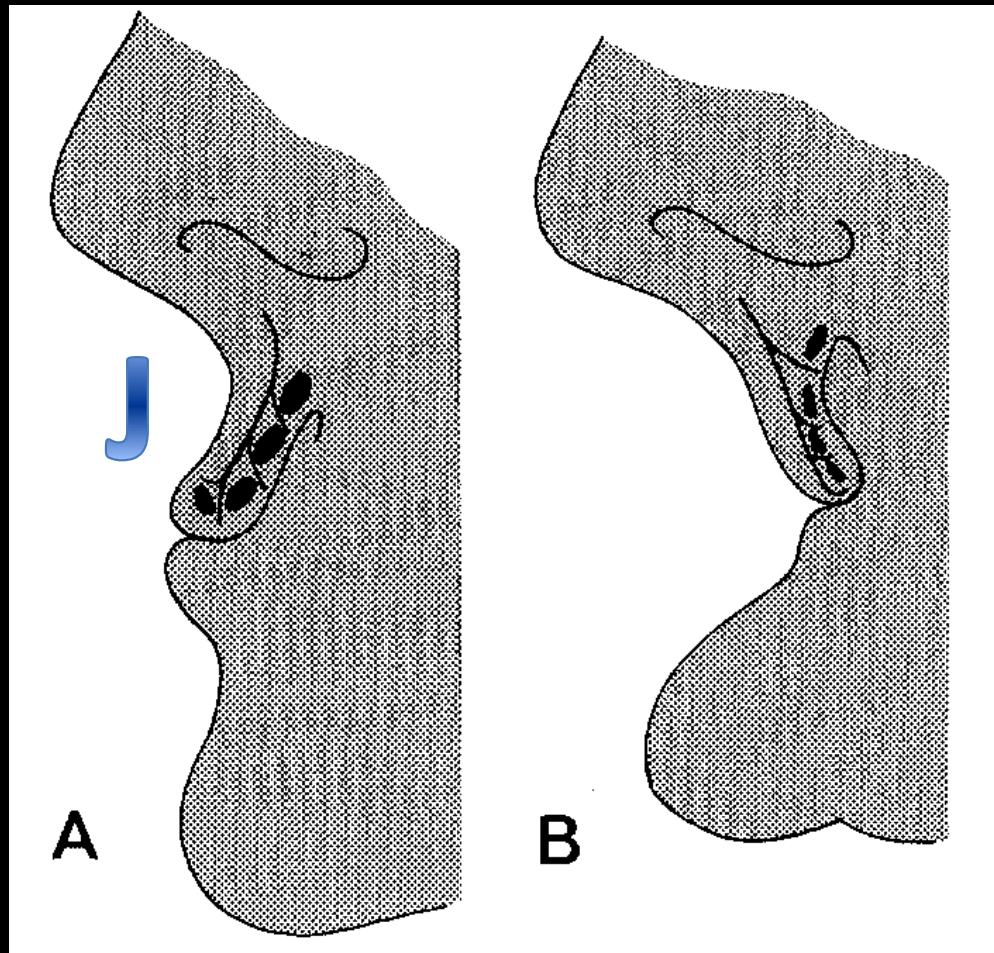




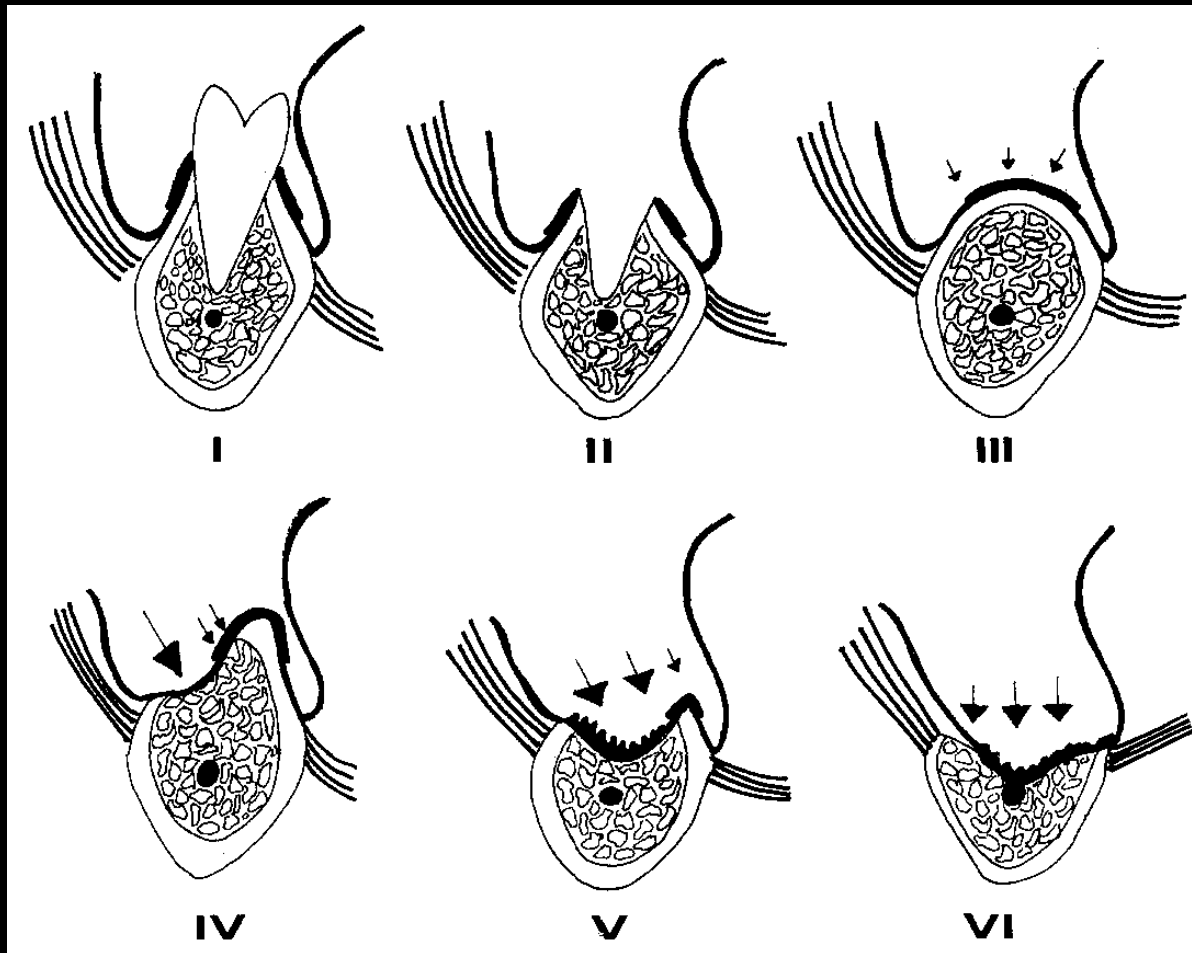
# Anatomical considerations



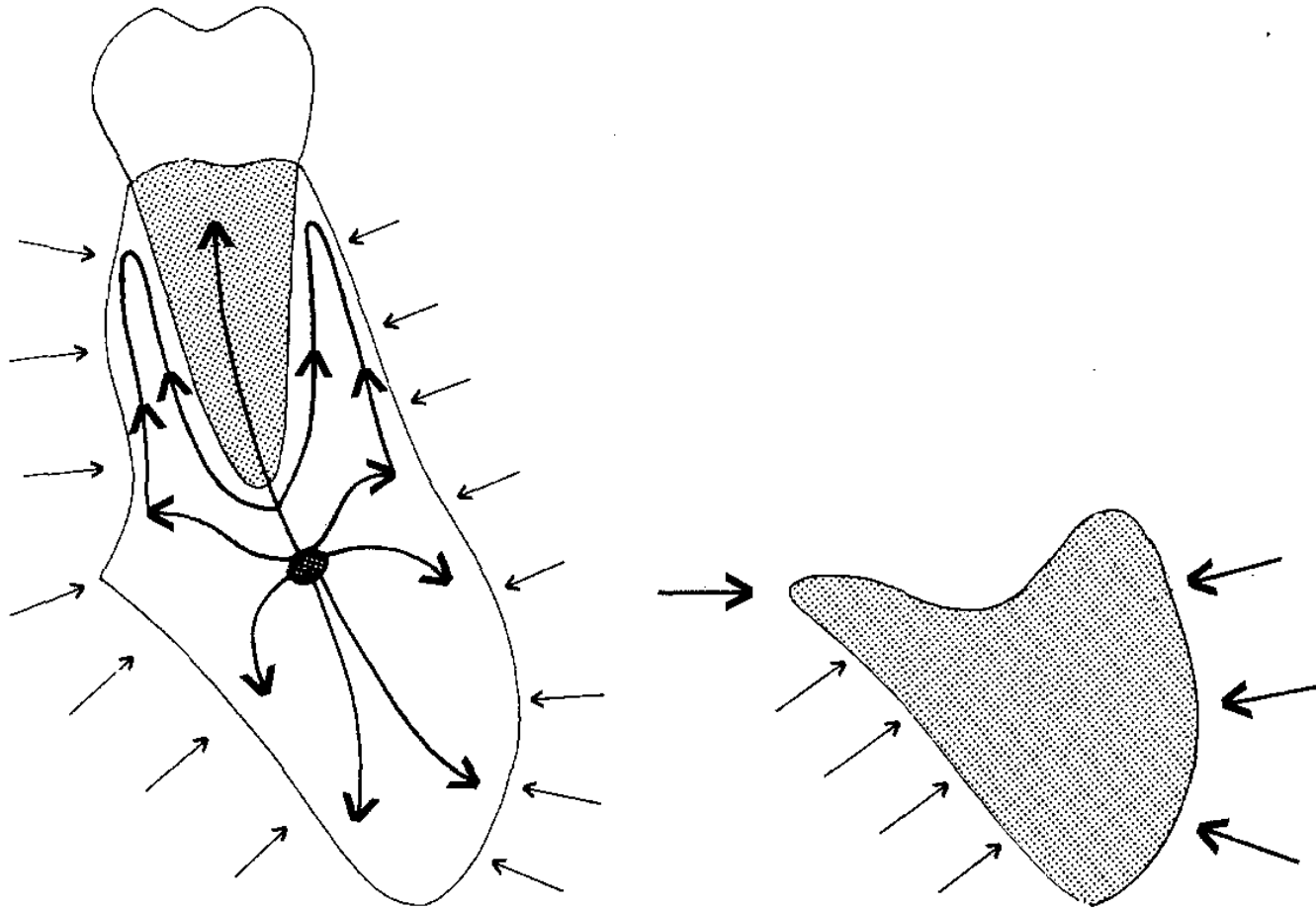
# Anatomical considerations



# Anatomical considerations



# Anatomical considerations



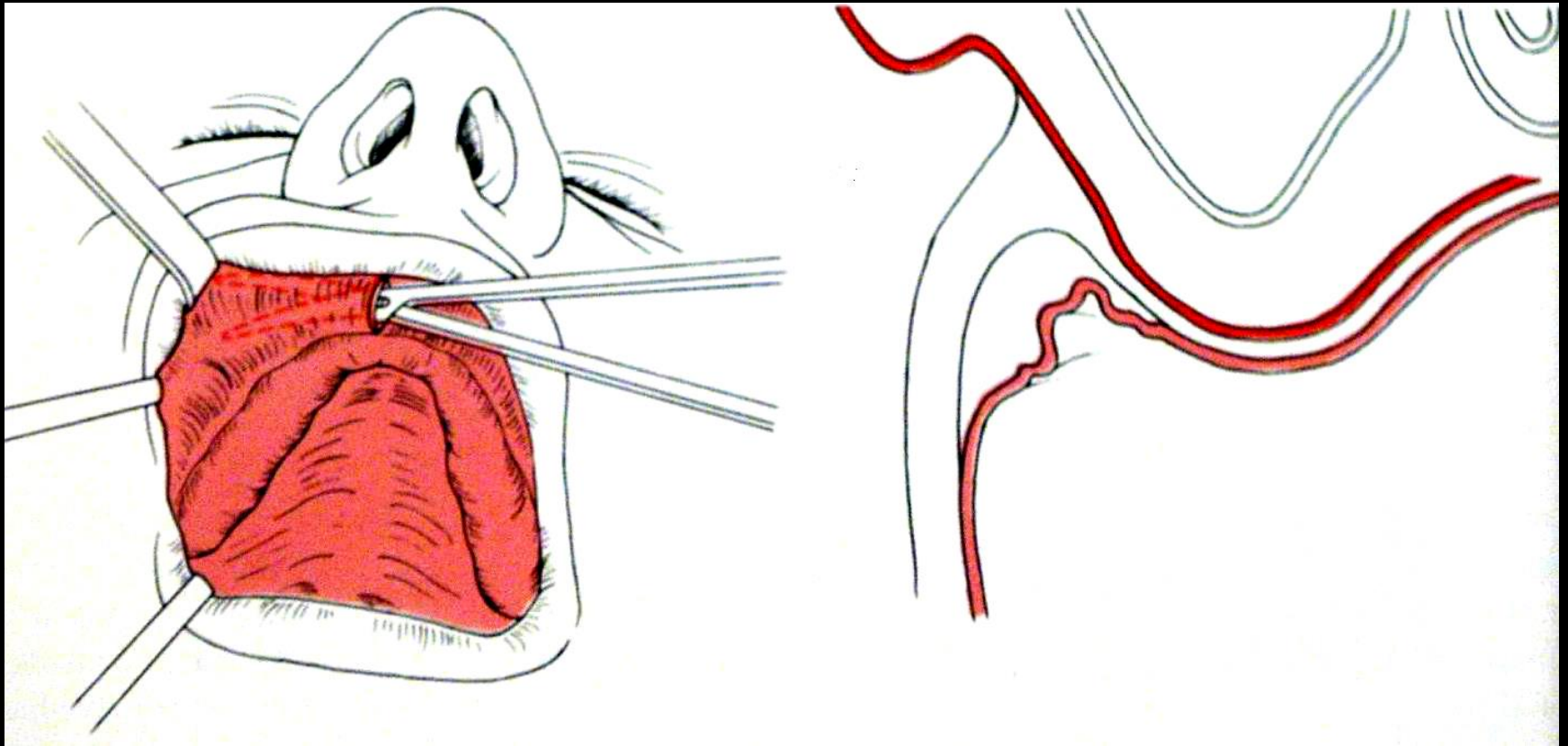
# Preprosthetic operations

- soft tissue surgery
- bony recontouring
- bone replacement
- (insertion of dental implants)

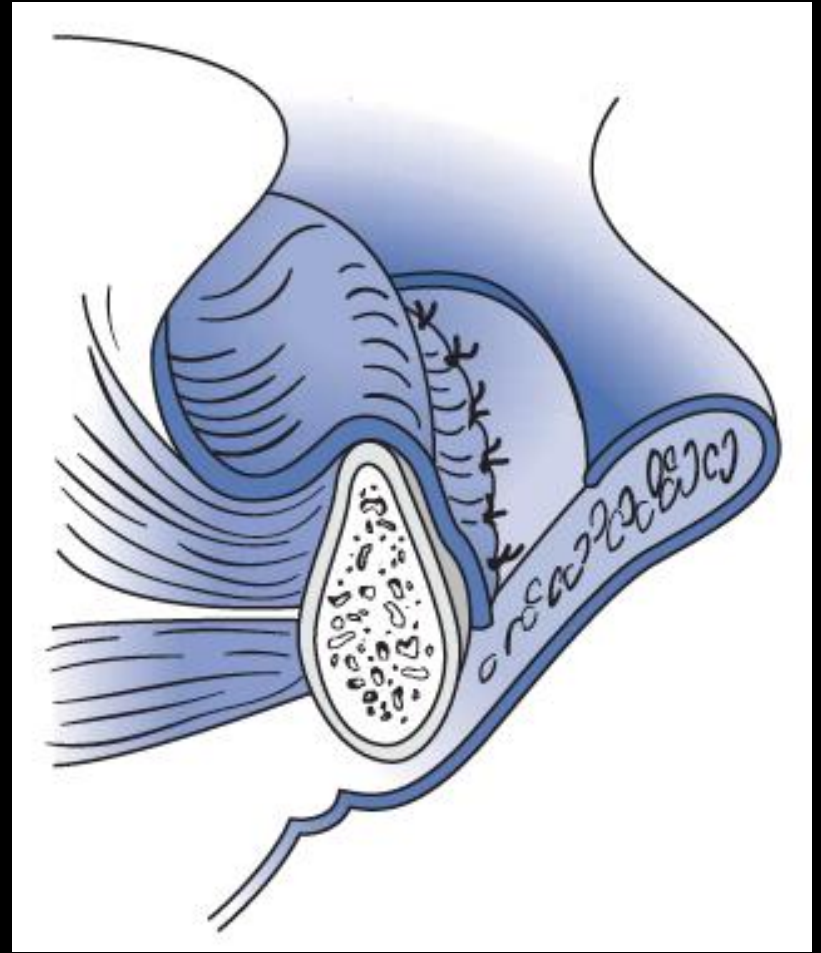
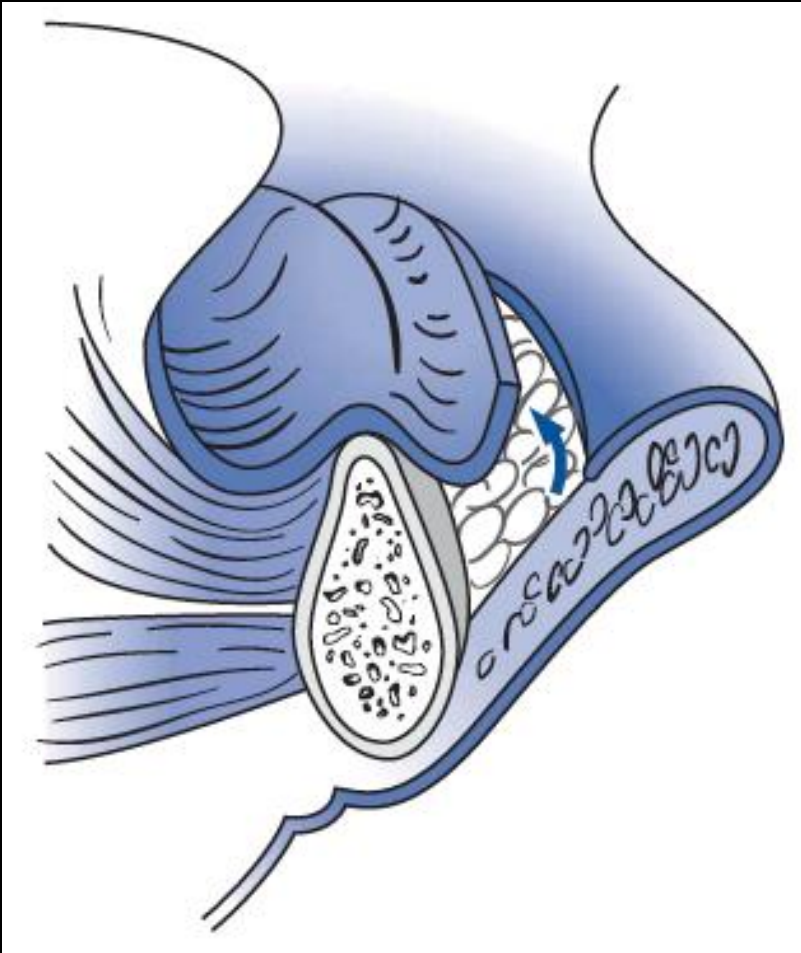
# Soft tissue operations

- labial, lingual frenulectomy (Z, Y plasty)
- vestibuloplasty (open, closed or submucosus)
- lowering of the floor of the mouth
- maxillary soft tissue tuberosity reduction
- unsupported hypermobile (flabby) tissue removal
- removal of inflammatory fibrous hyperplasia (granuloma fissuratum)
- removal of inflammatory papillary hyperplasia of palate (fungal infection, mechanical irritation)

# Vestibuloplasty– Submucosus

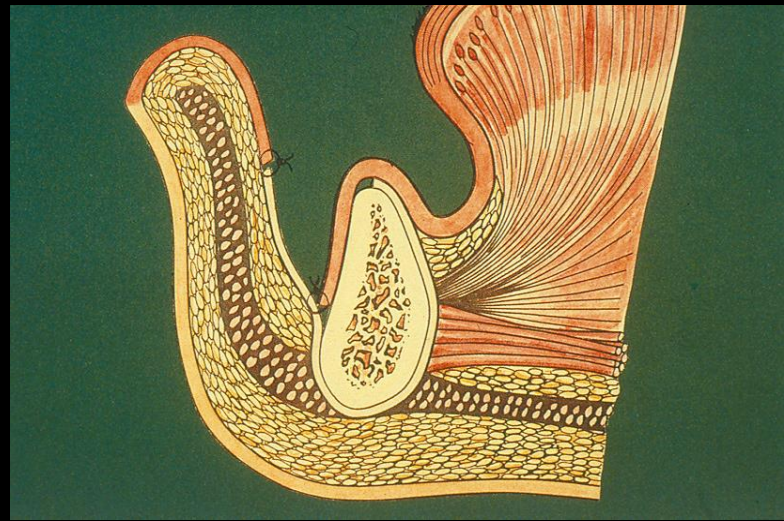
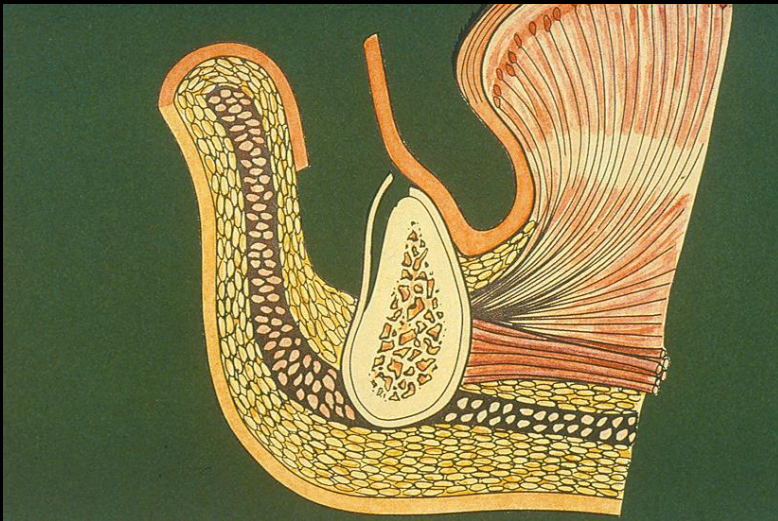


## Vestibuloplasty– Kazanjian flap





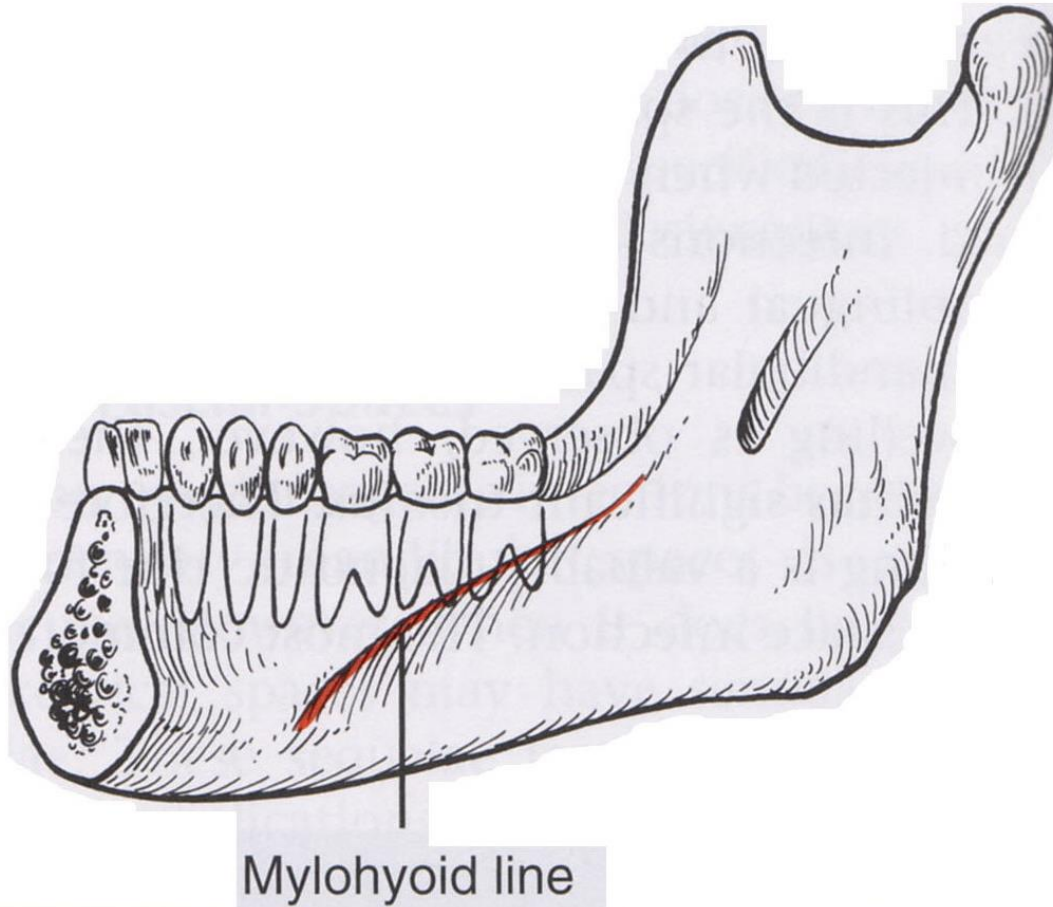
# Vestibuloplasty— Edlan-Mejcher (1963)



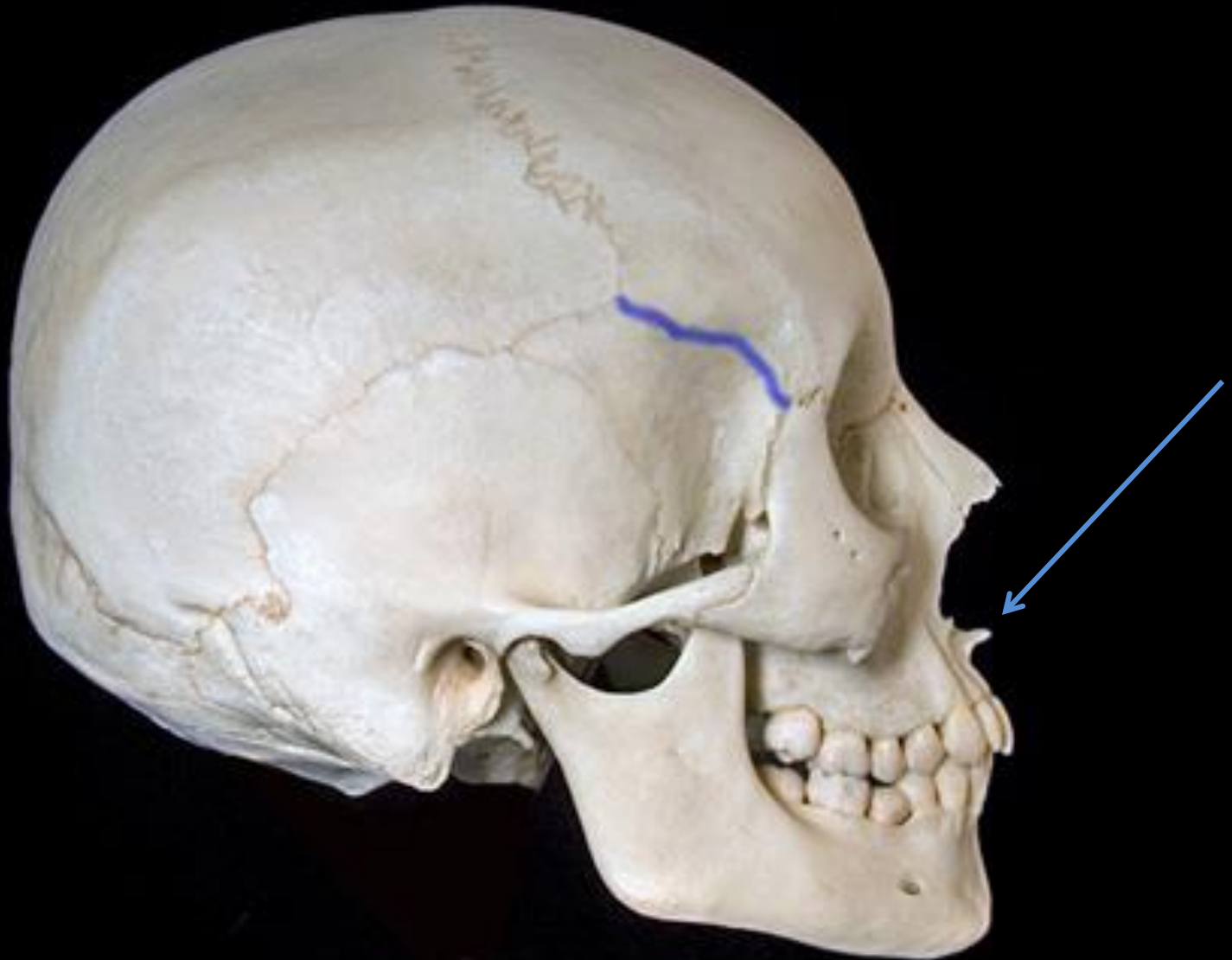
# Bony recontouring

- bony recontouring of the alveolar ridges
- recontouring of knife-edge ridges
- transposition of inferior alveolar nerve
- maxillary tuberosity reduction
- tori removal (maxillary and mandibular)
- removal of mylohyoid line (posterior 1/3)
- removal of anterior nasal spine

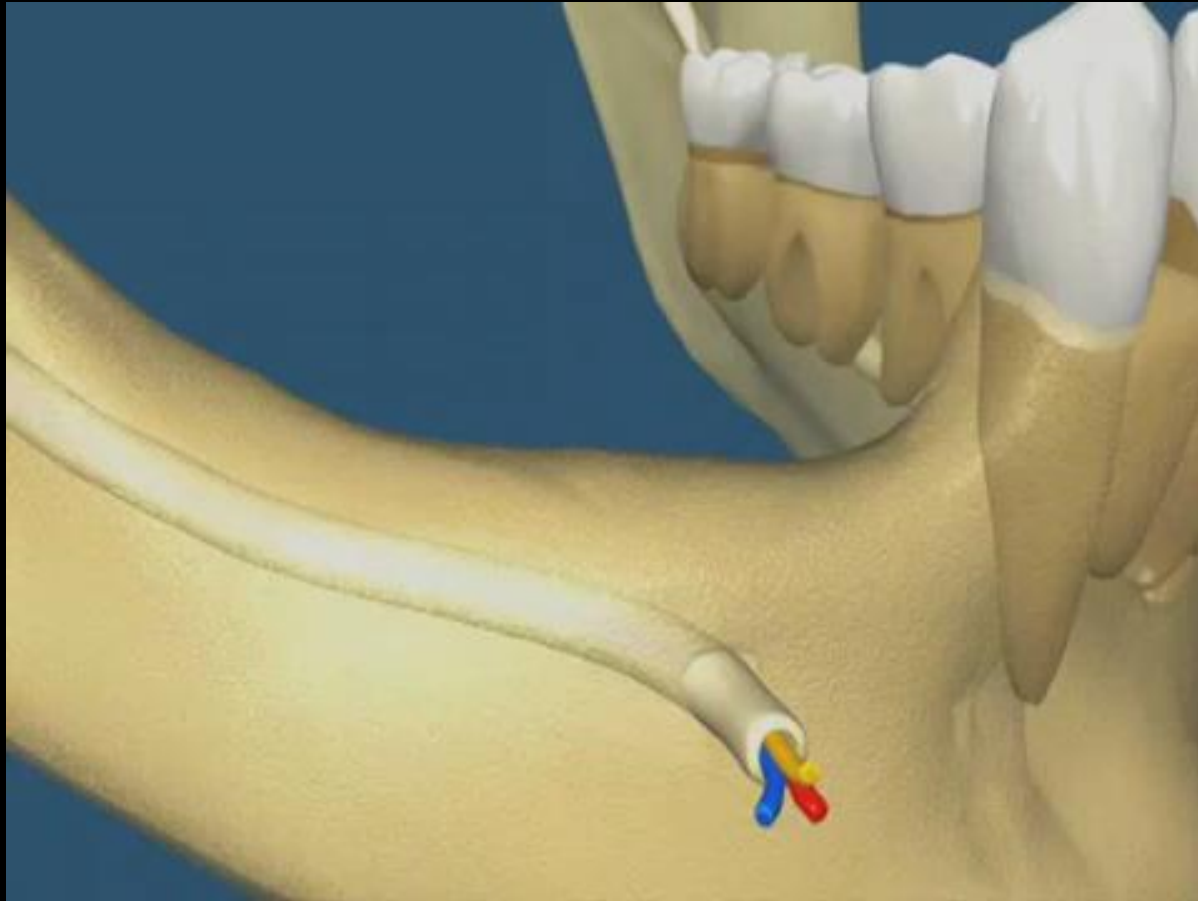
# Removal of mylohyoid line



## Removal of anterior nasal spine



# Transposition of inferior alveolar nerve

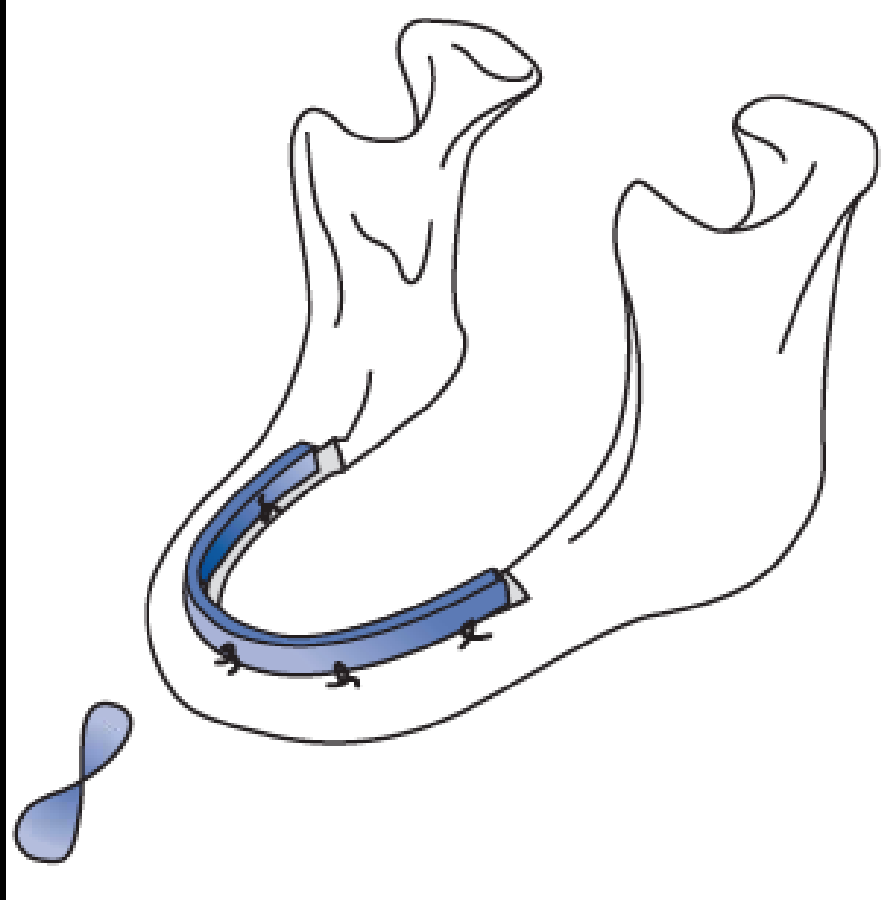


# Bone augmentation

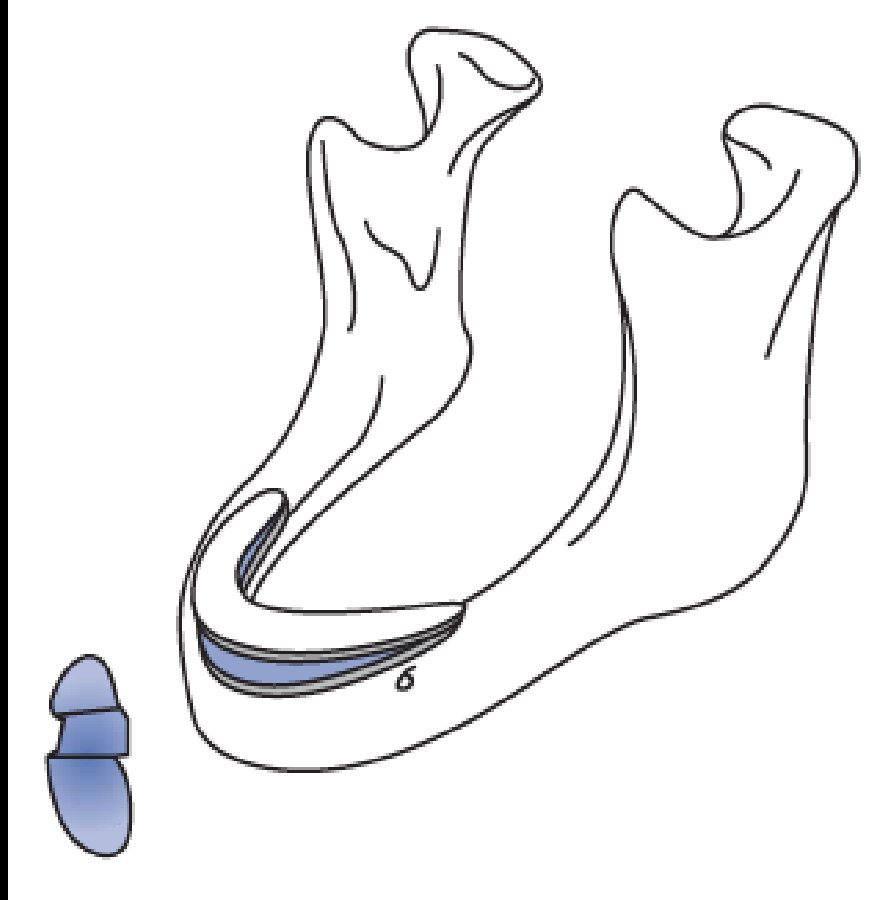
- with autogenous bone or with bone substitution materials (Biomaterials lecture)
- augmentation of alveolar ridge
- maxillary sinus augmentation (dental implants)

**AUTOGENIC  
ALLOGENIC  
ALLOPLASTIC  
XENOGENIC**

# Vertical (visor) osteotomy

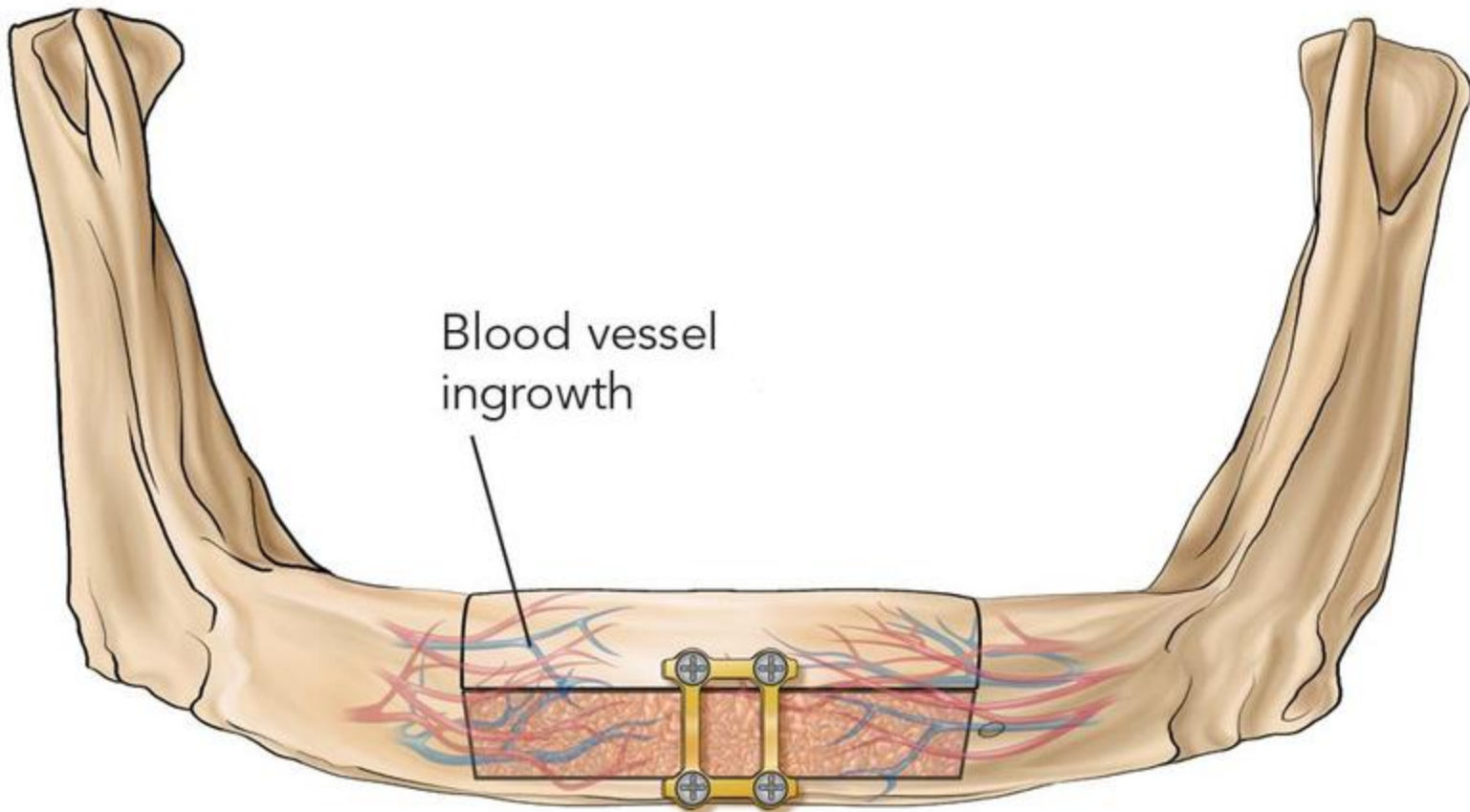


# Horizontal (sandwich) osteotomy

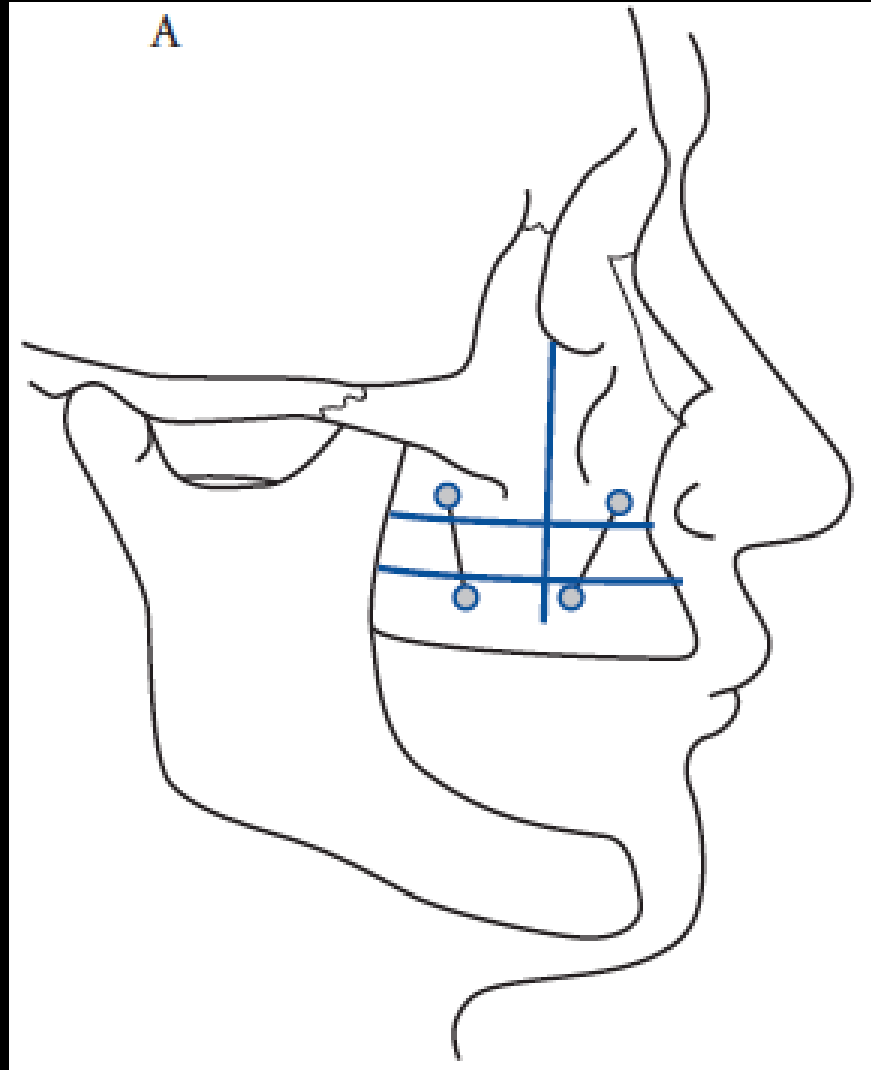




Blood vessel  
ingrowth



# Le Fort I. (Horsshoe) osteotomy



Good alveolar ridge is a prerequisite for successful conventional denture.