Curettage and Gingivectomy

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Curettage
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- Curettage and esthetics
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- Healing after curettage
- Clinical appearance after curettage

DEFINITION

- The word curettage used in periodontics mean "The scraping of gingival wall of periodontal pocket to separate diseased soft tissue".

- GINGIVAL CURETTAGE: consists of removal of inflamed soft tissue lateral to the pocket wall.

- SUBGINGIVAL CURETTAGE: the procedure that is performed apical to the epithelial attachment severing the connective tissue attachment down to the osseous crest

- INADVERTANT CURETTAGE: some degree of curettage is done unintentionally when scaling and root planing are performed.

- However, they are separate procedures, with different rationales & indications and should be considered as saperate parts of periodontal treatment.

EXTENT OF GINGIVAL AND SUBGINGIVAL CURETTAGE

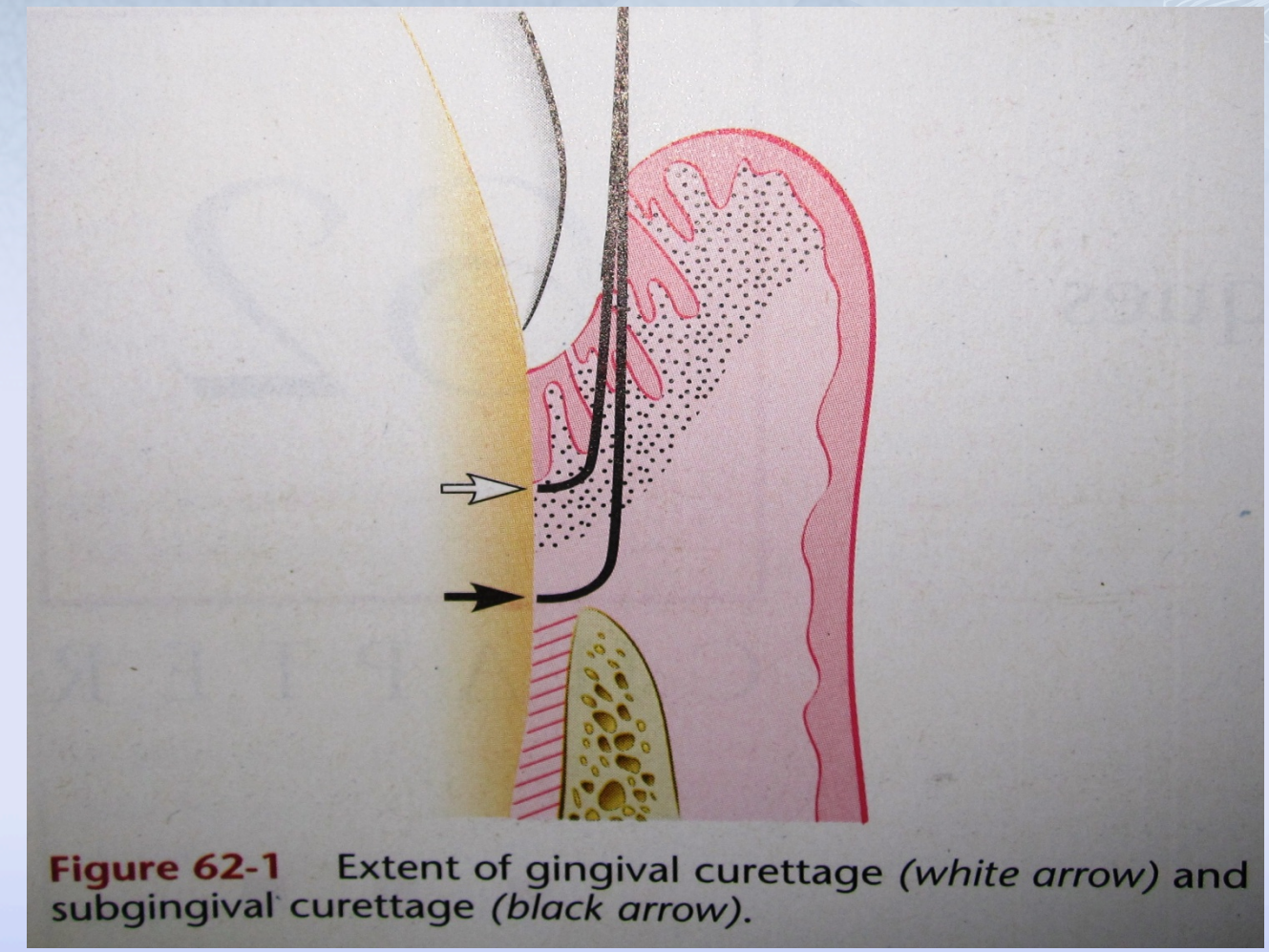


Figure 62-1 Extent of gingival curettage *(white arrow)* and subgingival curettage *(black arrow)*.

RATIONALE

- Curettage accomplishes the removal of chronically inflamed granulation tissue that forms the lateral wall of periodontal pocket.
- This inflamed granulation tissue is lined by epithelium, and deep strands of epithelium penetrate into the tissue.
- Presence of this epithelium construed as a barrier to the attachment of new fibers in the area.

- When root is thoroughly planed major source of bacteria disappear & pocket pathologic changes resolve with no need to eliminate inflamed granulation tissue by curettage.

- Because existing granulation tissue will slowly be resorbed by defense mechanism of host.

- Therefore the need for curettage only to eliminate inflamed granulation tissue appears **questionable**.

CURETTAGE & ESTHETICS

- Currently, esthetic is major concern of the therapy, particularly anterior maxilla & requires preservation of interdental papilla.

- A compromise therapy that is feasible in anterior maxilla, where access is not difficult consist of thorough subgingival root planing attempting not to detach the connective tissue beneath the pocket & *avoiding gingival curettage*

- Surgical technique specially designed to preserve the interdental papilla, such as papilla preservation technique result in better esthetic appearance of the anterior maxilla than do aggressive scaling and curettage of the area.

INDICATION

1. Very limited
2. As a part of new attachment procedure
3. In moderately deep intrabony pockets where open flap debridement not advisable
4. In patients with systemic diseases
5. In patients where inflammation does not subside
6. In maintenance phase where pocket or inflammation present after flap surgery.

Contraindications

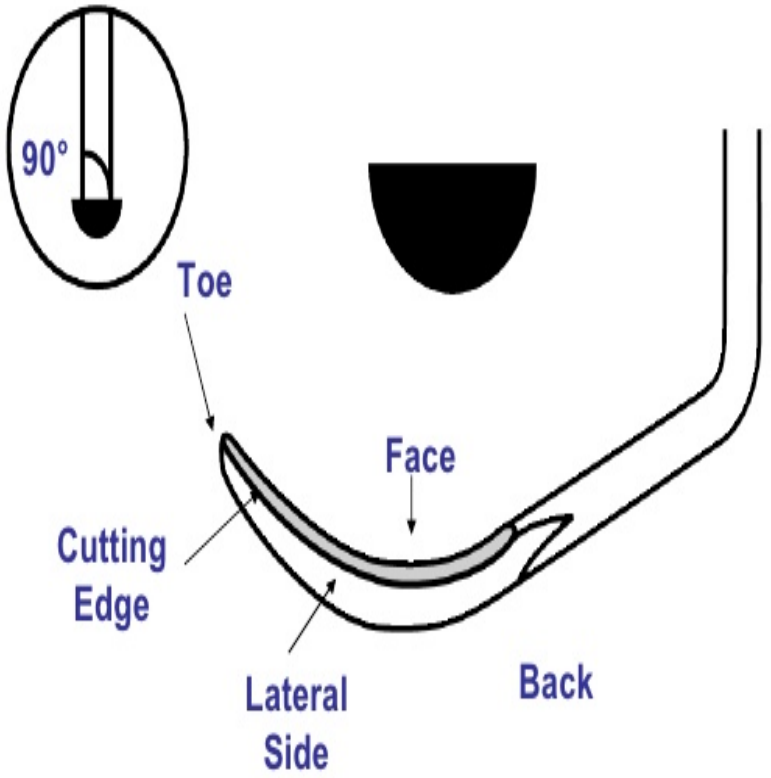
- Deep pockets: >5mm
- Fibrotic tissue
- Furcation involvement
- Treatment of undelying osseous defects.

Universal Curettes

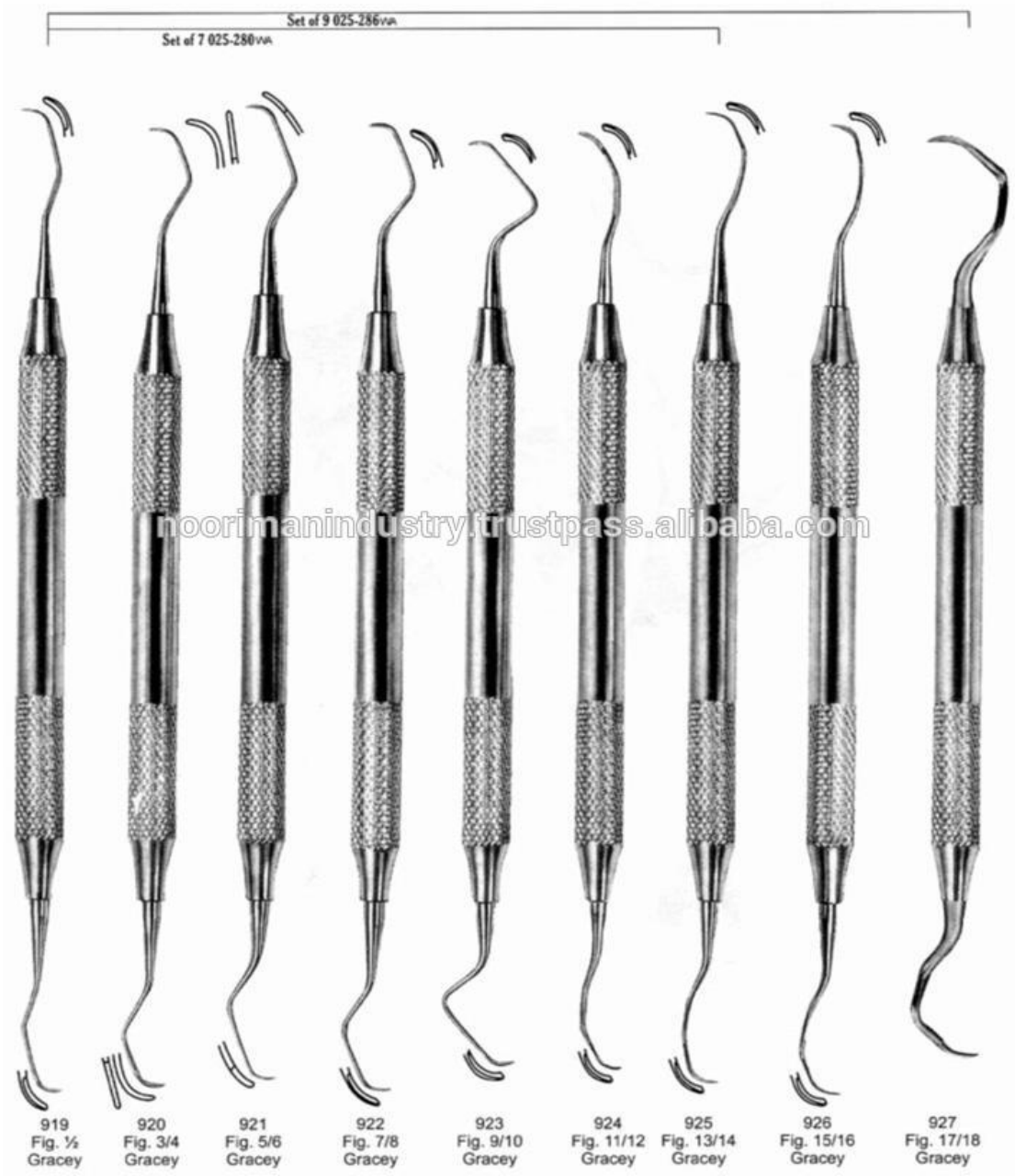
- Universal curettes are designed for easy adaptation on all tooth surfaces (thus the name “universal”).

Universal Curettes

The blade of a universal curette has a round toe and back, and two cutting edges for scaling, making it an efficient design for scaling the entire mouth.



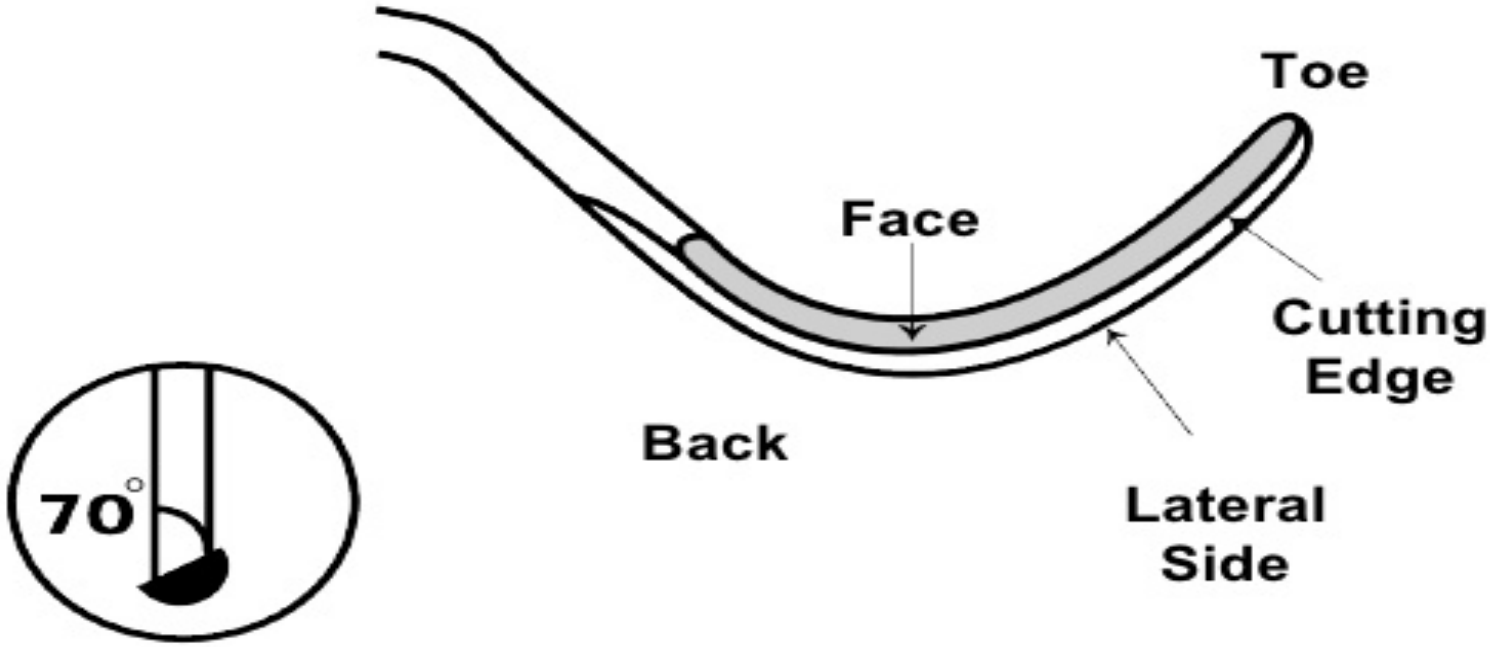
Periodontia Instruments Gracey Curettes



GRACEY CURETTS

Gracey Curettes

- The Gracey blade design is offset from the terminal shank at 70°.
- This creates one cutting edge which is referred to as the lower edge.

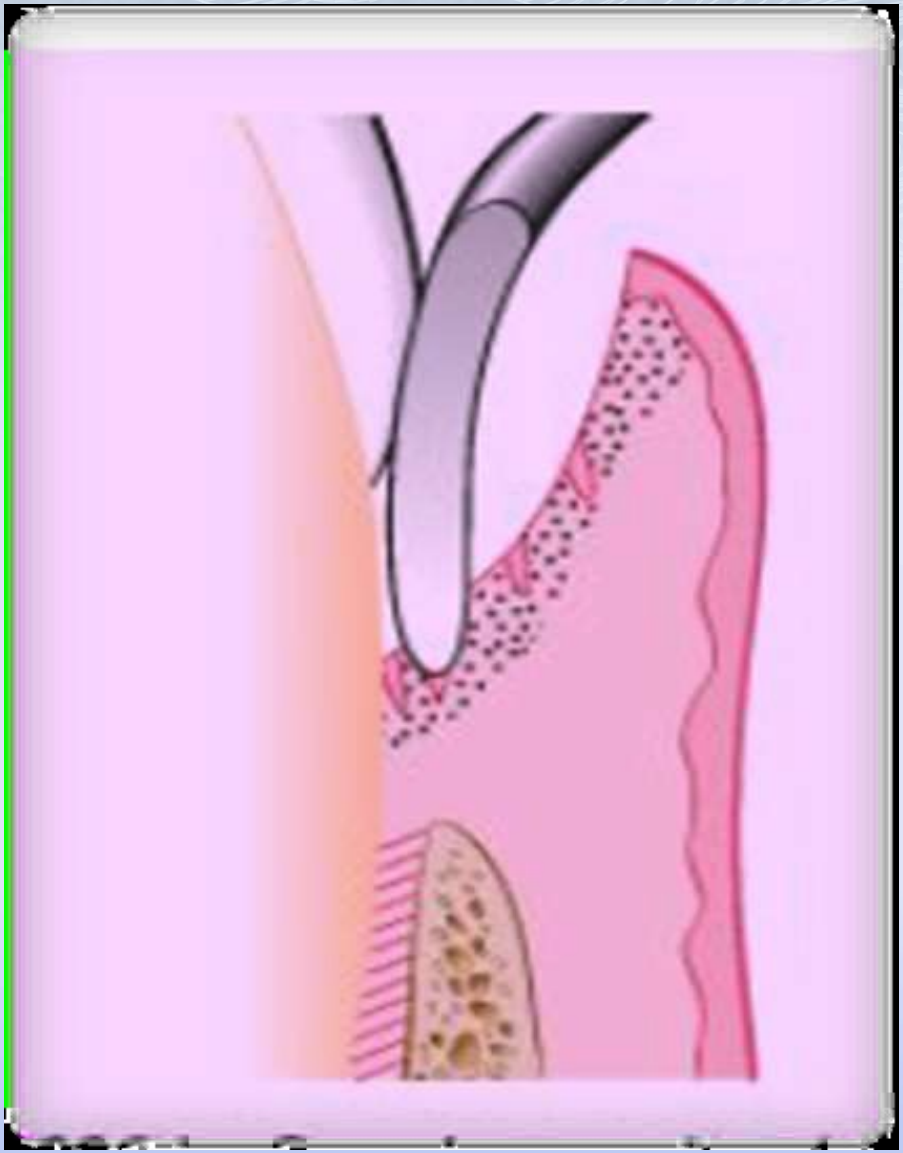


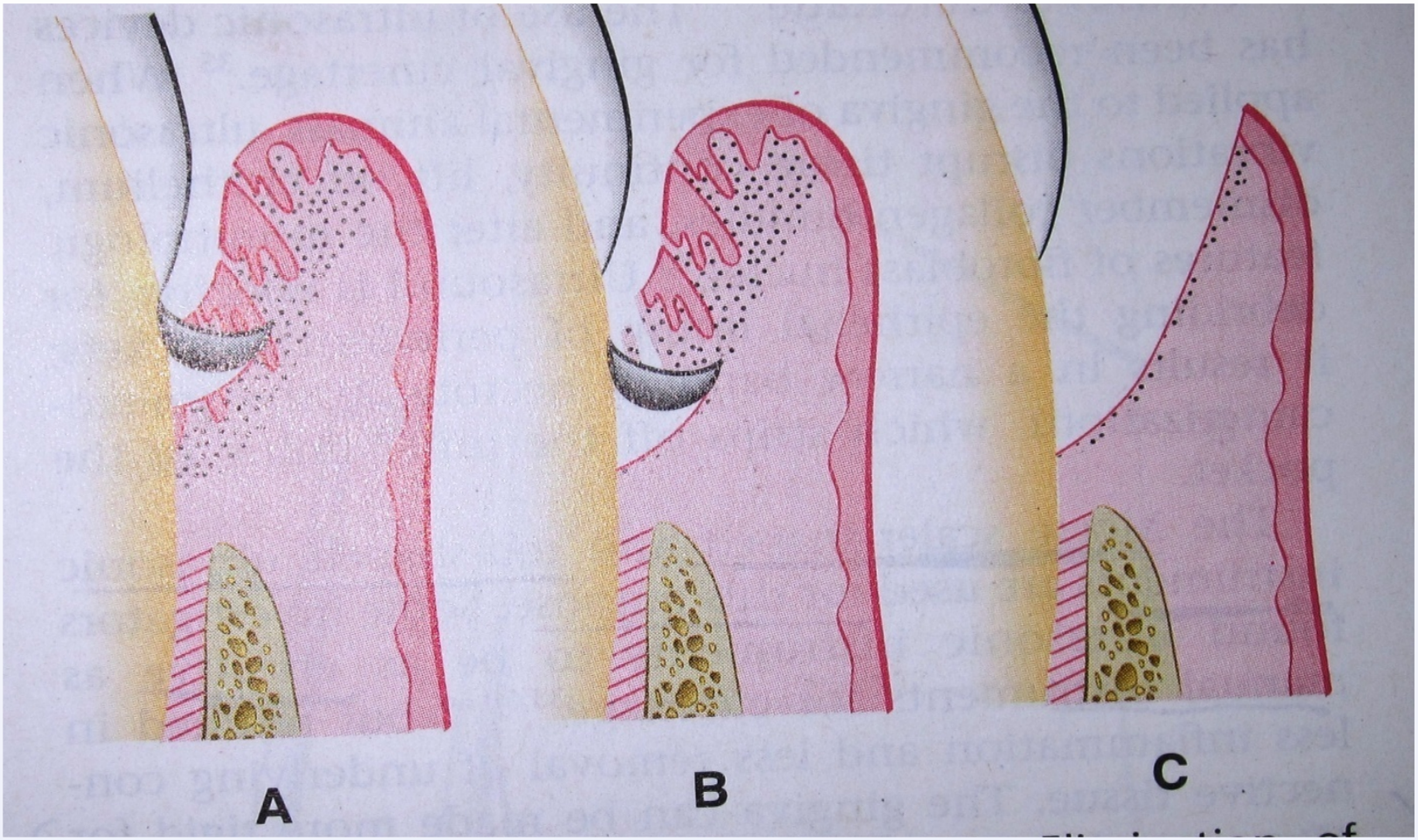
PROCEDURE

- BASIC TECHNIQUE
  - Scaling root planing
  - Local anesthesia
  - Selecting the proper curette so that cutting edge will be against tissue
  - Inserting the curette so as to engage inner lining of the pocket wall and carrying it along the soft tissue with usually horizontal stroke

- The pocket wall to be supported by gentle finger pressure on external surface
- Then placing the curette under the cut end of junctional epithelium to undermine it.
- In subgingival curettage, tissue attached between bottom of the pocket and alveolar crest are removed with a scooping motion of curette to the tooth surface.

- ***Gingival curettage performed with a horizontal stroke of the curette.***





SUBGINGIVAL CURETTAGE

A. Elimination of pocket lining
B. Elimination of junctional epithelium & granulation tissue
C. Procedure completed

EXCISIONAL NEW ATTACHMENT PROCEDURE

- ENAP: Developed by US Naval Dental Corps.
- It is a definitive subgingival curettage procedure

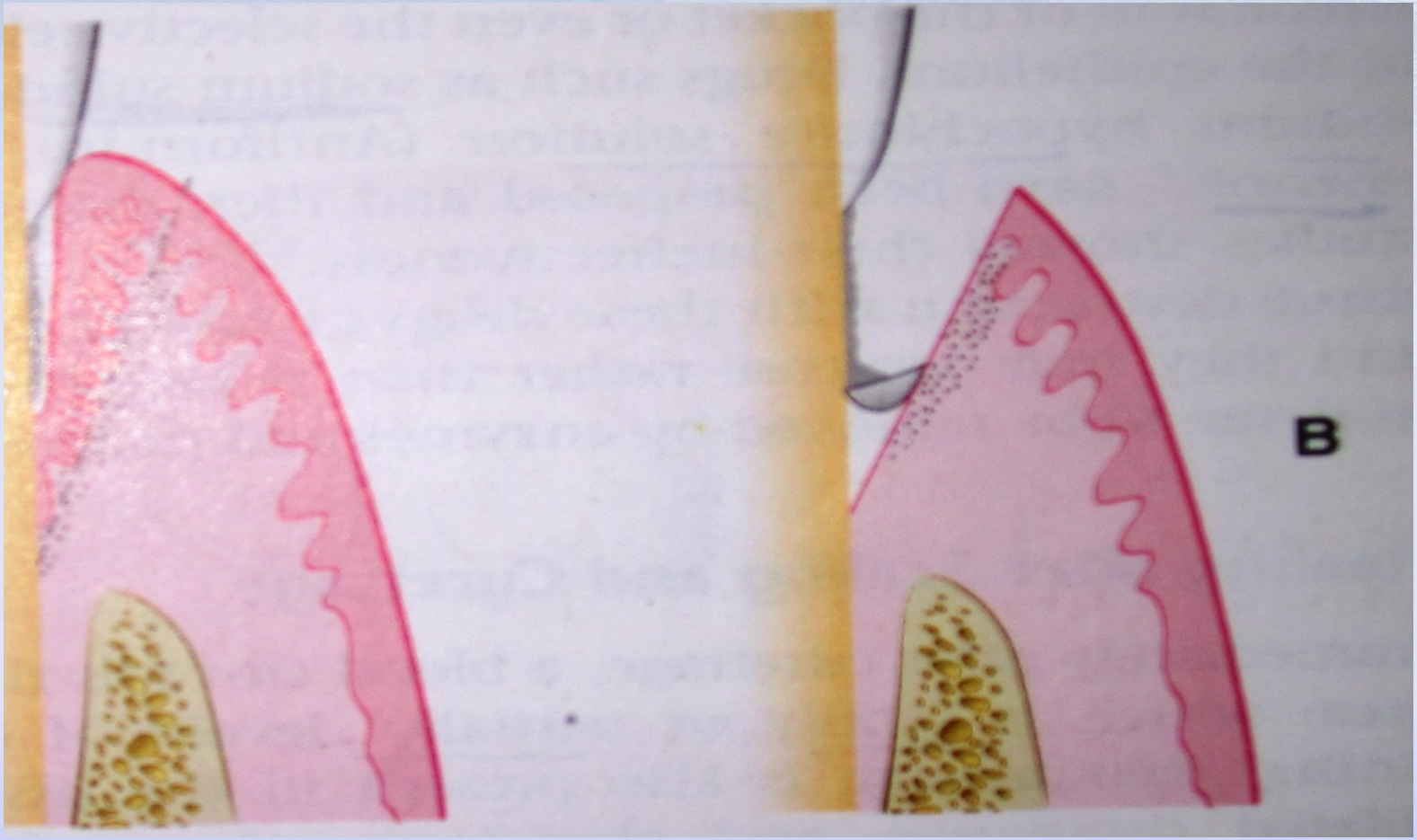
TECHNIQUE:

1. Anesthesia, internal bevel incision, extending it interproximally on both facial and lingual side attempting as much interproximal tissue as possible. It will cut the inner portion of soft tissue wall of the pocket, all around the tooth.

2. Remove excised tissue with curette & carefully perform root planing on all exposed surface of cementum. Preserve all connective tissue fibers that remain attached to root surface.

3. Approximate the wound edges; if they do not meet passively recontour bone until good adaption of wound edges is achieved. Place suture & a periodontal dressing.

Excisional new attachment procedure



a. Internal bevel incision b. excision of the tissue and completion of scaling and root planing

ULTRASONIC CURETTAGE

Ultrasonic Vibrations

↓

Distrupt tissue continuity

↓

Lift of epitheliuim

↓

Dismember collagen bundle

↓

Alter morphologic feature of fibroblast nuclei

↓

Necrotic band of tissue strips off the pocket lining

The Morse scaler-shaped and rod-shaped ultrasonic instruments are used for this purpose.

CAUSTIC DRUGS

Chemical curettage by drugs such as sodium sulfide alkaline sodium hypochlorite solution(antiformin), phenol.

It is not used because:

- Extent of tissue destruction cannot be controlled
- May increase rather than reduce the amount of tissue to be removed by enzymes & phagocytes

HEALING AFTER CURETTAGE

- Immediately after curettage blood clot fills the pocket area. Abundant PMNs appear thereafter on wound surface
- Rapid proliferation of granulation tissue.
- Restoration and epithelialization of sulcus require 2-7 days. Immature collagen fibers appear within 21 days.
- Formation of long thin junctional epithelium with no connective tissue attachment.

Clinical appearance after curettage

- **Immediately after curettage-** gingiva appears hemorrhagic and bright red.
- **After 1 week-** gingiva appears reduced in height because of an apical shift in the position of gingival margin.
- **After 2 weeks-** with proper oral hygiene normal color, consistency, surface texture and contour of the gingiva are attained.

Scaling, Root planing & Curettage

Preoperative

Post operative

GINGIVECTOMY

&

GINGIVOPLASTY

Index

- Definition
- Indications
- Contraindications
- Types of gingivectomy

- Surgical
- Electrode
- Laser
- Chemical

Gingivectomy:

- Excision of the soft tissue wall of the pocket.

Gingivoplasty:

- Recontouring the gingiva that has lost its physiologic form rather than elimination of pockets.

Pre requisites:

- Adequate zone of attached gingiva.
- Underlying bone should be normal.
- No infra bony defects or infrabony pockets.

Indications:

- Eliminate pseudo pockets.
- Remove enlargements
- Transform rolled or blunt margins to physiologic form
- Esthetics for crown exposure.
- For restorative process.

Contraindications:

- Thick alveolar ridges and bony defects.
- Infrabony pockets
- Pockets extend below muco gingival junction
- Inadequate oral hygiene
- Uncooperative pt.
- Medically compromised.

Various Techniques For gingivectomy

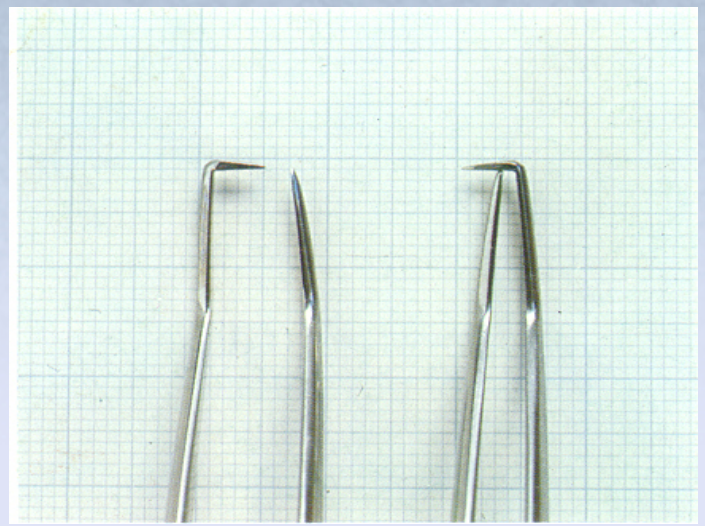
Surgical Gingivectomy

Gingivectomy by Electro surgery

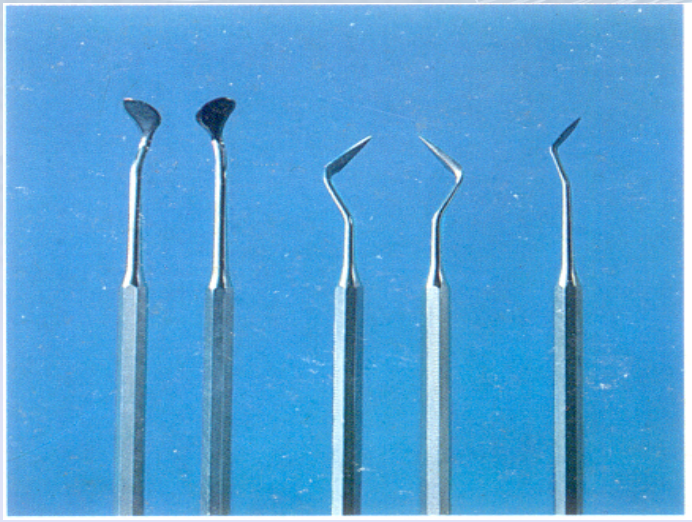
Laser gingivectomy

Gingivectomy by Chemical agents

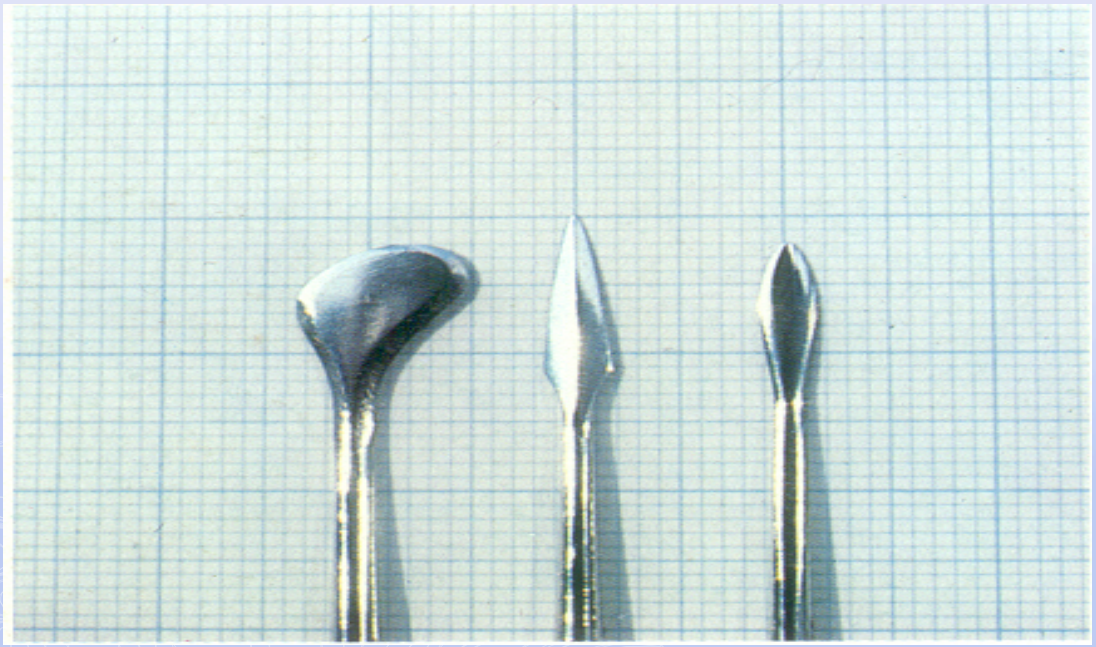
Surgical gingivectomy technique



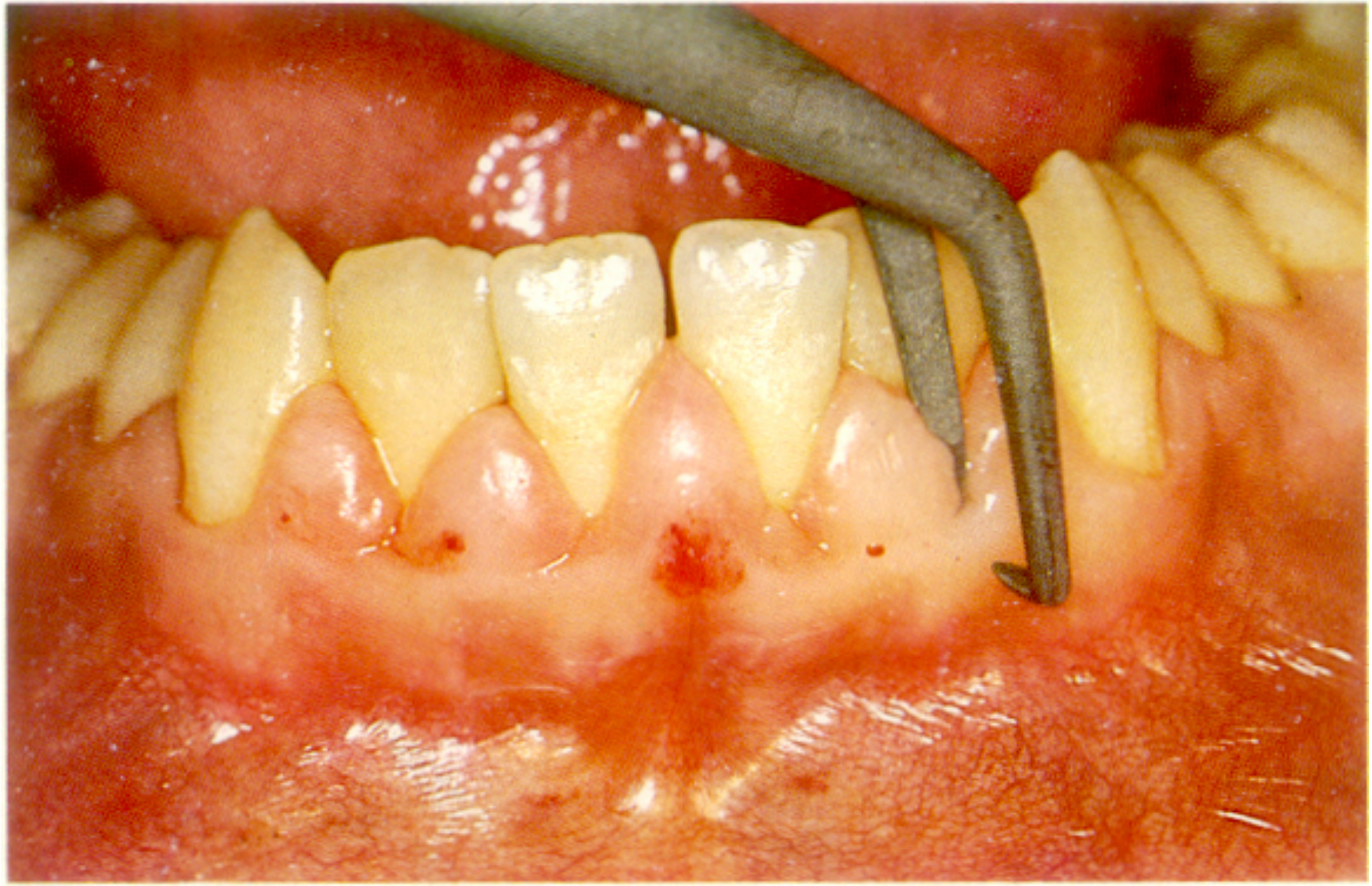
Pocket markers



Kirkland and Orban's knife

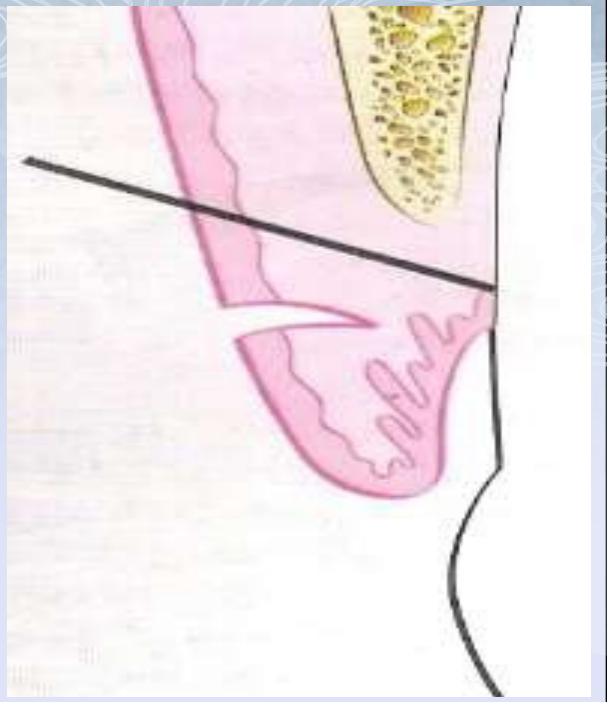


Pocket depth measurement



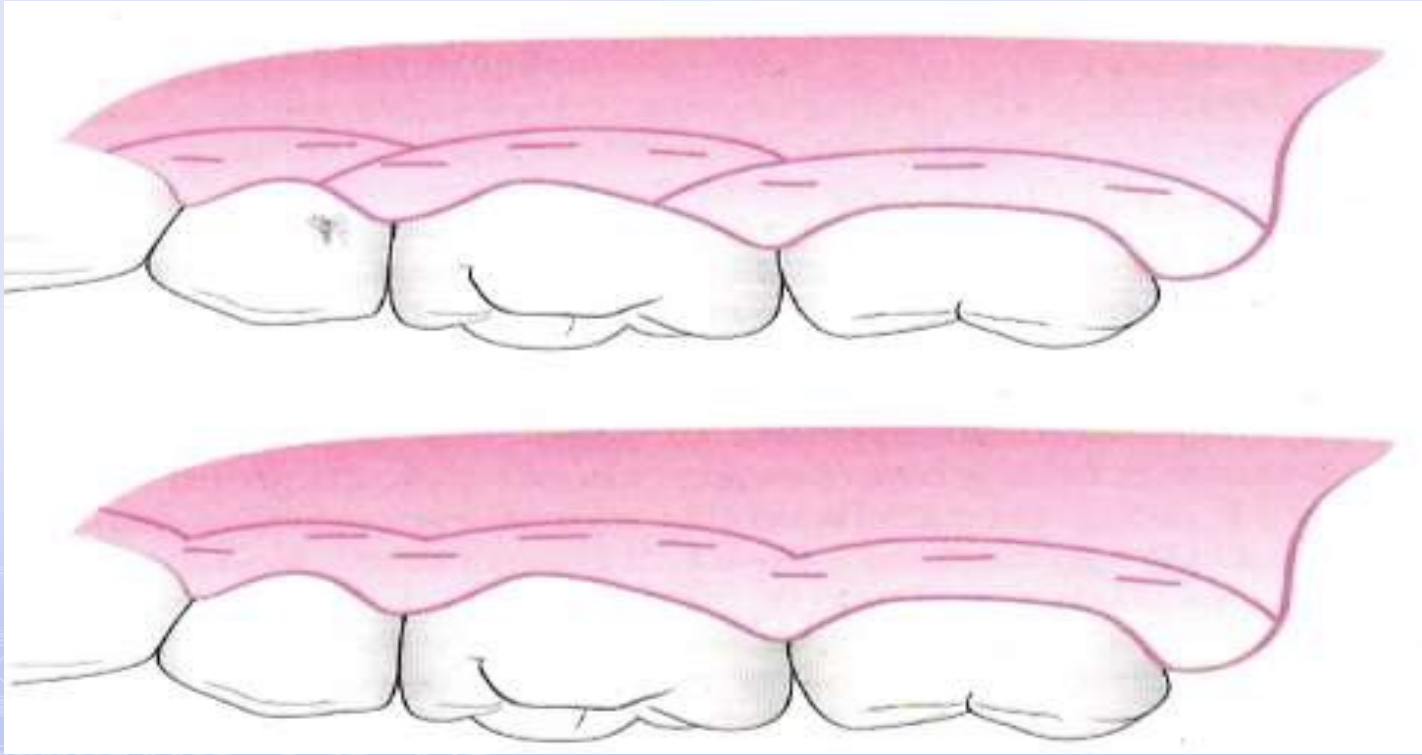
Pocket marked with pocket marker

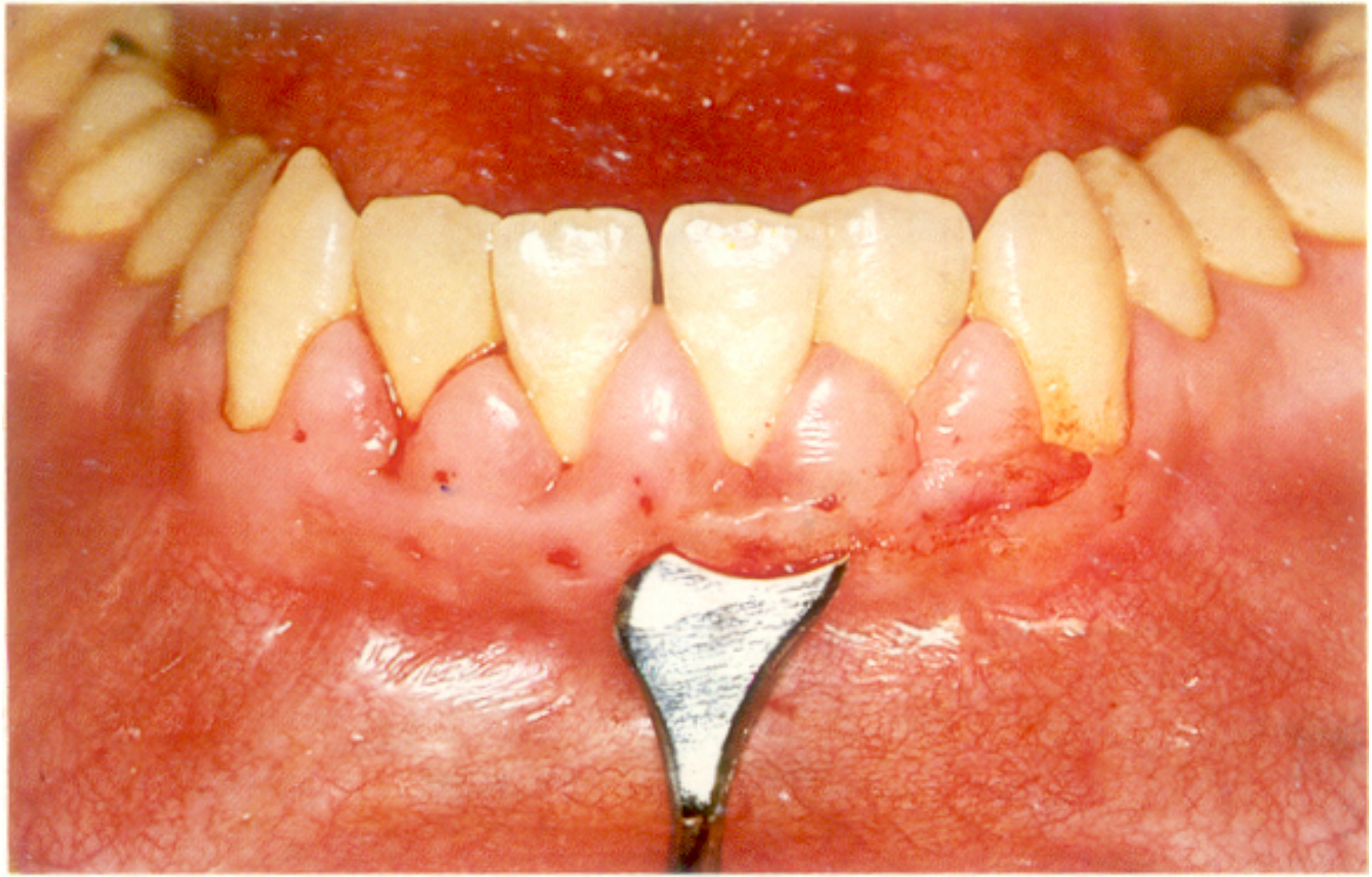
- Periodontal knives (Kirkland knives)
- Orban periodontal knives
- Bard-Parker knives # 11 and # 12
- and scissors.



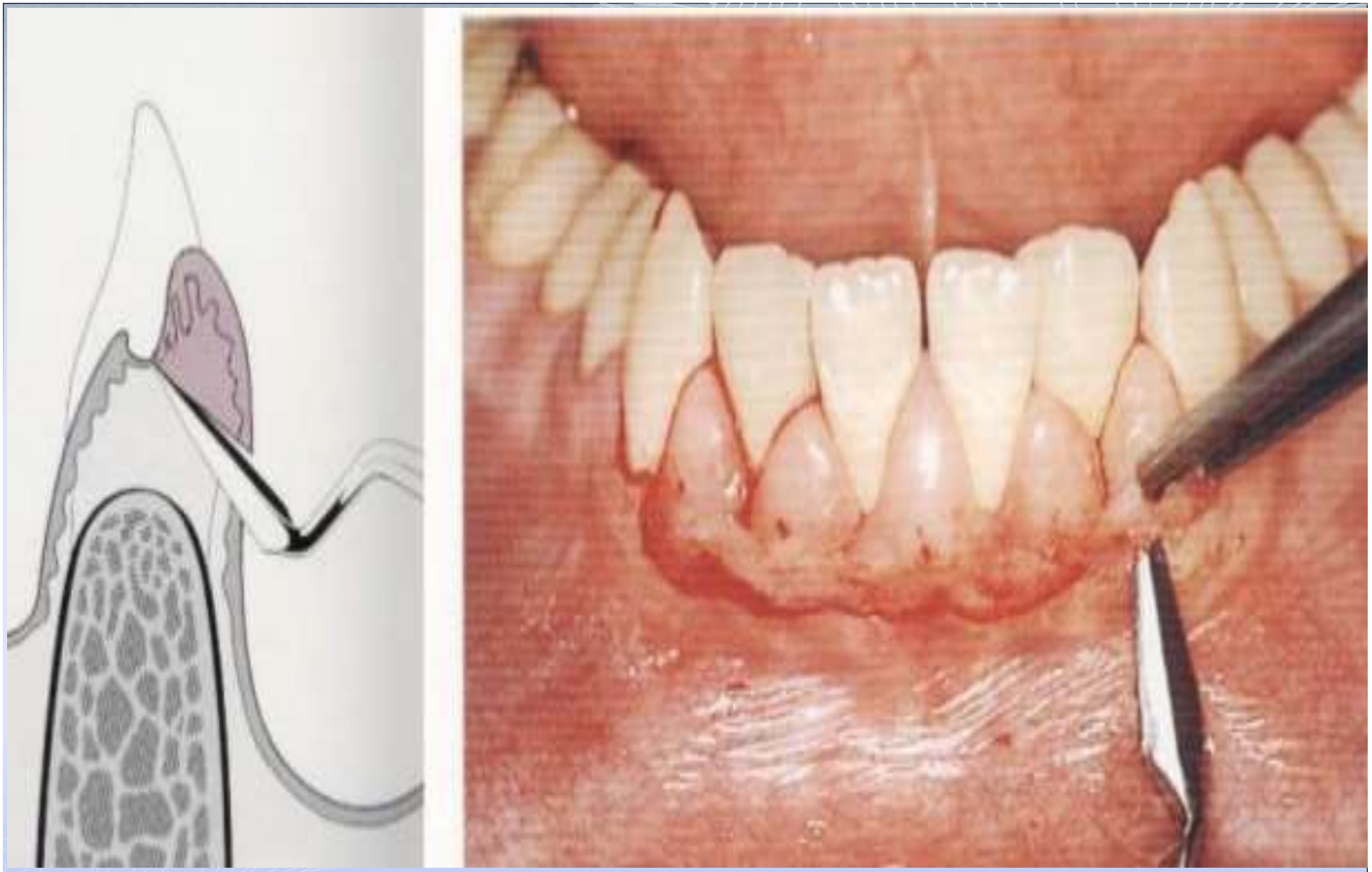
- The incision is started apical to the points marking the course of the pocket (Orban 1952) and is directed coronally to a point between the base of the pocket and crest of the bone.
- It should be as close as possible to the bone

- Discontinuous or continuous incisions may be used
- Incision should be beveled at 45 degrees to the tooth surface

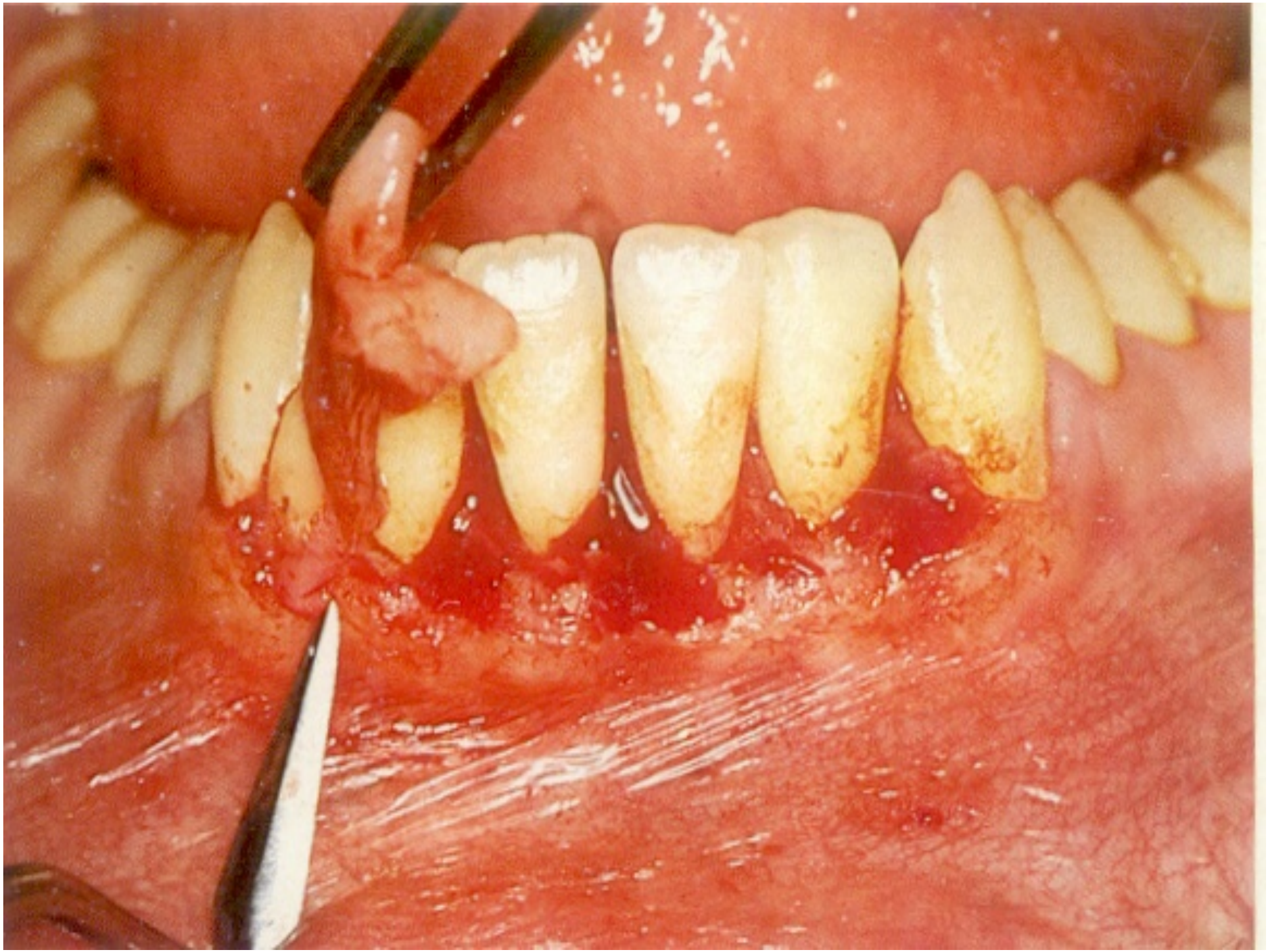


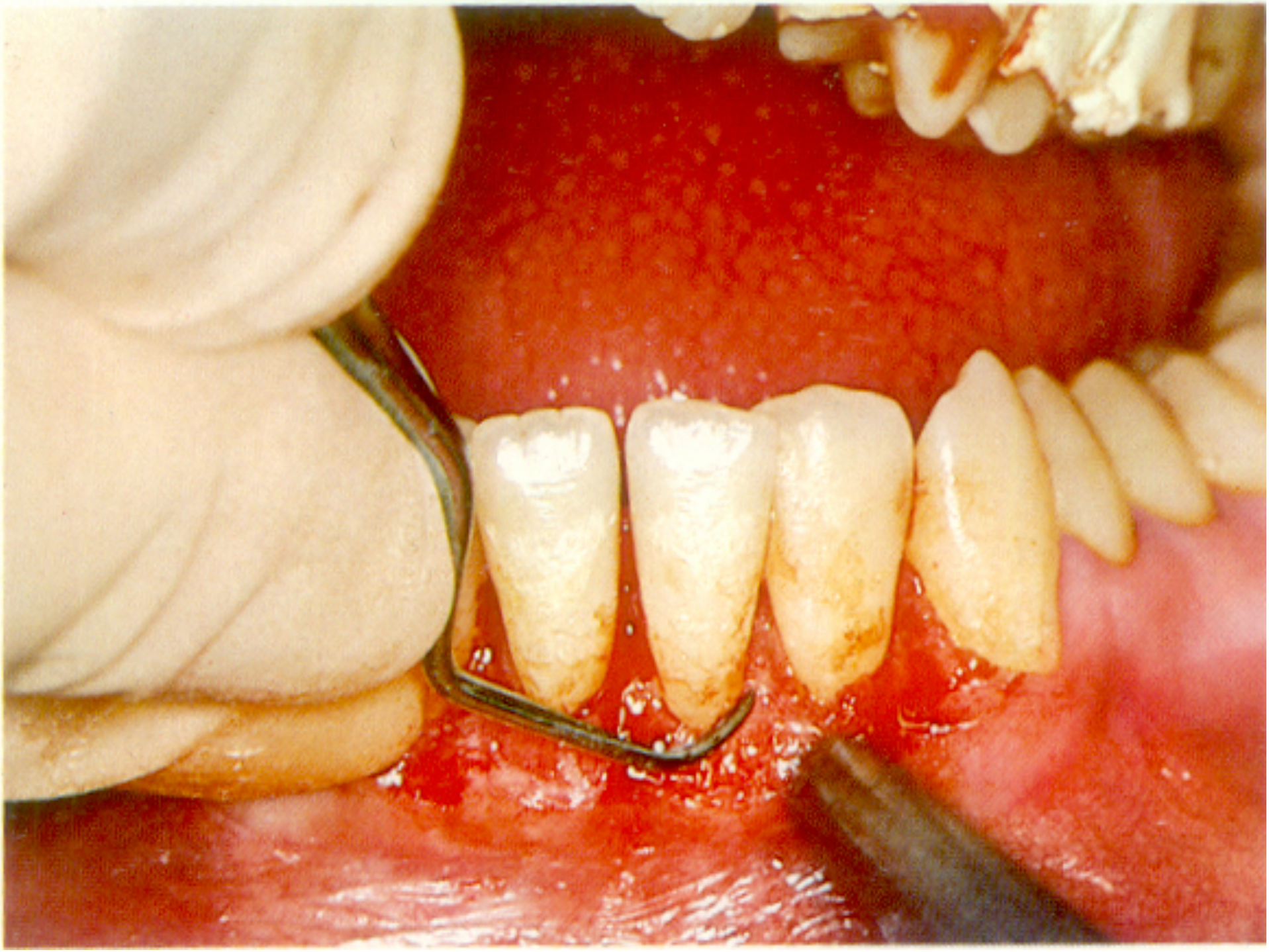


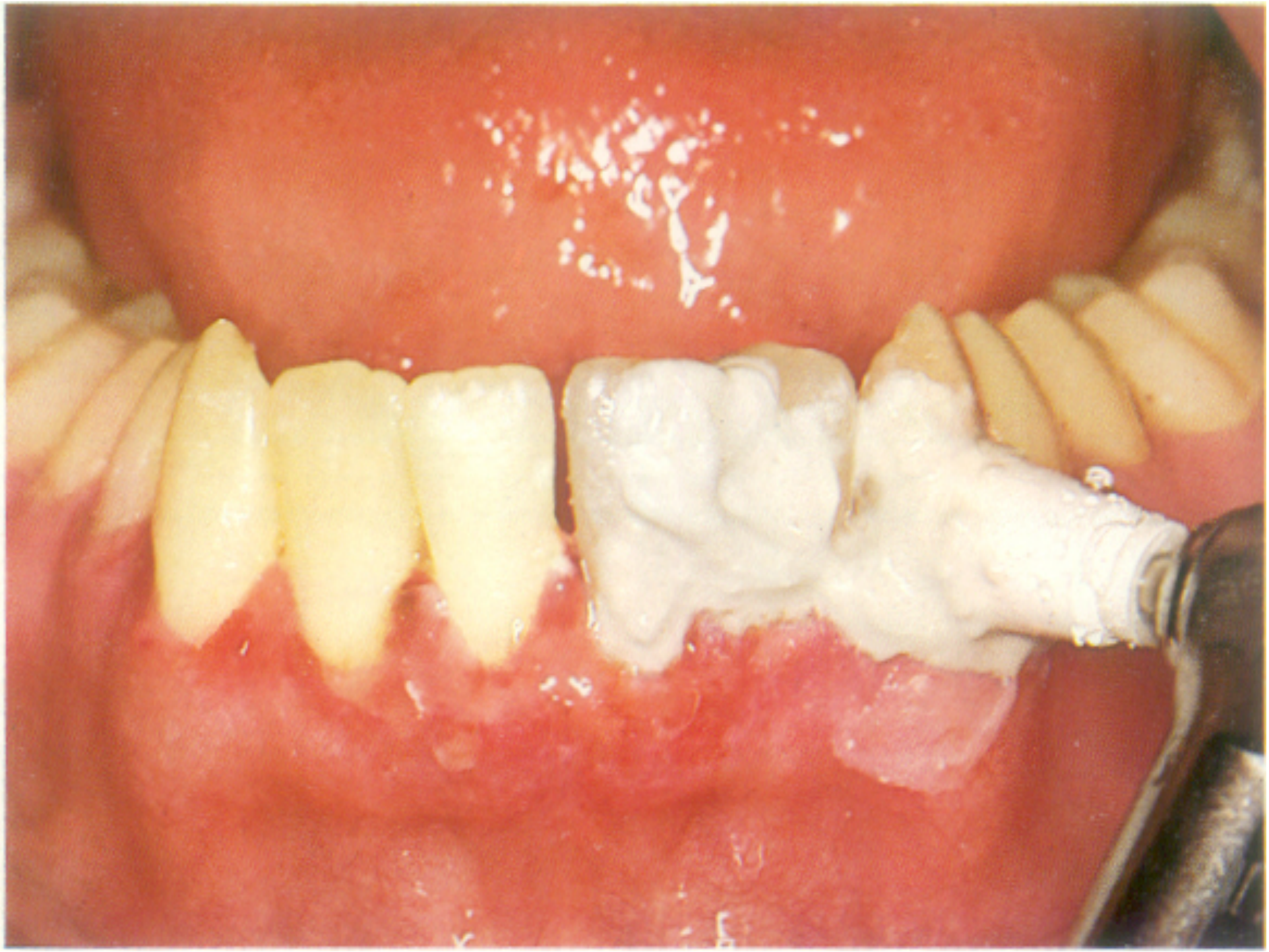
Primary incision by Kirkland knife



Interdental incision by Orban’s knife







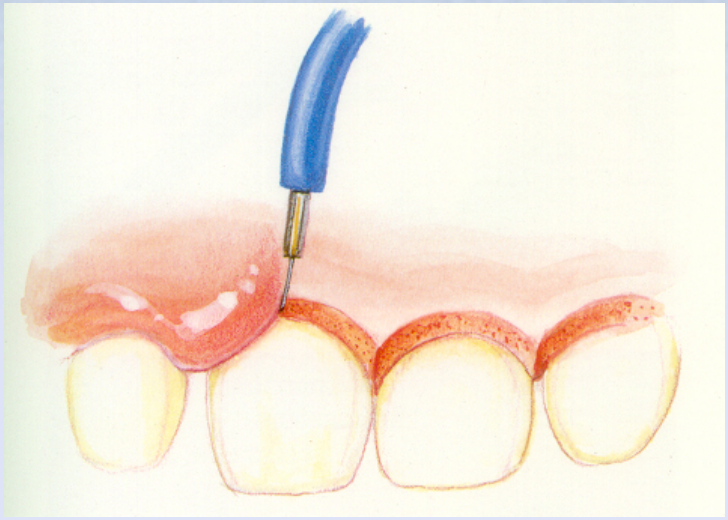
Healing after 1 month

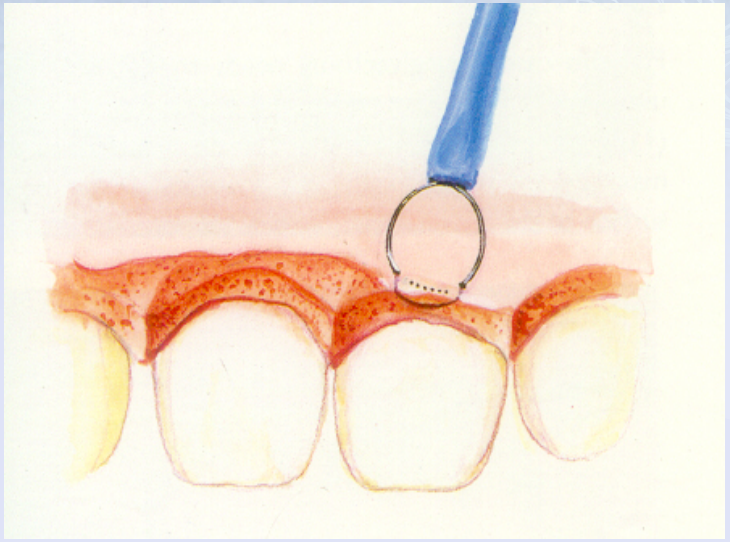
Healing after surgical gingivectomy

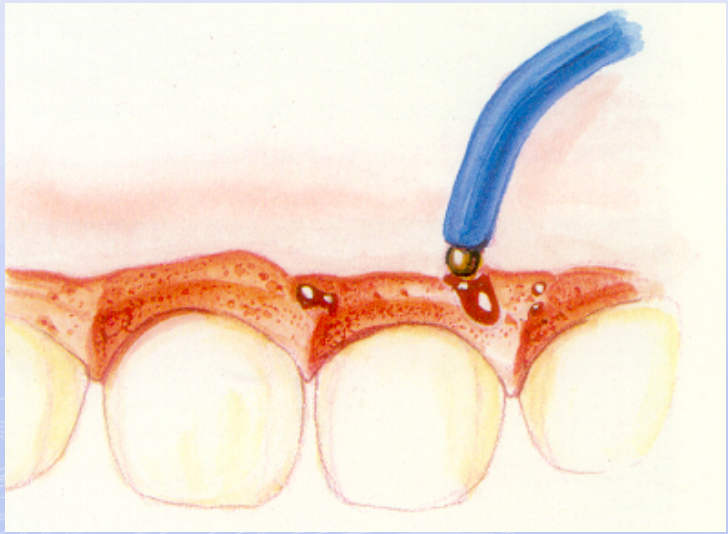
- Healing is by secondary intention
- Initial clot formation
- Replaced by granulation tissue
- Within 24 hrs- connective tissue cells increase mainly angiobalsts
- 3rd day numerous fibroblasts
- Granulation tissue grows coronally creating gingival margin and sulcus
- Within 2 weeks capillaries grow and connect with gingival vessels
- Epithelialisation 5-14 days. And complete by 1 month

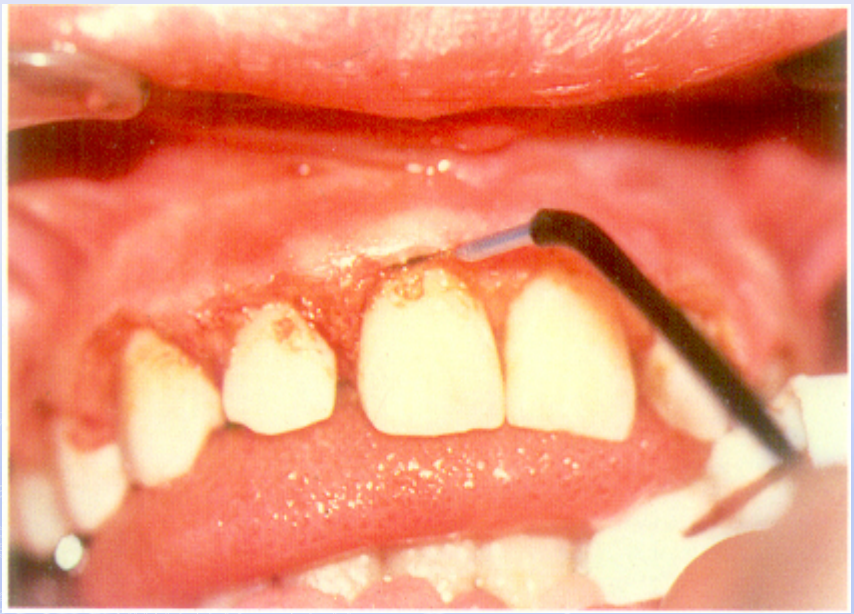
ELECTROSURGERY

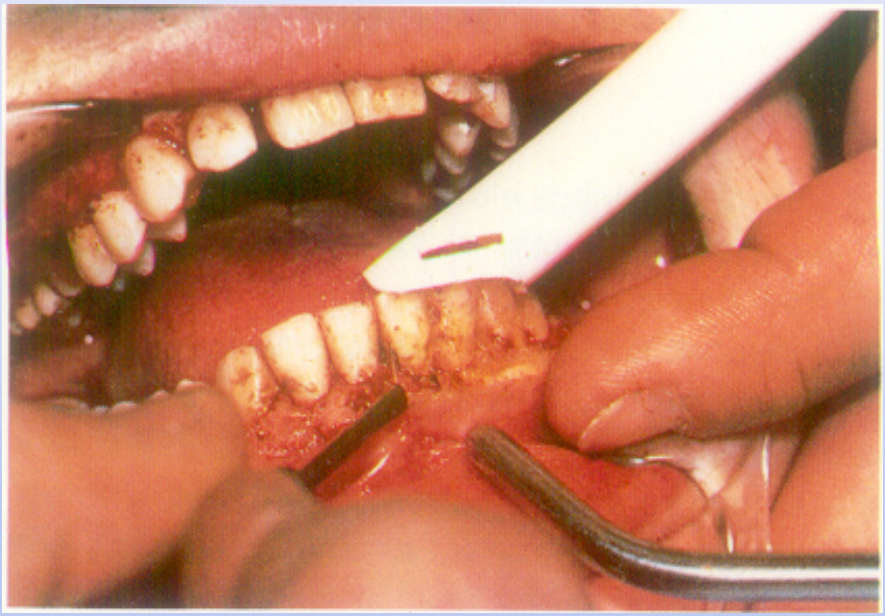
GINGIVECTOMY PROCEDURE

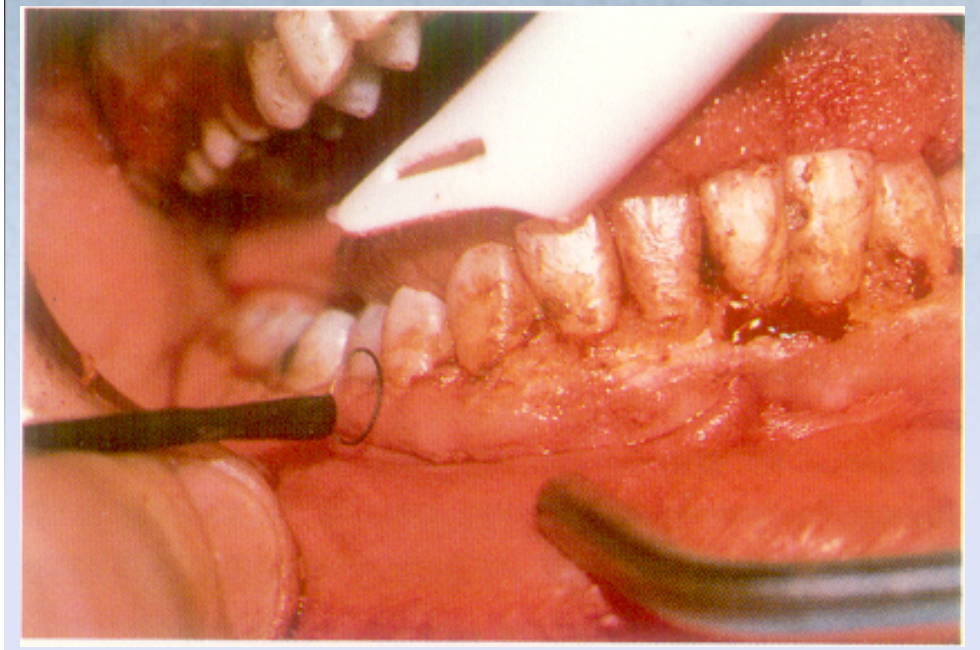


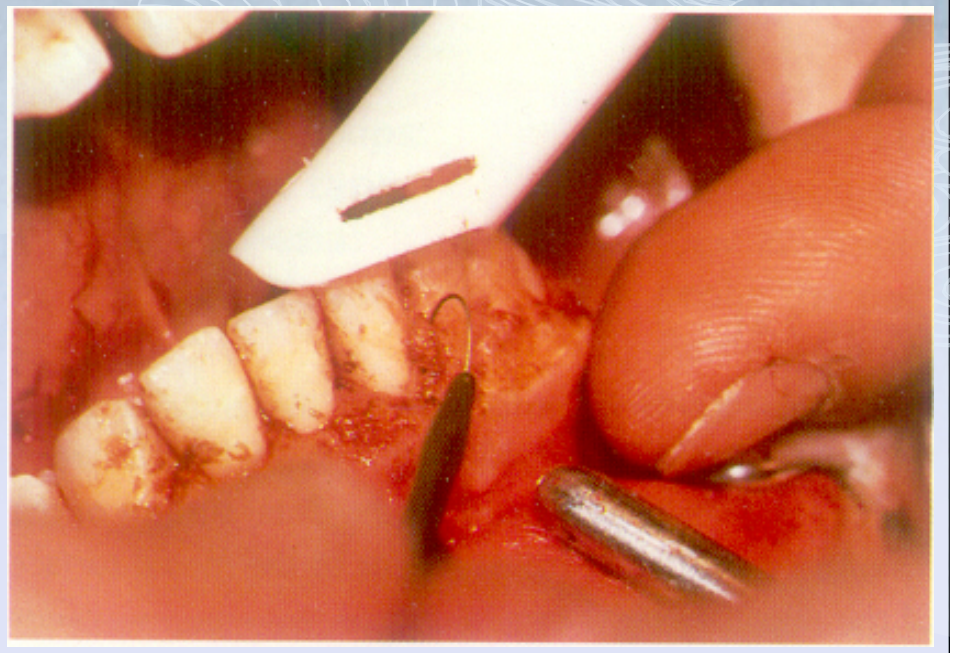


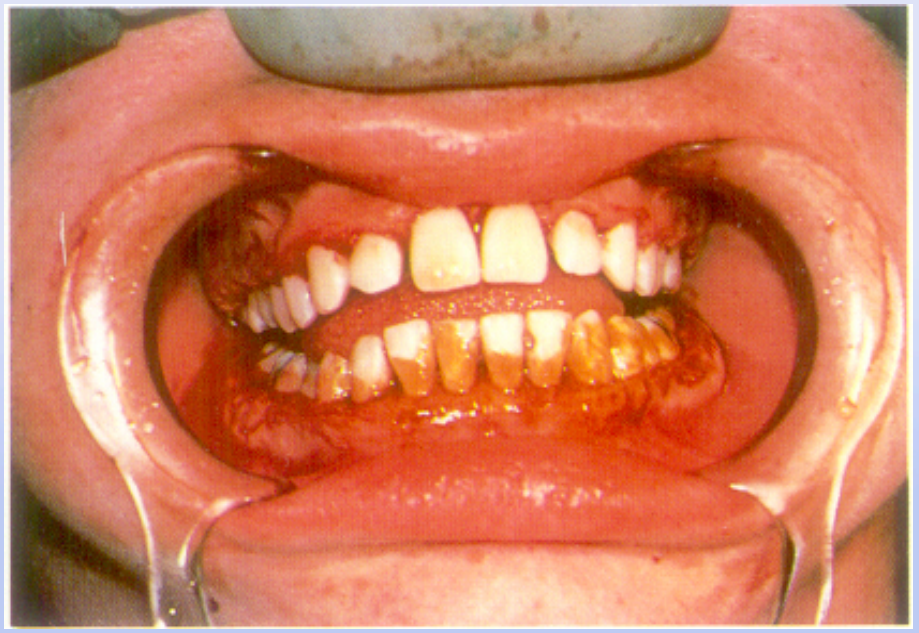












Pre-op

4 wks Post -op

Advantages:

- Permits adequate tissue contouring and controls hemorrhage.

Disadvantages:

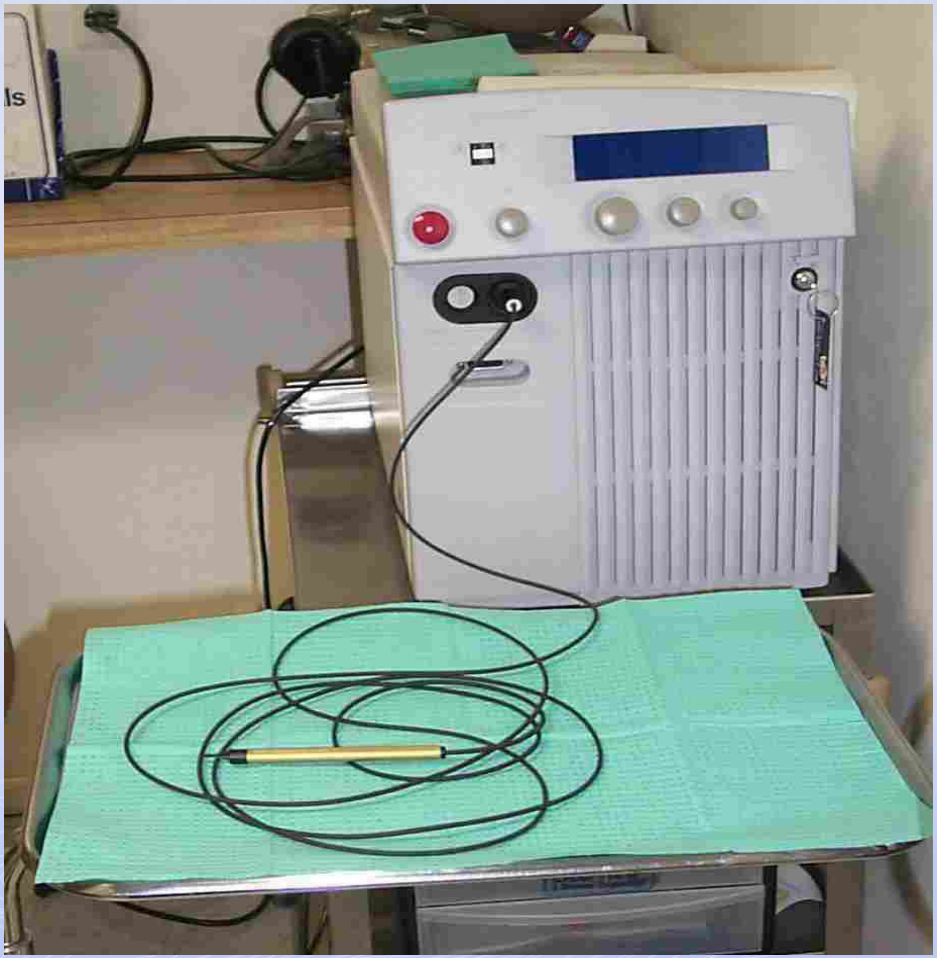
- Cannot be used in pts. with poorly shielded pacemakers.
- Causes unpleasant odour
- If touches bone causes irreversible damage
- May cause cemental necrosis.

Healing

- No significant difference.
- Few reported delayed healing
- Greater reduction in gingival height and more bone injury after electro surgery
- More gingival recession
- Furcation exposure
- Tooth mobility

LASERS

- Commonly used are CO2 and Nd:Yag



Preoperative view

Application by fibreoptic tip

Immediate postoperative

3 months postoperative

CHEMOSURGERY

- 5% paraformaldehyde or potassium hydroxide
- No longer used

Disadvantage:

- Depth of action cannot be controlled.
- Gingival remodelling is not possible
- Healing is delayed.

GINGIVOPLASTY

Recontouring of the gingiva in the absence of pockets

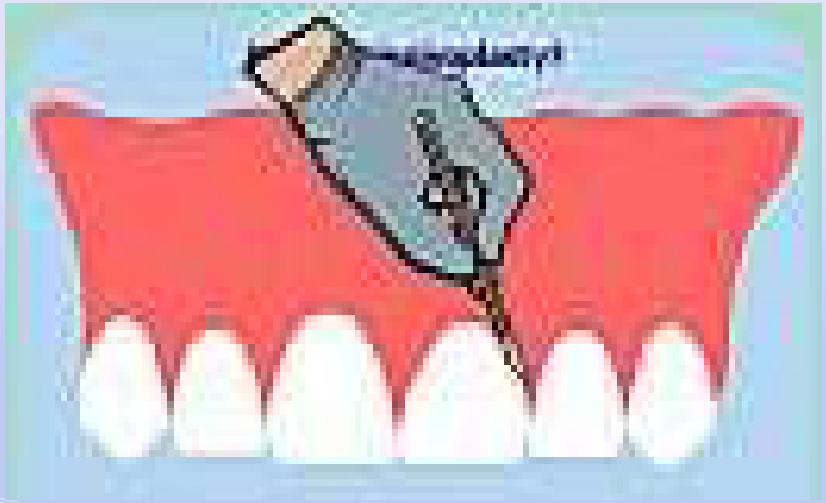
Used to correct deformities like:

- Gingival clefts & craters
- Shelf like interdental papilla - ANUG
- Gingival enlargements

Instruments:

- Periodontal knife & scalpel
- Rotary coarse diamond stones
- Electrodes

- *Procedure:*
- *• Tapering the Gingival Margin*
- *• Creating scalloped marginal outline*
- *• Thinning of attached gingiva*
- *• Creating vertical interdental grooves*
- *• Shaping interdental papilla*



GINGIVOPLASTY

8 WEEKS POST SURGICALLY

CONCLUSION

- **Current understanding of disease etiology & therapy limits the use of these techniques, but their place in surgical therapy is essential….**
  - **The clinician must properly evaluate each case for proper application of these surgical procedures in different ways…**


THANK U