Operational techniques in periodontology

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PERIODONTIUM

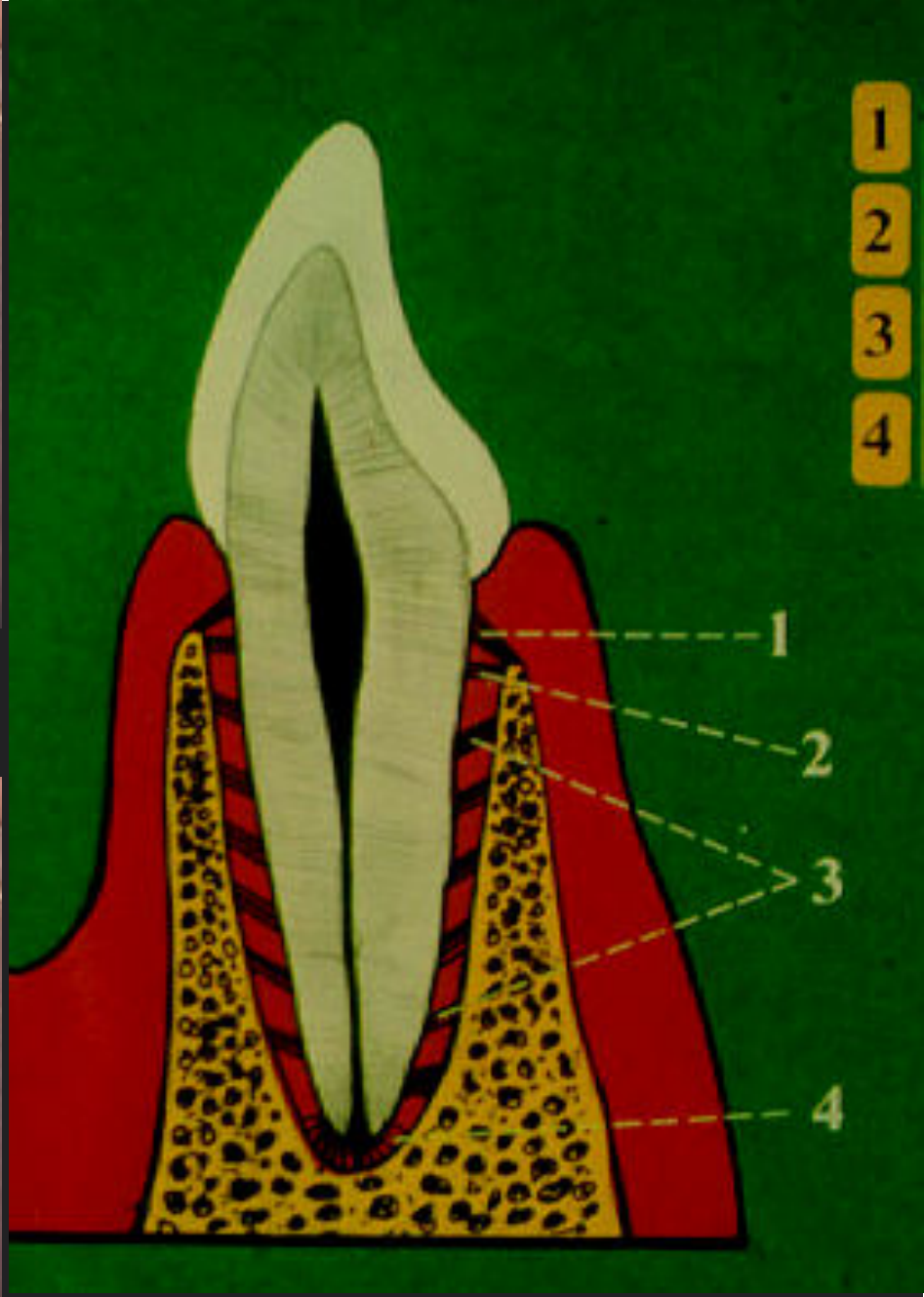
SUPPORTING TISSUES OF THE TEETH

1 . GINGIVA

2. CEMENTUM

3. PERIDONTAL (SHARPEY'S) LIGAMENTS

4. ALVEOLAR BONE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DENTAL PLAQUE - CAUSATIVE FACTOR OF MOST PERIODONTAL DISEASES

MASSIVE SUPRAGINGIVAL DENTAL CALCULUS

QUITE GOOD ORAL HYGIENE, BUT HUGE QUANTITY SUBGINGIVAL CALCULUS FORMATION

Dental plaque

Gingivitis

Periodontitis

GINGIVITIS:

DISEASE OF THE FREE GINGIVAL MARGIN

DEFENSIVE MECHANISMS AGAINST DENTAL PLAQUE

TOOTH MOBILITY

ATTACHEMENT-LOSS

PERIODONTITIS:

IRREVERSIBLE DERANGEMENT OF THE ATTACHING APPARATUS

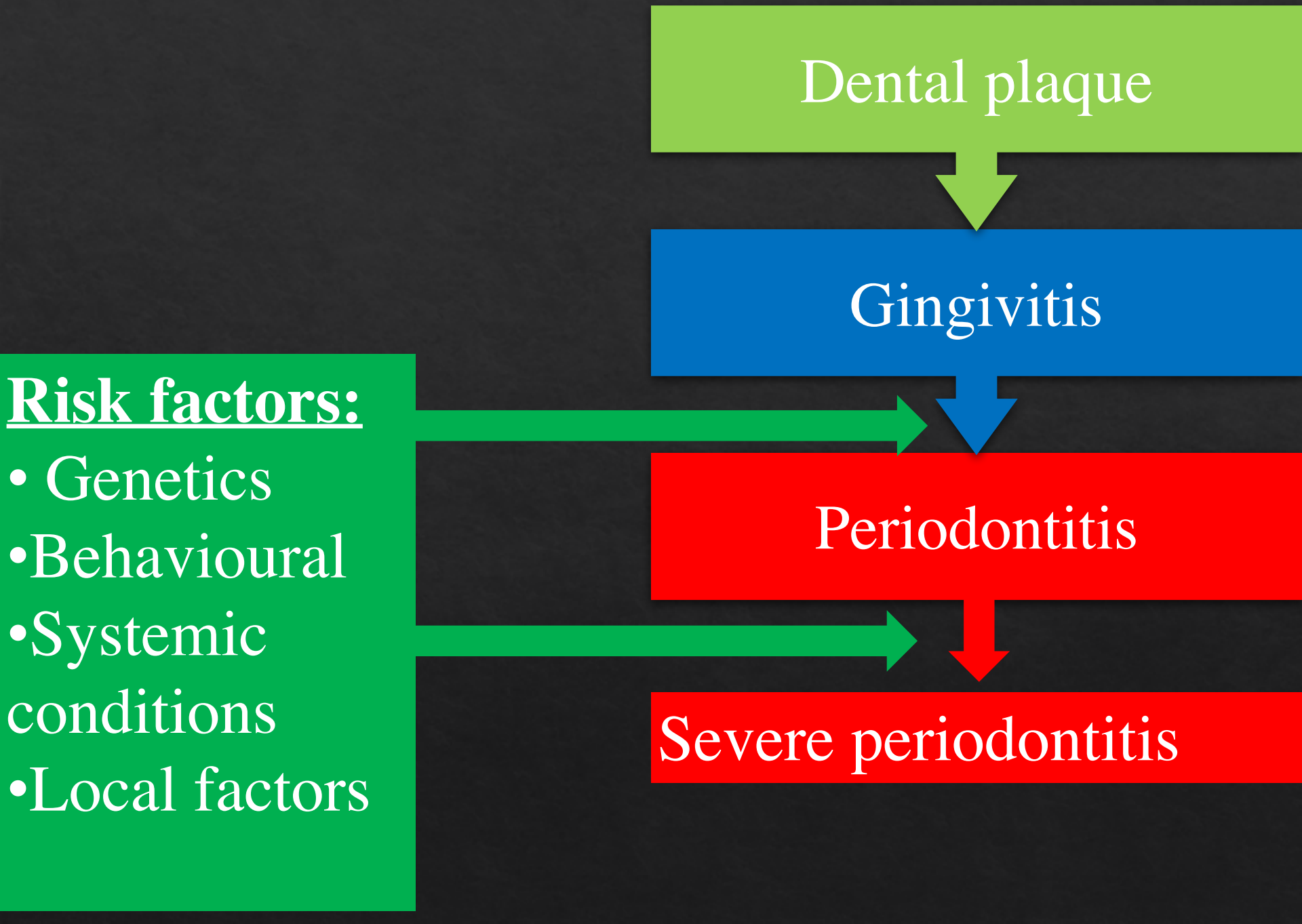
RESULT OF THE INSUFFICIENT GINGIVAL IMMUN-DEFENSE

Dental plaque

WHY DOES NOT EVERYBODY WITH POOR ORAL HYGIENE SUFFER FROM PERIODONTITIS???

Gingivitis

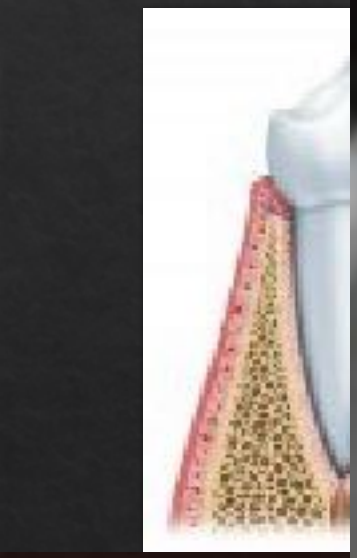
Periodontitis

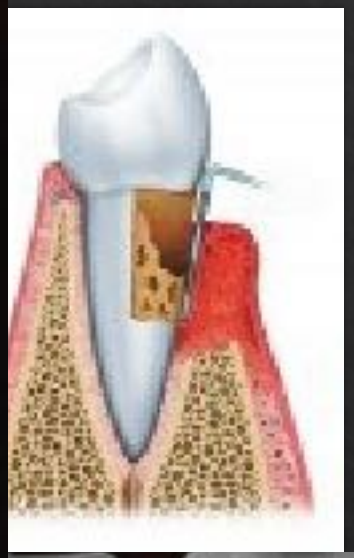

Dental plaque
Gingivitis
Periodontitis
Severe periodontitis
Risk factors:
• Genetics
•Behavioural
•Systemic conditions
•Local factors

ROBUST SUPRA- AND SUBGINGIVAL PLAQUE AND CALCULUS

THE SUBGINGIVAL PLAQUE EXISTS INDEPENDENTLY, CREATES A MASSIVE BIOFILM, WHICH CAN BE ELIMINATED ONLY BY MECHANICAL MEANS OF PROFESSIONAL CLAENING

Progression: pocket formation, bone- and attachement loss





SEVERE ALVEOLAR BONELOSS

Cause related periodontal treatment: forgo the surgical therapy

Types of periodontal surgical therapy, aims

1. *Resective period. surgery*
2. *Regenerative surgery*
3. *Mucogingival (perio plastic) surgery*

Aims:

• support cause related period. treatment, thorough root surface debridement with visual control

• pocket depth reduction (establish complete inflammaton-free state)

• regain attachment, improve prognosis of the teeth

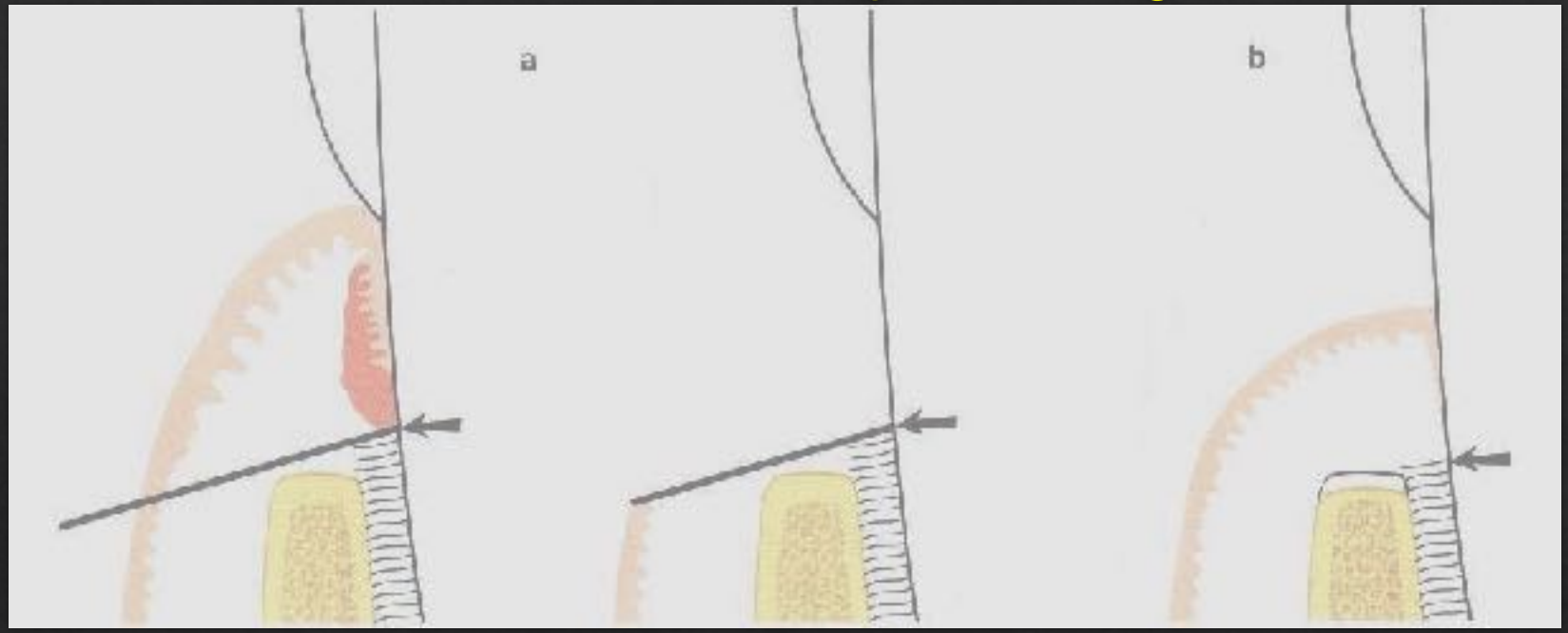
• gain a marginal gingiva and bone contour, which functions and looks like as the original one

• improve esthetics, (reduce cervical hypersensitivity)

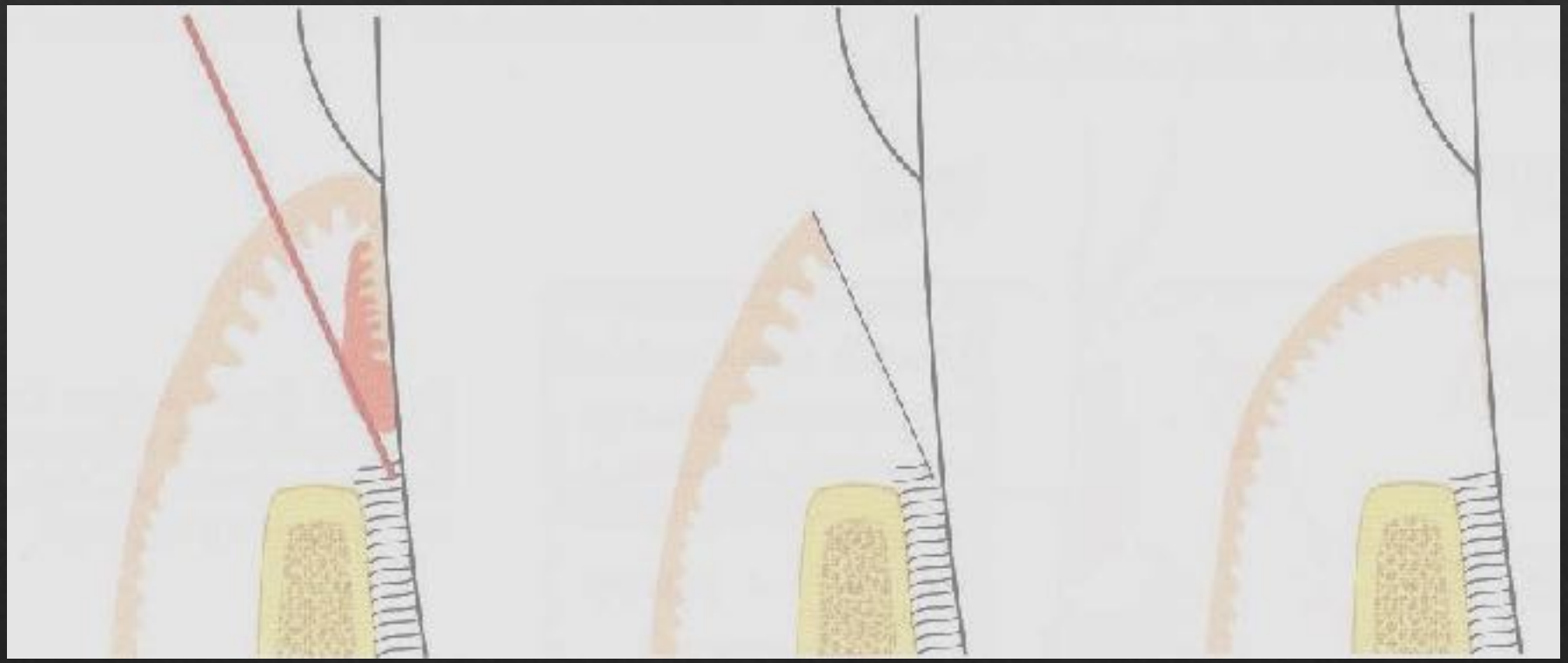
I. Resective period. surgical techniques

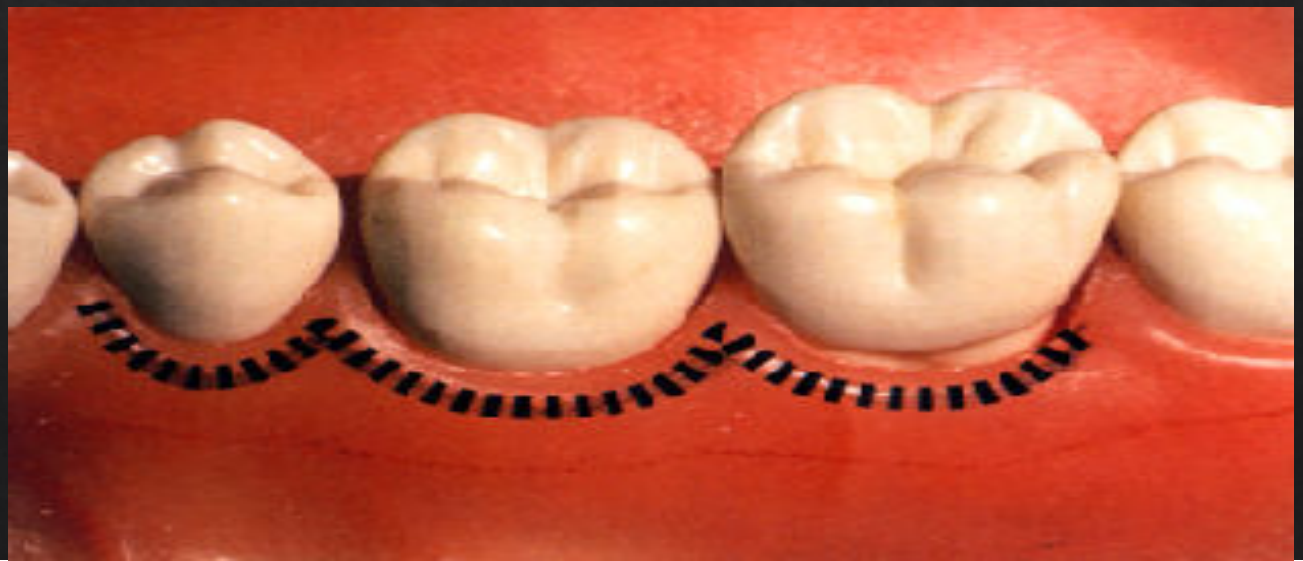
- *Gingivectomy (conventional, internal bevelled reversed)*
- *Apically transpositioned flap*
- *Modified- Widman flap*

I. Resective: Gingivectomy

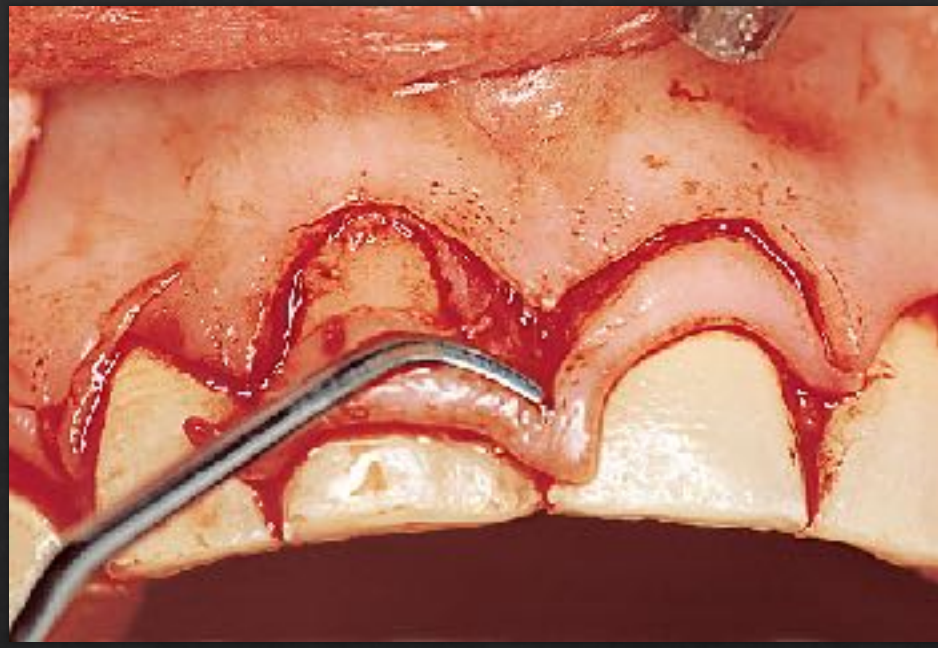


Internal bevelled reversed incision





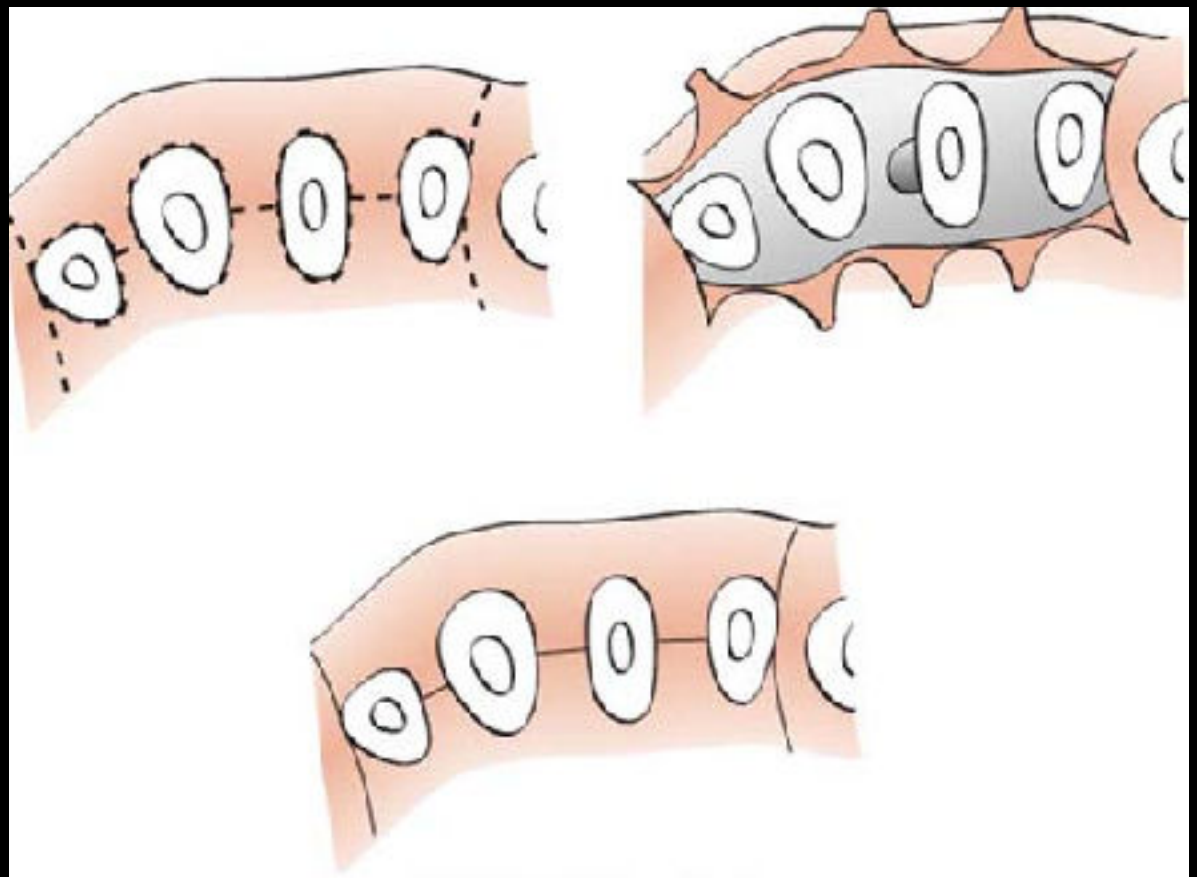
I. Resective: internal bevelled reversed gingivectomy



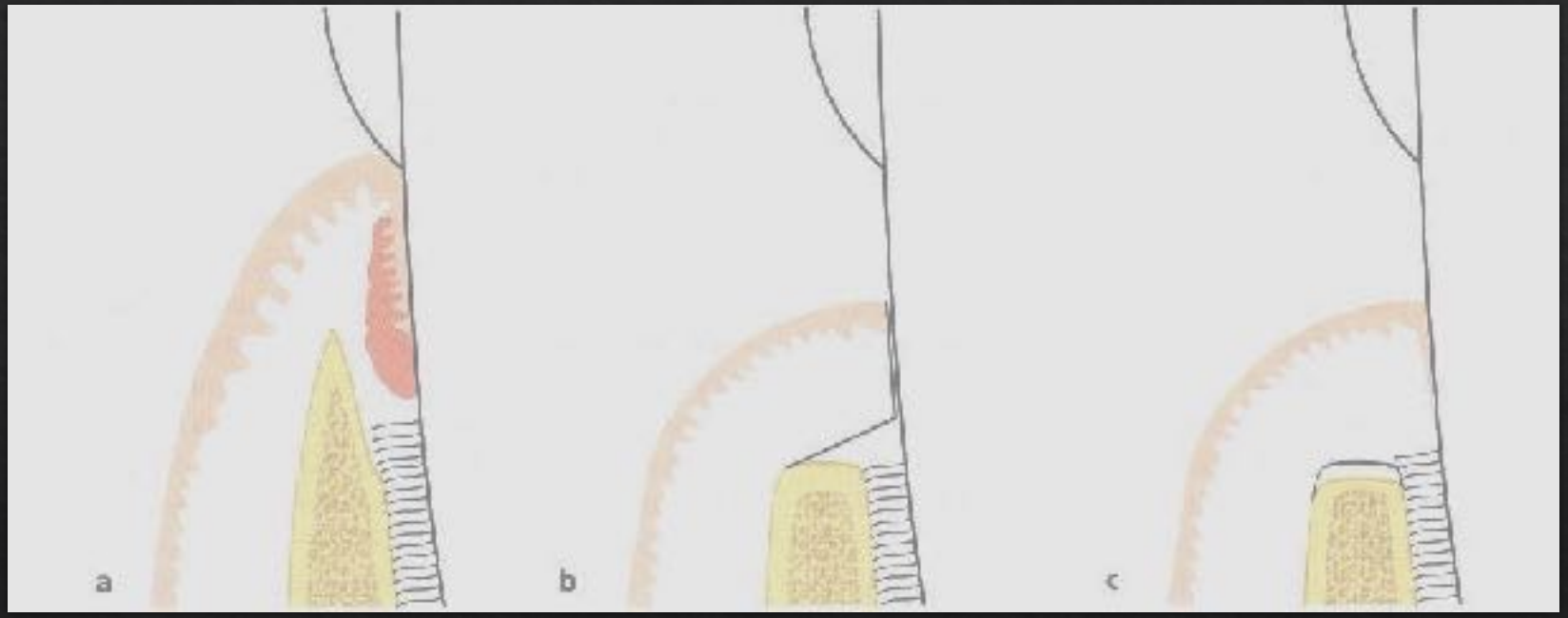
I. Resective: internal bevelled reversed gingivectomy

I. Resective: pocket surgery with flaps!!

THE INCISION FOLLOWS THE ORIGINAL GINGIVAL CONTOUR AND WE CUT THROUGH THE PAPILLA INTERDENTALLY IN THE MIDDLE, TRY TO PRESERVE AS MUCH GINGIVAL TISSUES AS POSSIBLE TO GAIN A BETTER INTERDENTAL FLAP CLOSURE



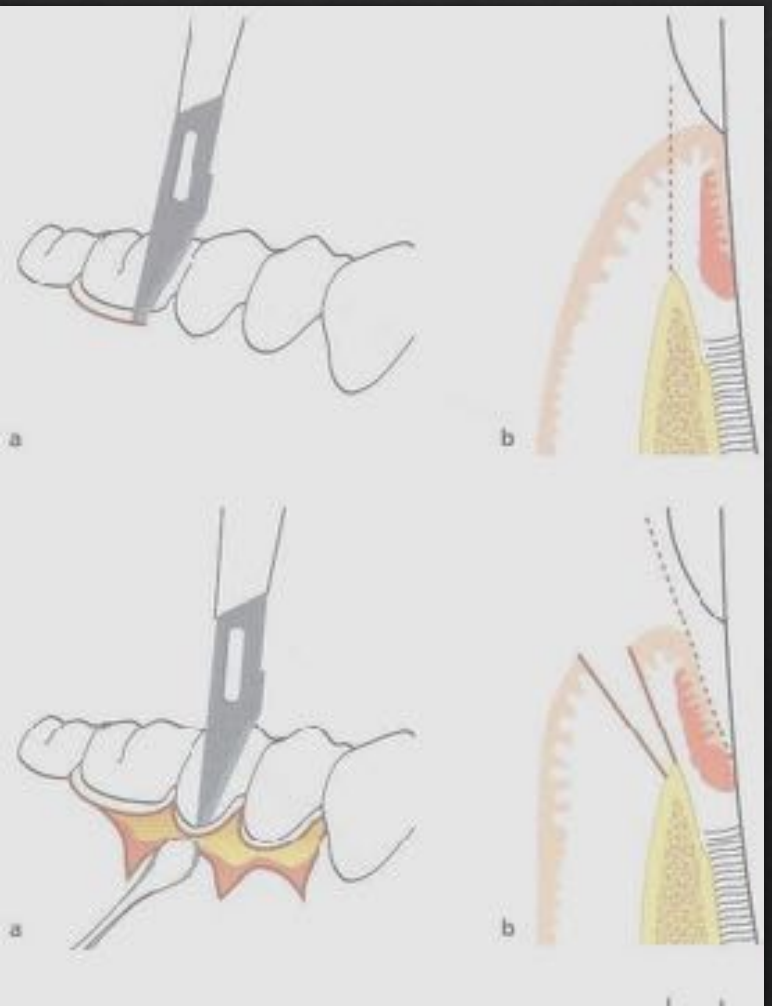
I. Resective: apically transpositioned flap

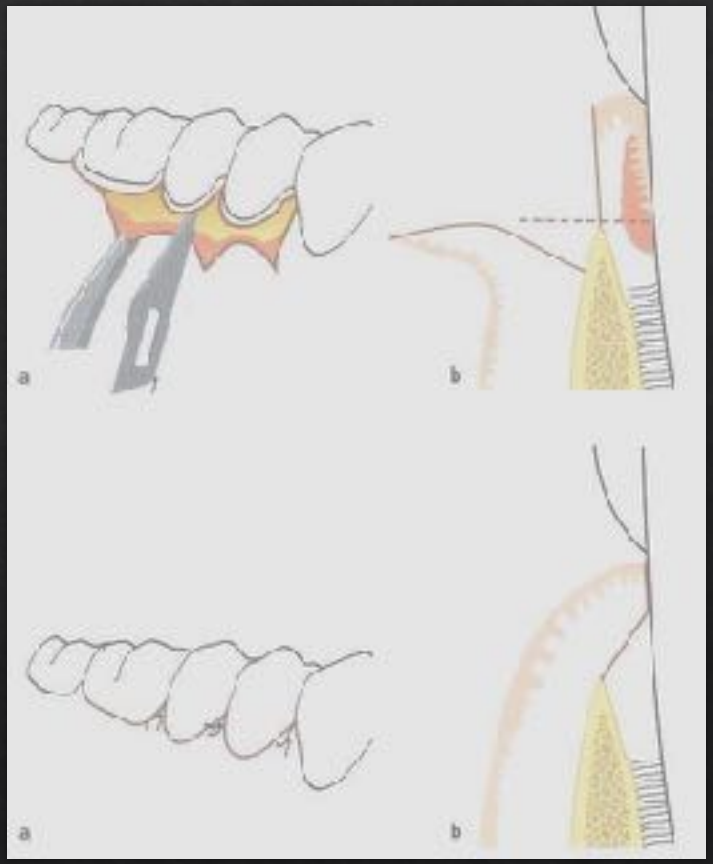


APICALLY TRANSPOSITIONED FLAP AIMING POCKET DEPTH REDUCTION

APICALLY TRANSPOSITIONED FLAP + OSTECTOMY

I. Resective: modified-Widman flap





I. Rezektív: modified-Widman flap

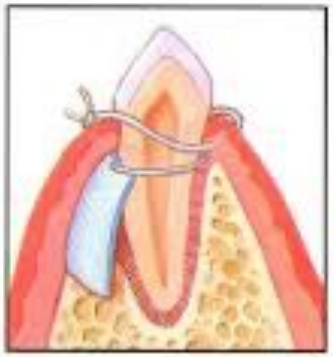
I. Resective: modified-Widman flap

II. Regenerative surgical techniques:

- GTR (guided tissue regeneration)= MEMBRANES
- Biological modifiers (ENAMEL MATRIX PROTEIN=Emdogain)
- Bone fillers
- Combined techniques

II. Regenerative: GTR

After cleaning, a special membrane is inserted between the gum and bone.

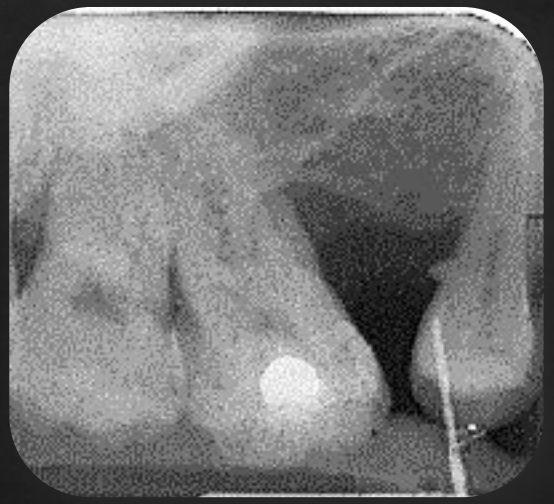


The membrane blocks unwanted tissue, allowing ligament fibers and bone to grow. Once strong ligament fibers attach root to bone, the membrane dissolves or is removed.

Needleman IG, Worthington HV, Giedrys-Leeper E, Tucker RJ. Guided tissue regeneration for periodontal infra-bony defects. *Cochrane Database Syst Rev*. 2006 Apr 19;(2):CD001724. Review.

II. Regenerative: GTR

Initial state



II. Regenerative: GTR

Incision, flap elevation

II. Regenerative: GTR

Flap releasing, membrane shaping

II. Regenerative: GTR

Defect filling with bone substitute, covering it with the membrane

II. Regenerative: GTR

Wound closure, control X-ray

II. Regenerative: GTR

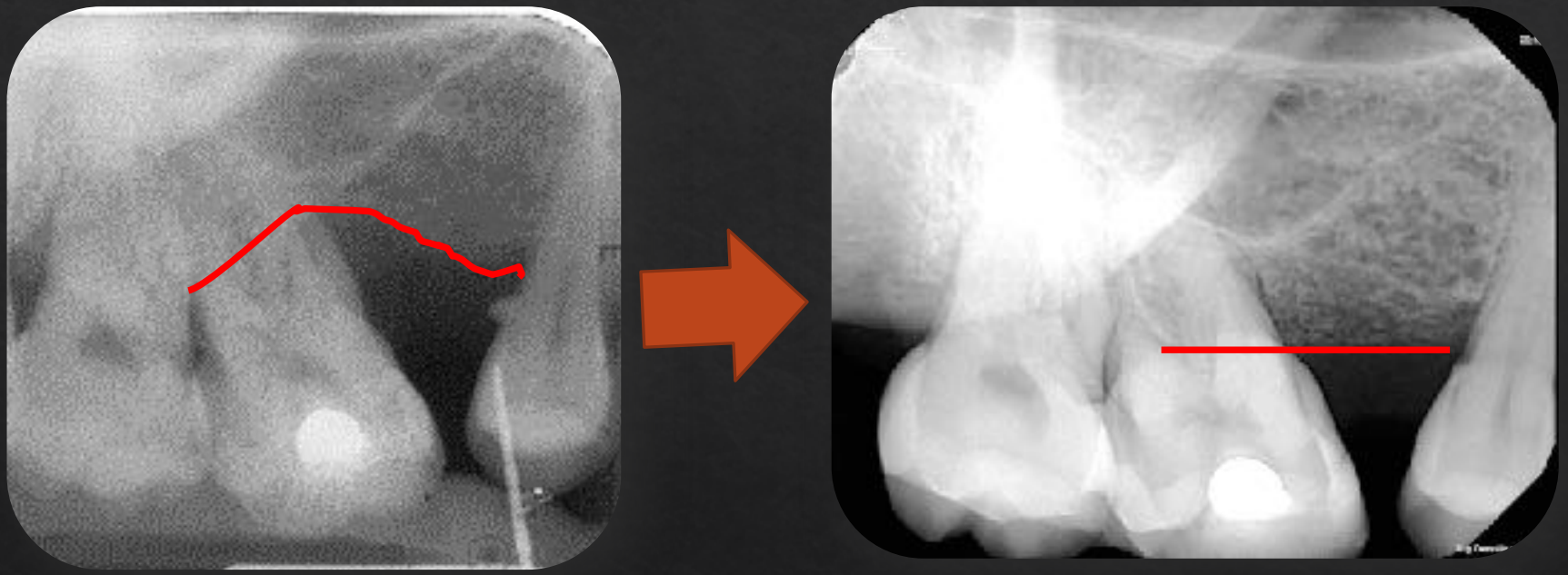
1 week postoperative

2 weeks postoperative

II. Regenerative: GTR

Initial

II. Regenerative: GTR
Half year postoperative



II. Regenerative: Emdogain (enamel matrix protein)

Tonetti MS, Lang NP, Cortellini P, et al. *Enamel matrix proteins in the regenerative therapy of deep intrabony defects. J Clin Periodontol 2002;29:317-325.*

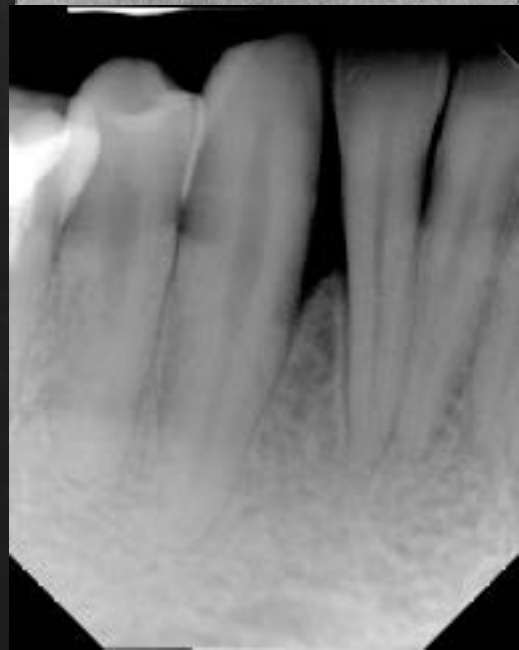
II. Regeneratív: Emdogain (zománcmártix protein)

Preoperative clinical and radiological pictures

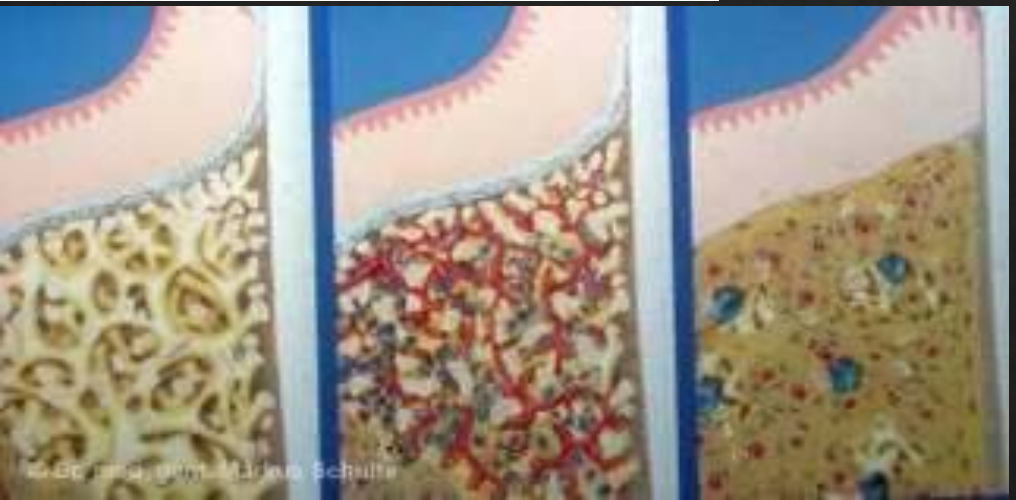
II. Regenerative: Emdogain (enamelmatrix protein)

II. Regeneratív: Emdogain (zománcmártix protein)

9th month result



II. Regenerative: Bone fillers

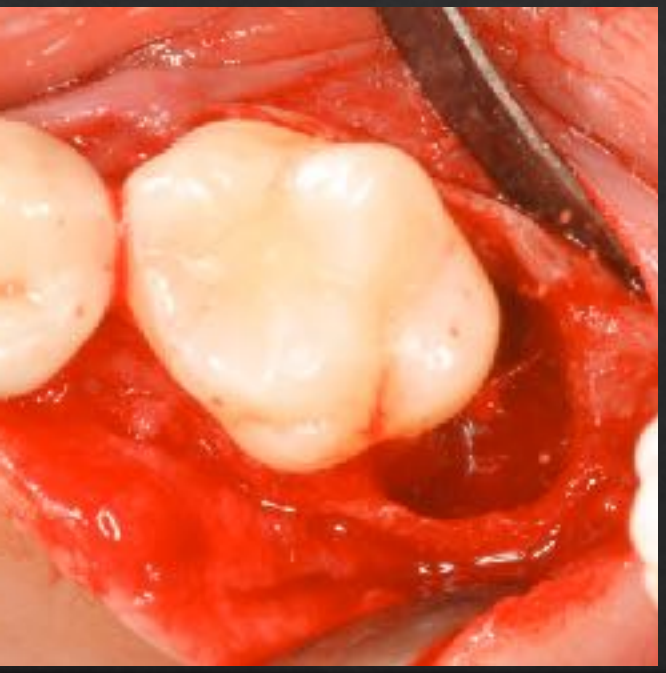


II. Regenerative:Combination (Emdogain + bone filler)

Preoperative clinical and radiological pictures

II. Regenerative:Combination(Emdogain + bone filler)

Root surface modification with Emdogain and filling the defect with mixed bone fillers



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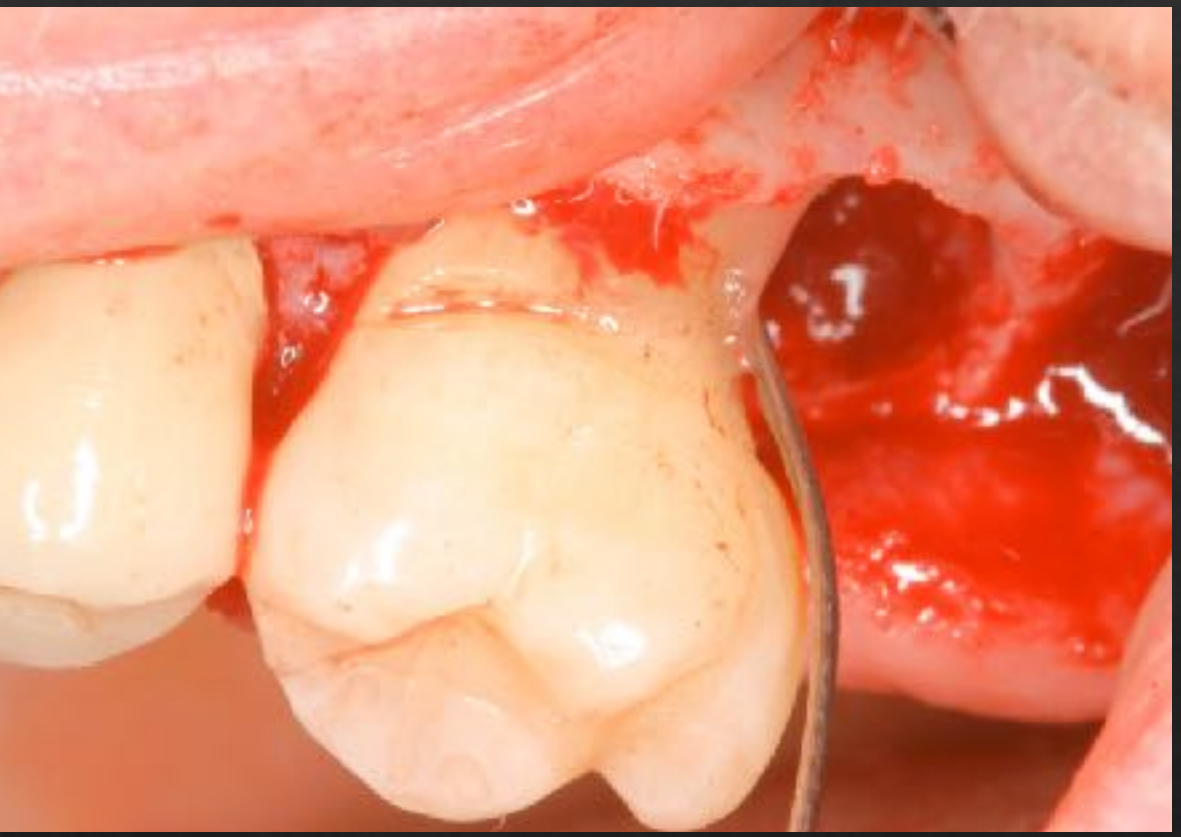
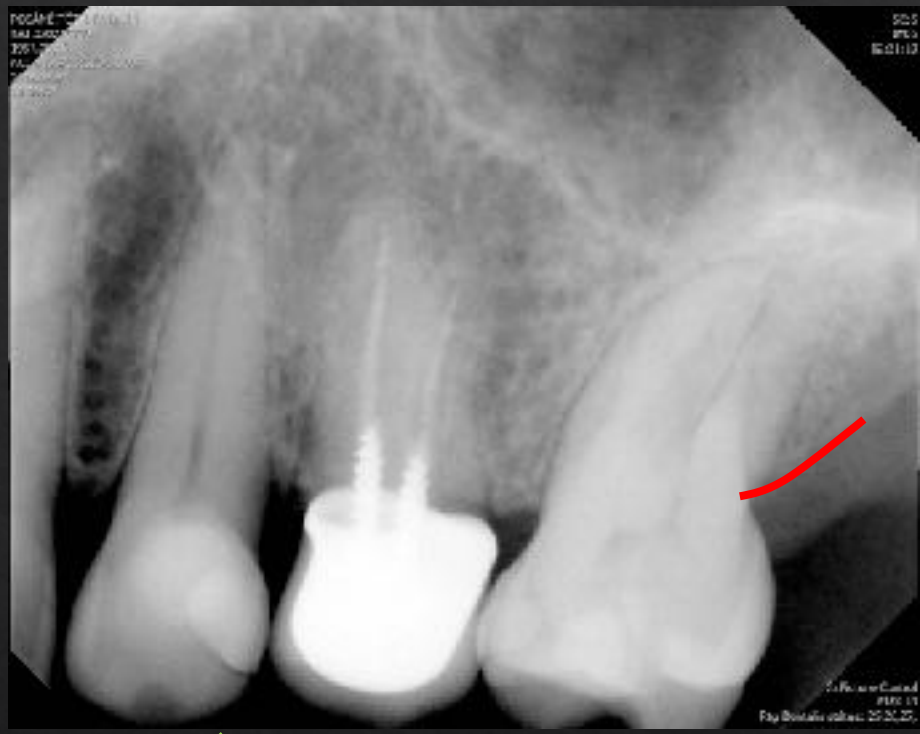


II. Regenerative:Combination(Emdogain + bone filler)

6 months radiological result



III. Mucogingival surgery

- **Gingival recession's coverage**
- Narrow attached gingiva widening
- Negative papilla
- Gingival asymmetry
- Shallow vestibular fold

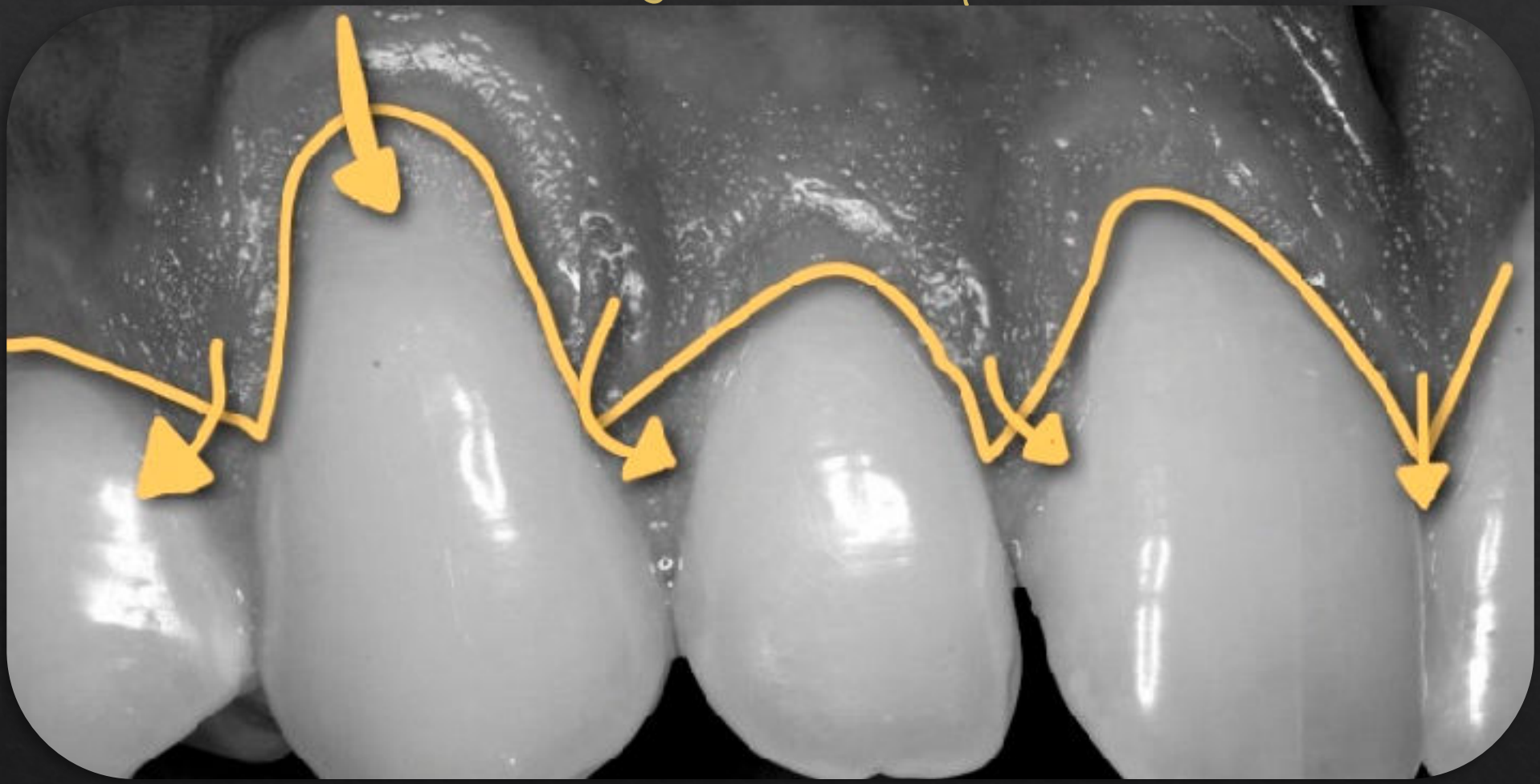
III. Mucogingival surgery: recession coverage

Initial state

The modified coronally advanced flap (MCAF) + connective tissue graft

III. Mucogongivalis sebészet: ínyrecesszió fedése

The modified coronally advanced flap (MCAF)(MCAF)



Zucchelli G, De Sanctis M. The coronally advanced flap for the treatment of multiple recession defects: a modified surgical approach for the upper anterior teeth. *J Int Acad Periodontol*. 2007 Jul;9(3):96-103.

III. Mucogingival surgery: recession coverage

Submarginal bevelled incisions, the flap, deepithelialisation of the papillas, connective tissue graft from the palate

Root surface biomodification, securing the connective tissue graft

EDTA

Emdogain

Sutures, coronally positioning

Palate

Preoperative and postoperative pictures

1 year after

III. Mucogingival surgery: recession coverage

Initail and current sate

Initial

Current

III. Mucogingival surgery: recession coverage

Initial state

Aroca S, Keglevich T, Nikolidakis D, Gera I, Nagy K, Azzi R, Etienne D.: Treatment of class III multiple gingival recessions: a randomized-clinical trial. *J Clin Periodontol*. *2010* Jan;37(1):88-97.

III. Mucogingival surgery: recession coverage

Root planing

Conditioning (EDTA)

Coronally advanced modified tunnel technique

III. Mucogingival surgery: recession coverage

Connective tissue graft harvesting from the palate

Hürzeler, M. & Weng, D.: A single-incision technique to harvest subepithelial connective tissue graft from the palate. *International Journal of Periodontics and Restorative Dentistry 1999* 19: 279–287

III. Mucogingival surgery: recession coverage

Pulling in the graft under the tunnel flap

III. Mucogingival surgery: recession coverage

Stabilize the tunnel flap coronally with sutures and applying Emdogain

III. Mucogingival surgery: recession coverage

Preoperative and postoperative pictures

QR code is coming

Thank You for Your attention ☺