

Preclinical periodontology



Periodontology

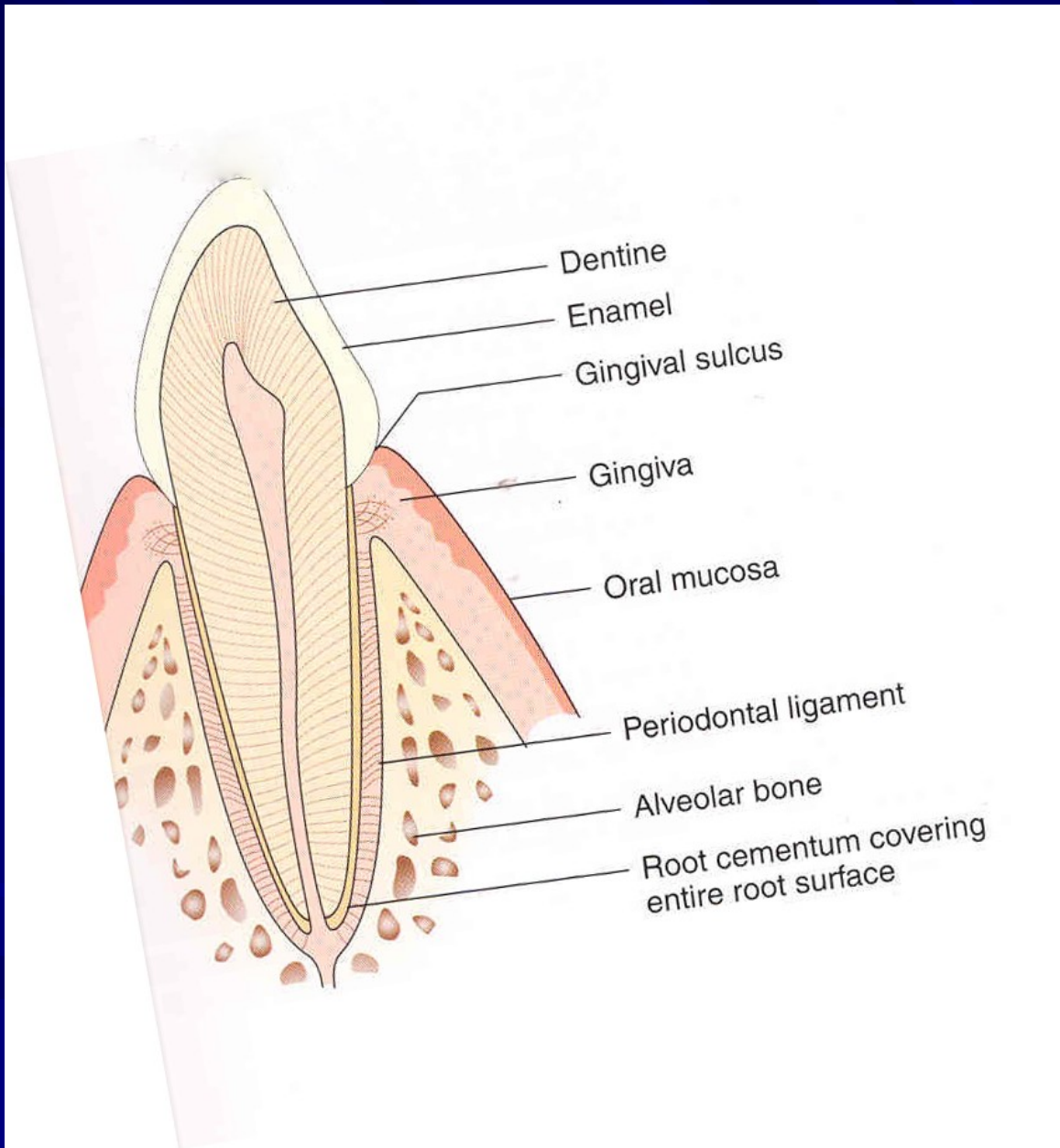
- Is a branch of dentistry that is focused on periodontal tissues

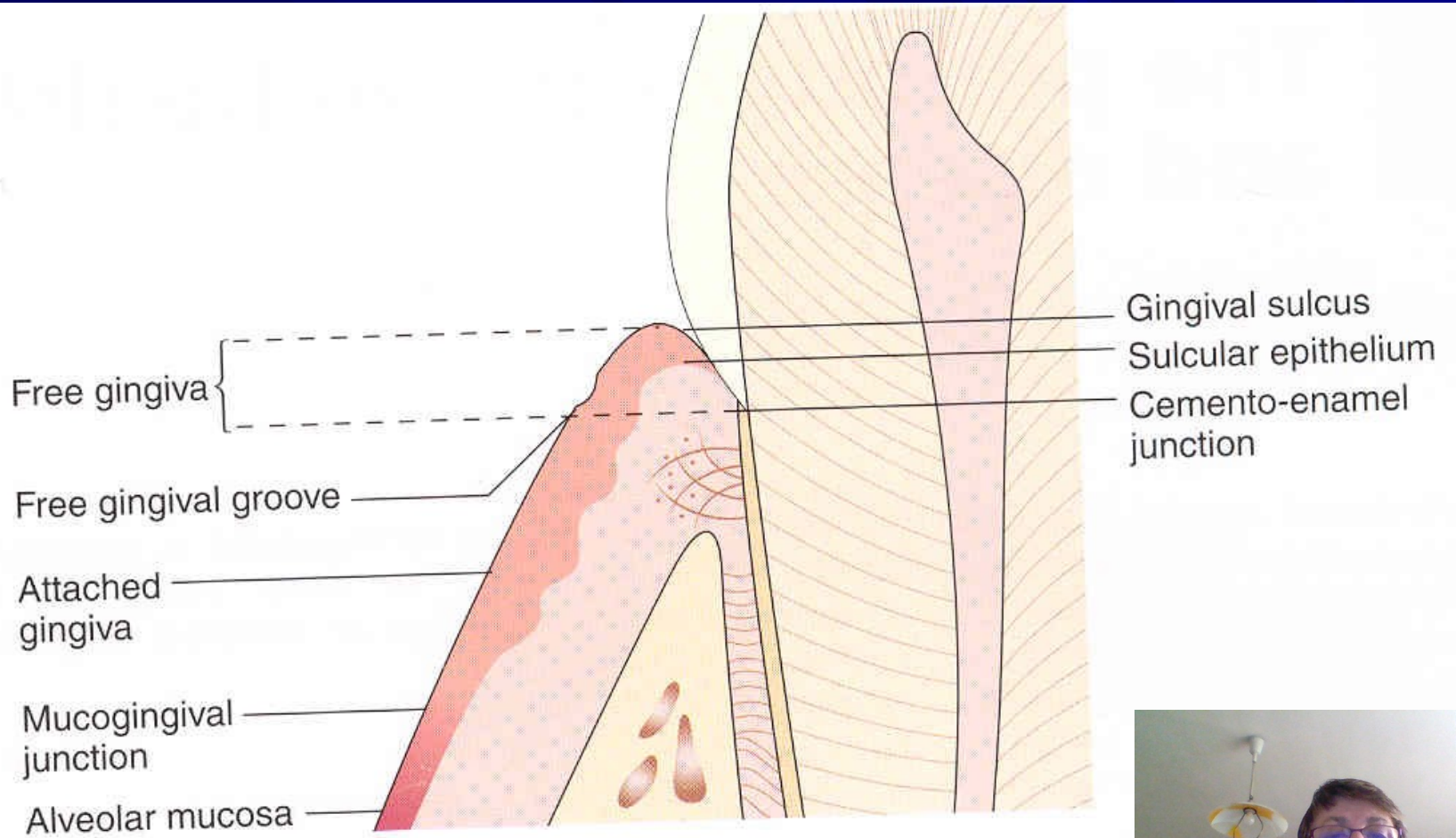


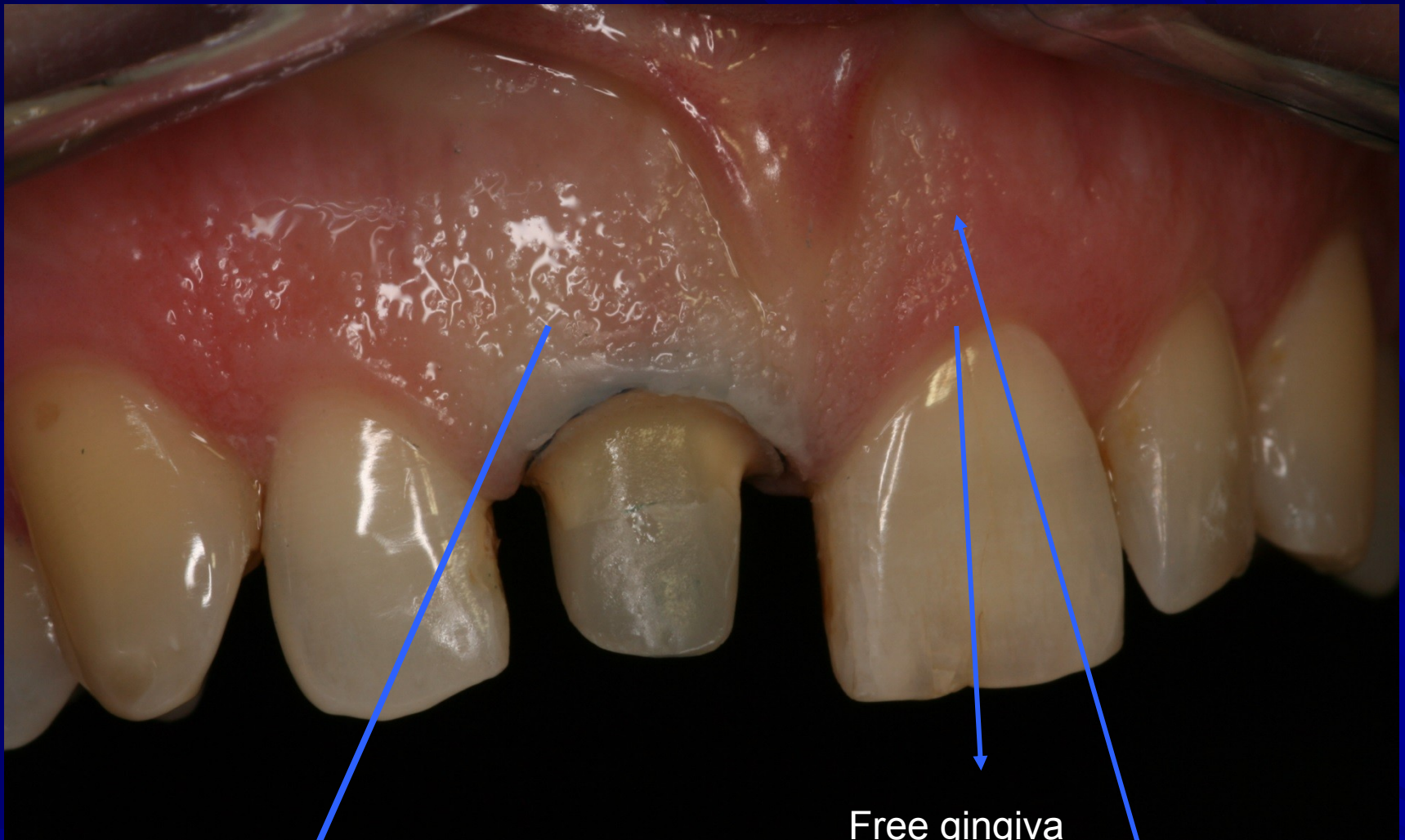
Parodont – periodontium (supportive tissues)

- ❑ Alveolar bone
- ❑ Cementum – insertion of the periodontal ligaments
- ❑ Periodontal fibres
- ❑ Gingiva
- ❑ Attachement (epithelium junction)









Stippling

Free gingiva

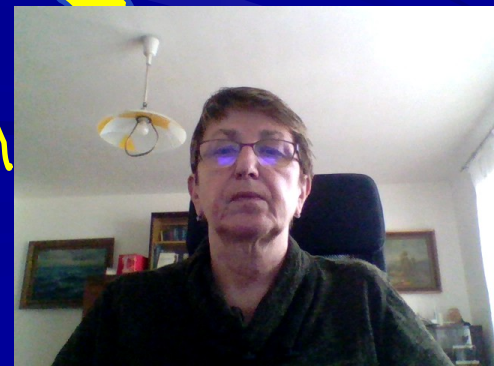
Attached gingiva



Gingivodental junction

■ Attachement

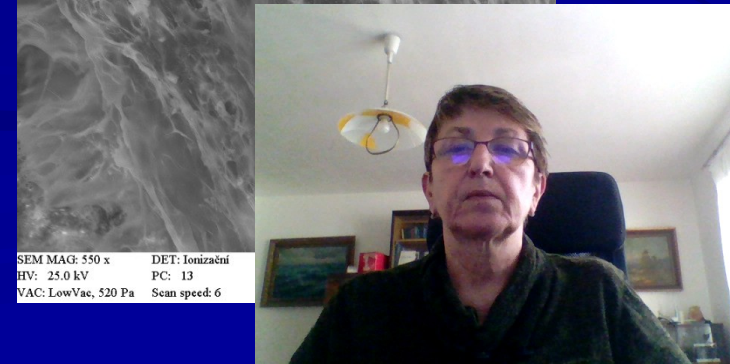
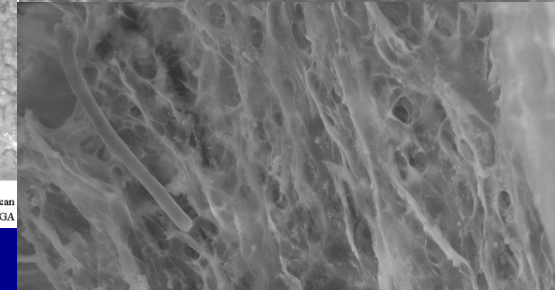
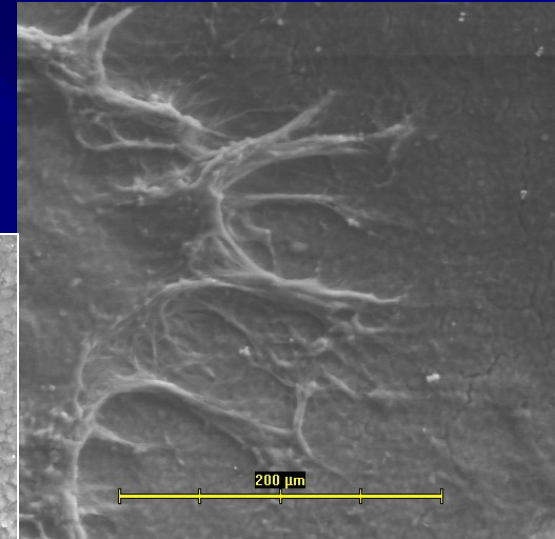
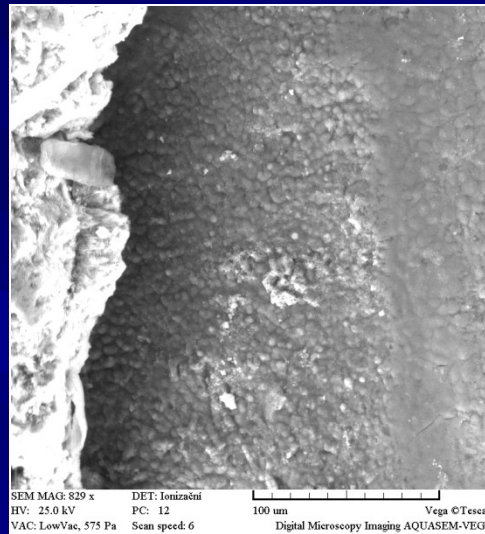
- Stratum basale
- Stratum suprabasale



Cementum

Covers the root surface
50% inorganic material

Insertion of collagen fibres
Sharpey's fibres



Alveolar bone

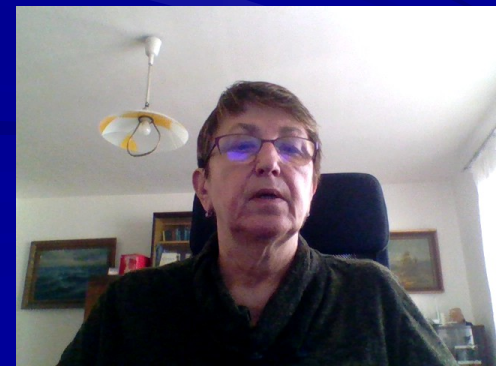
Compact bone thin layer – lamina dura

Spongis



Periodontal membrane

- Tissues in periodontal space (width 0,4 – 1,5 mm) - 20 – 35 %. Fibres, interfibrillar substance, nerves, blood vessels.



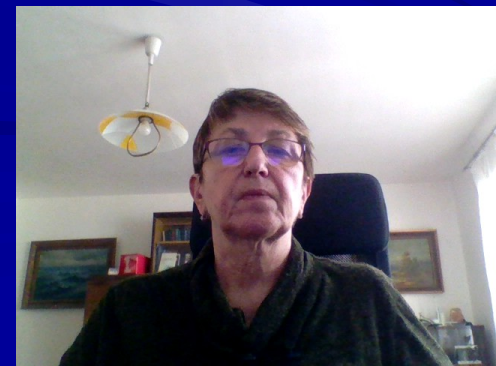
Periodontal fibres

■ Supraalveolar

Lig. circulare

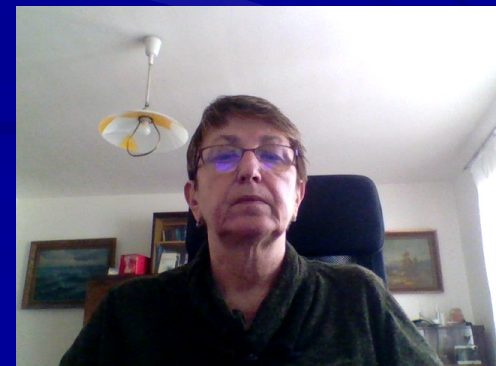
■ Intraalveol (Sharpey's fibres)

- Horizontal
- Oblique
- Apical
- Crestal
- Interradicular



Periodontal diseases

- Gingivitis (inflammation limited on gingiva only)
- Periodontitis (inflammation of deeper parts of periodontal tissues)
- Non inflammatory diseases



Aethiology

■ External factors (local)

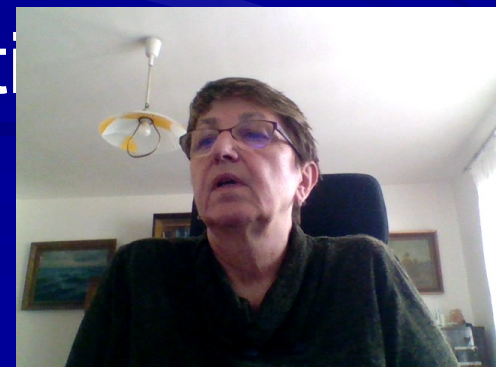
Dental biofilm

Dental calculus

Iatrogenic factors (badly made fillings
overhangs, missing contact point, badly
made prosthetic treatment)

Mucogingival disorders (high inserti
frenum)

Trauma, traumatization



Aethiology

- Internal factors (systemic)
- Genetics
- Systemic diseases (diabetes mellitus, leukaemia, HIV infektion...)
- Systemic medication (cyclosporin A, immunisupresive medicaments, calcium blockers and others)
- Hormonal dysbalance (e.g.pregnance)



Diagnosis

- Patients history
- Clinical examination
- Radiographic examination (OPG)



Diagnosis and treatment plan



History

- Chief complaint
- Dental history
- Oral hygiene attitudes
- Professional and social status
- Smoking
- Periodontitis in family
- Systemic diseases



Clinical examination

- Inspection
- Probing of the depth of periodontal sulcus
 - if deeper than 3 mm –periodontal pocket
- Observation of bleeding or pus



Periodontal probes

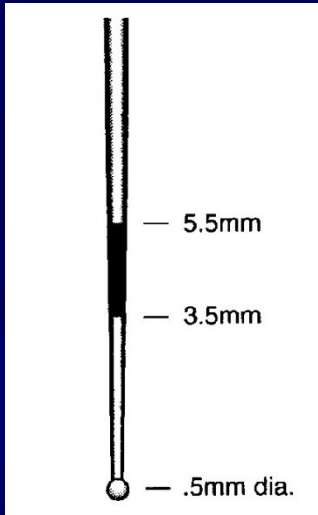
■ WHO probe

■ Williams probe

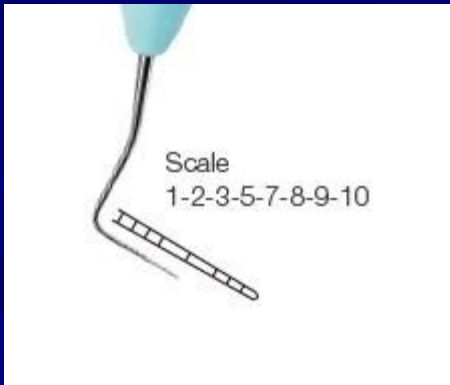
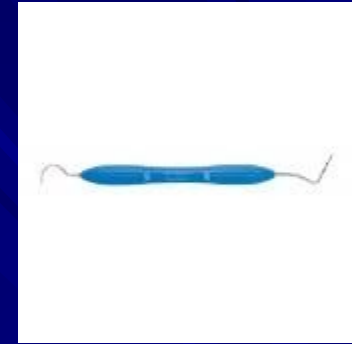
■ Nabers probe (furcation)



Probes



WHO



Williams



Nabers

Probing

Depth of periodontal pocket

Indexes



Visualization of the biofilm (plaque)

■ Probes

■ Dyes

■ Tablets



Plaque



Visualisation of the biofilm

- Tablets, special liquids, gels



Indexes – special figures

- Level of oral hygiene
- Stage of inflammation
- Treatment needs ...



Plaque induced inflammation bleeding

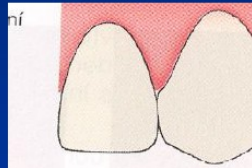


Bleeding of gingiva is a sign of inflammation – inflammation of gingiva is a sign of insufficient oral hygiene



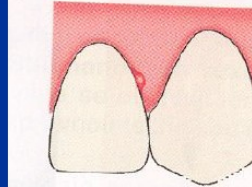
PBI (papilla bleeding) index

■ 0 →



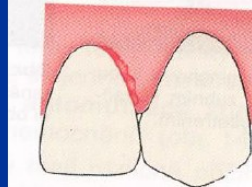
No bleeding

■ 1 →



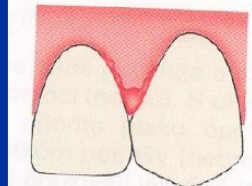
Point

■ 2 →



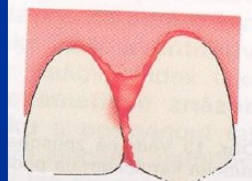
Line

■ 3 →



Triangle

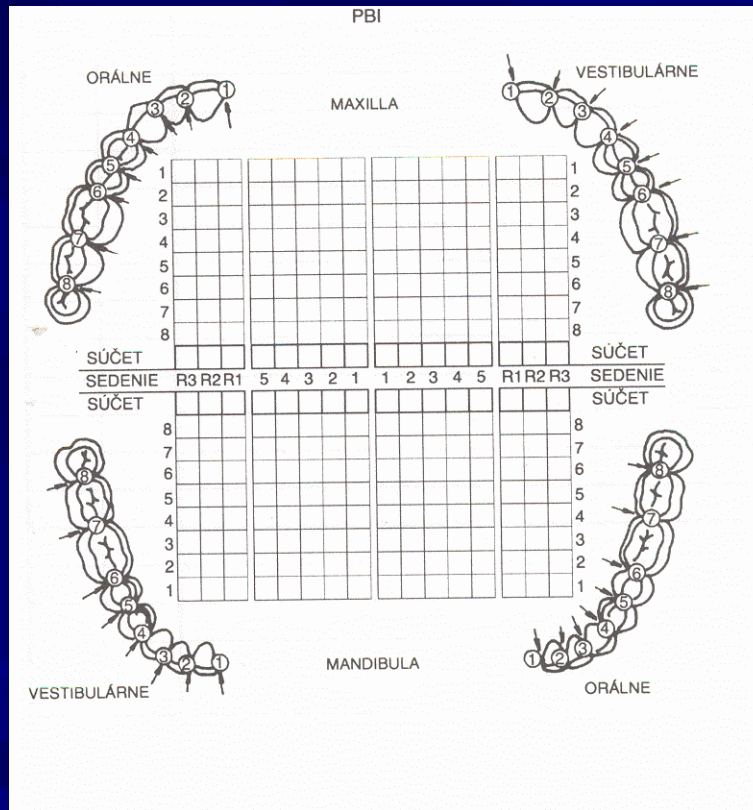
■ 4 →



Drop



Measurement, expression and importance of PBI

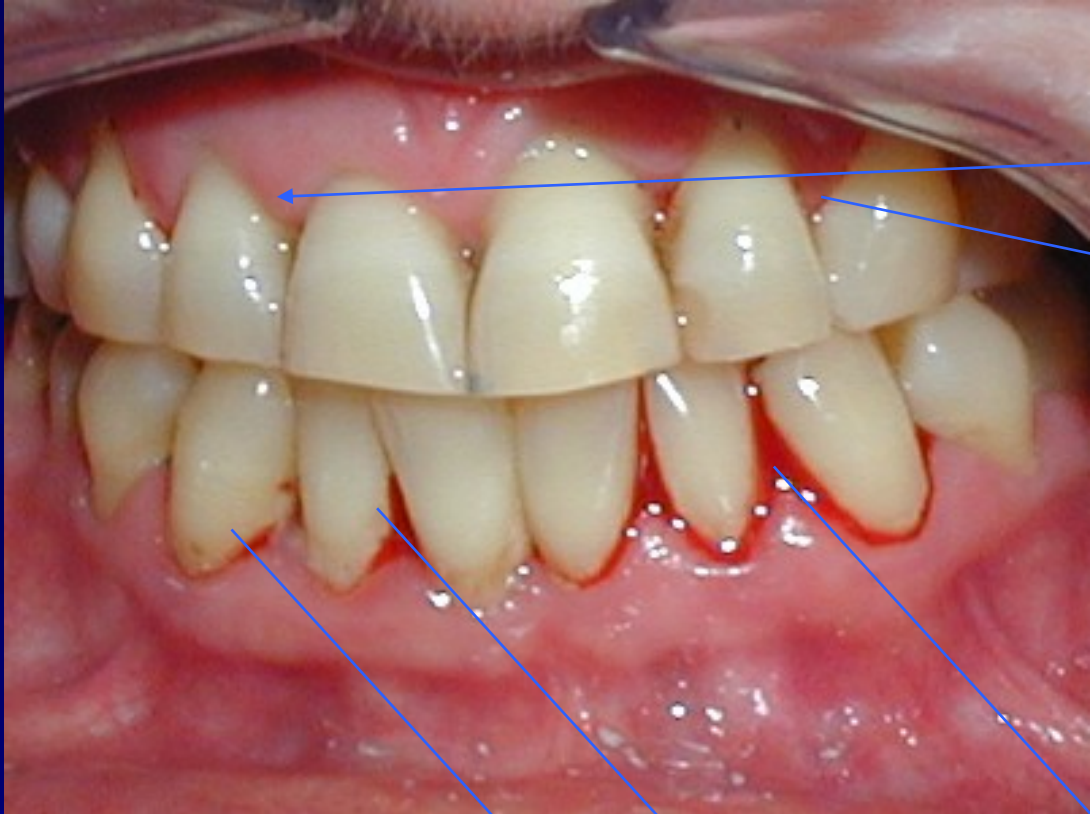


1	2
3	2
3	1
2	2
1	0
0	2
2	3
<hr/>	
12	14
1	1
2	2
0	4
0	3
3	4
2	3
1	0
<hr/>	
9	17

$$52:28 = 1,8$$

$$52/28$$





PBI 0

PBI 1

PBI 2

PBI 3

PBI 4



CPITN

(Community periodontal index of treatment needs)

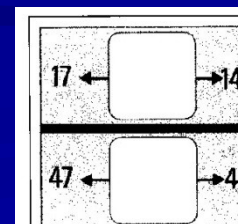
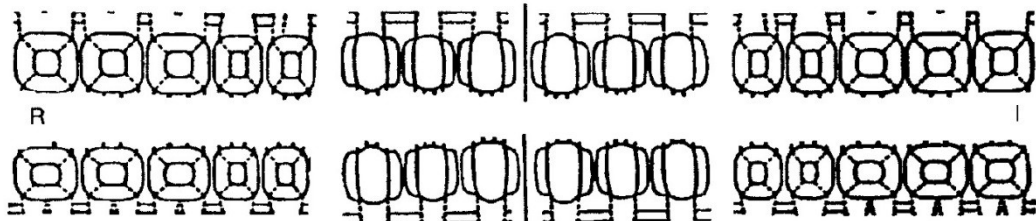
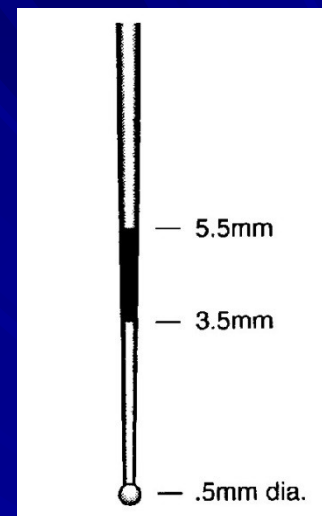
0 – normal finding

1 – bleeding

2 – dental calculus (sub or supragingival)

3- periodontal pocket 3,5 – 5,5 mm

4 – periodontal pocket deeper than 5,5 mm



■ CPI – periodontal status

■ TN – treatment needs

TN – treatment needs

0 – healthy tissues: no treatment

1 – bleeding on probing: improvement of oral hygiene

2 – dental calculus: professional hygiene needed

3 – complex periodontal therapy – can be conservative

4- complex periodontal therapy – surgical therapy can be needed



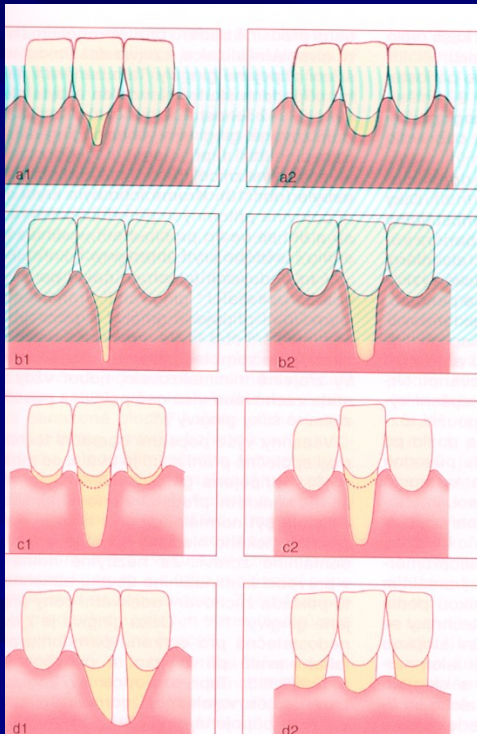
Furcations

■ Classification



Gingival recesions

■ Classification



1

2

3

4





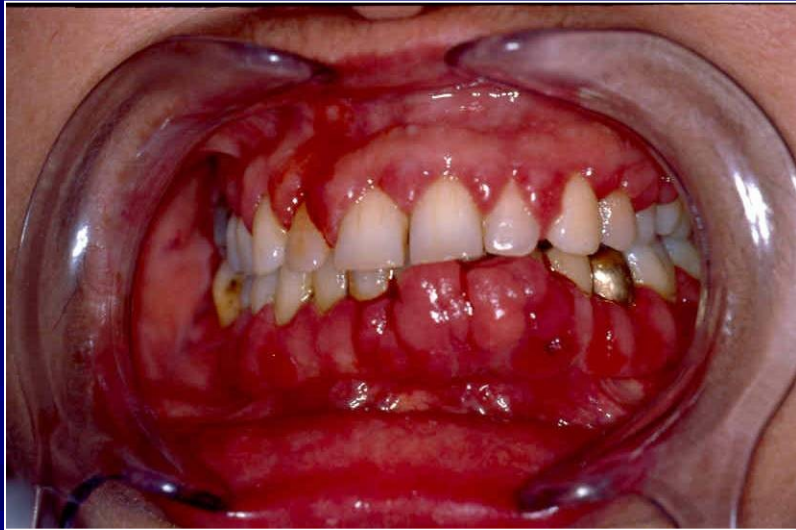
Rtg vyšetření v parodontologii



Treatment plan

- Initial phase. Oral hygiene (motivation of the patient, individual plan of oral hygiene removal of biofilm and supragingival calculus).
- Conservative treatment - subgingival treatment: scaling and root planing



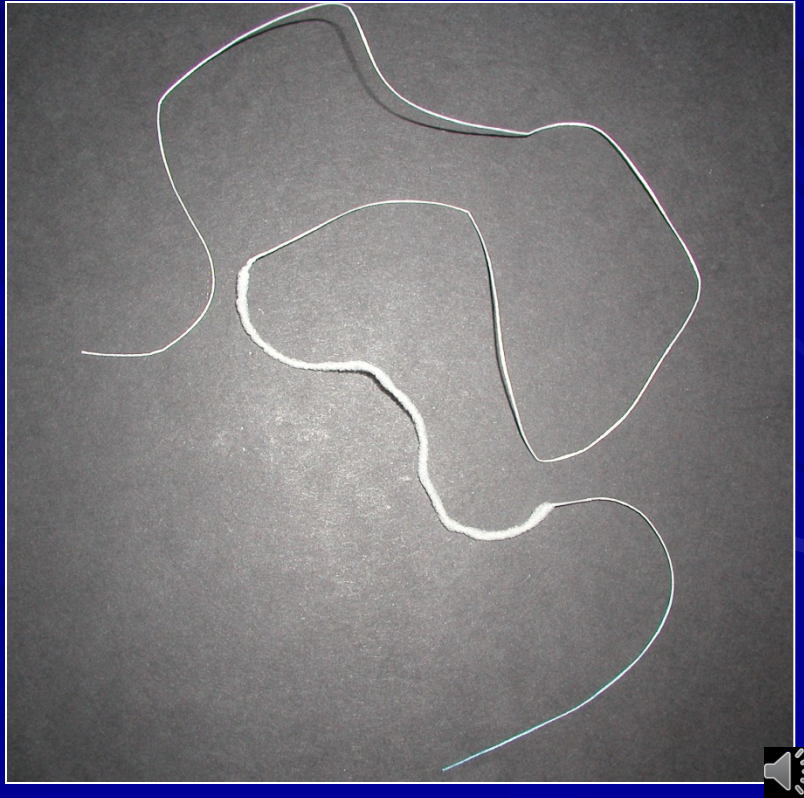
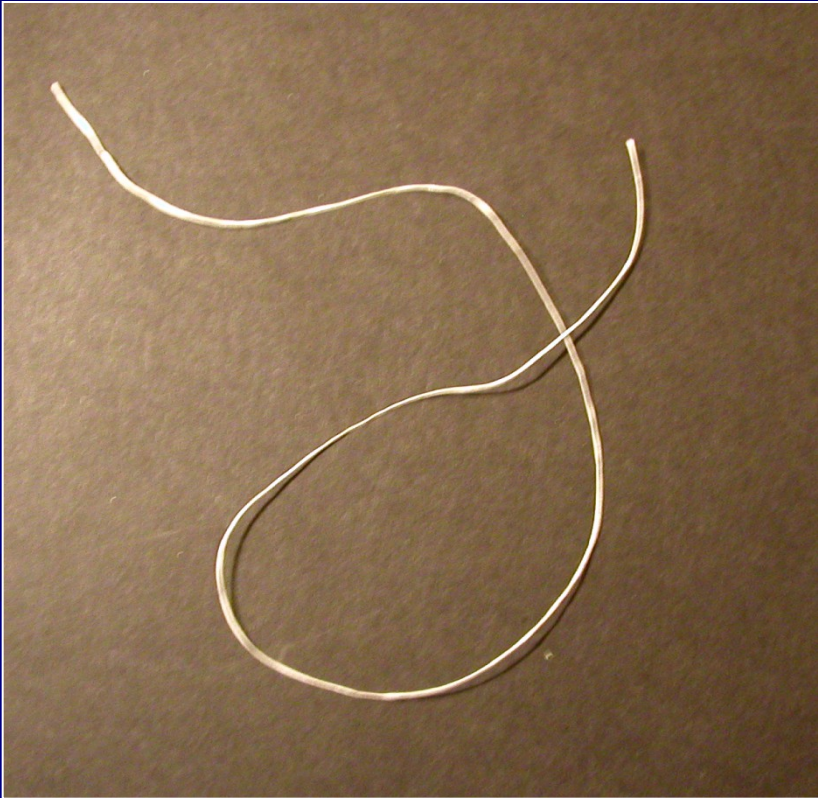


Initial phase

- 1. Oral hygiene – home and professional





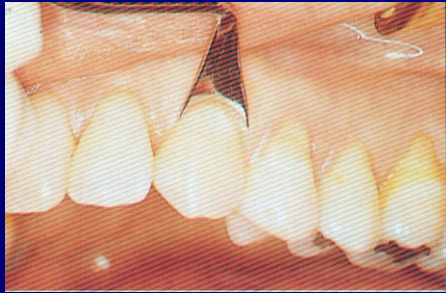
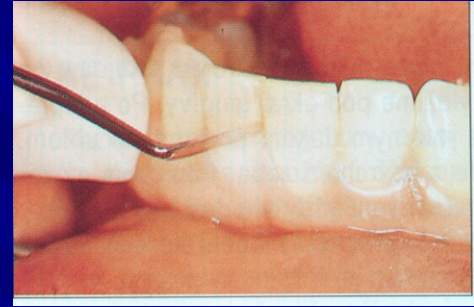
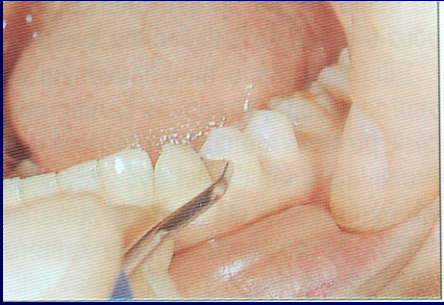


Supragingival treatment

-Hand scalers : sharp pointed instruments of various design

-Ultrasound scalers





Subgingival treatment

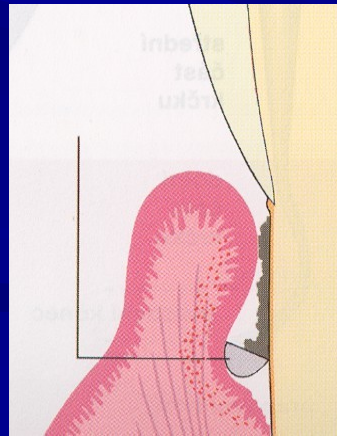
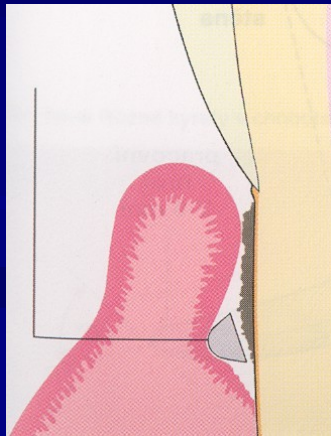
- **The treatment inside the periodontal pocket**
 - **Dental biofilm and calculus removal (subgingivally)**
 - **Ingrowth epithelium removal**
 - **Necrotic cementum removal**
 - **Smoothing of the root surface**

Scaling and root planing



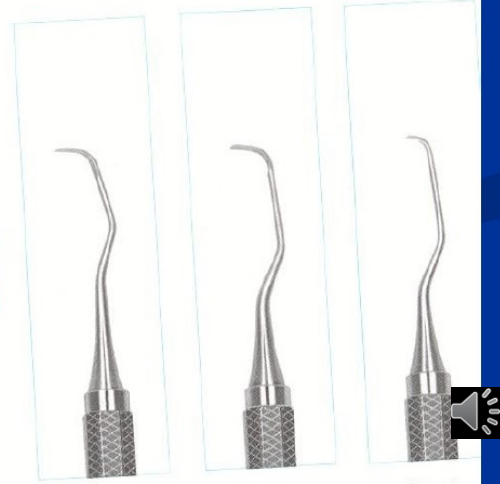
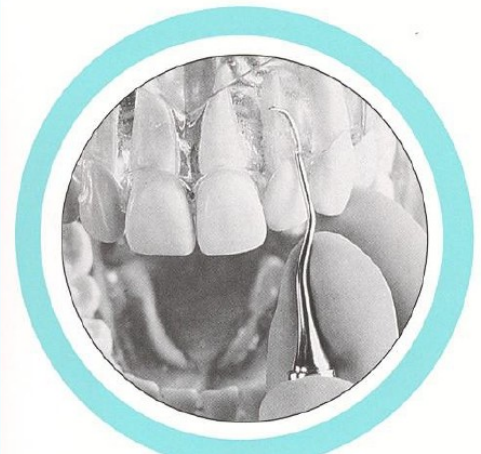
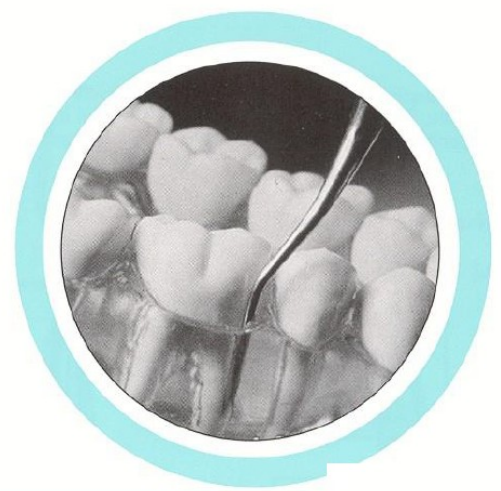
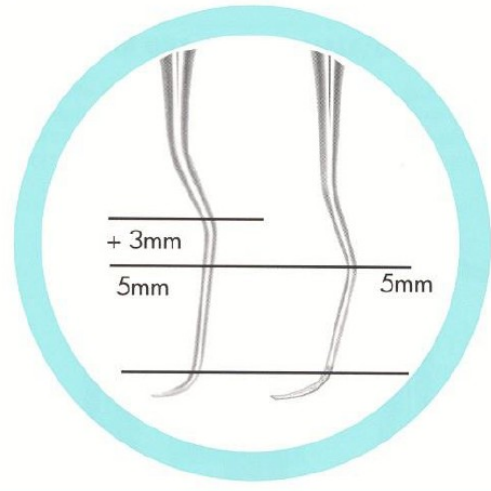
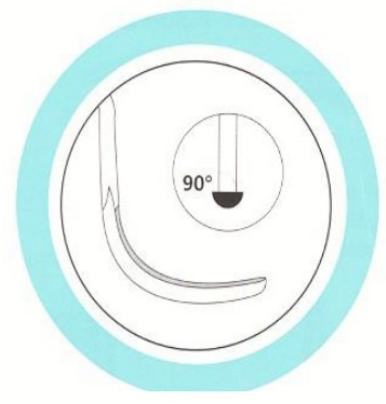
Principles of subgingival treatment

- Currets are used



Curretes

Universal Special (Gracey)

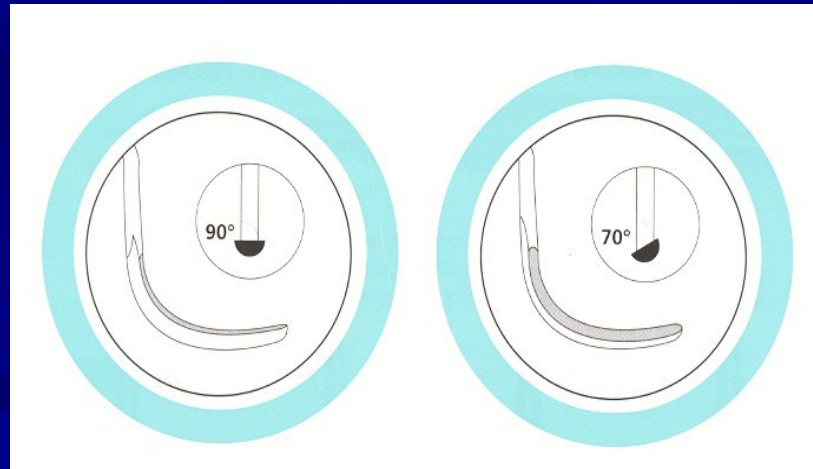


Universal curette – the angle of the working part and the shank is 90° , two blades

Treatment of surface the root and soft tissues

Special (Gracey) curette – the angle between the working part and the shank is 70°

Only one blade is sharp
Treatment of the root surface only
Topic specificity





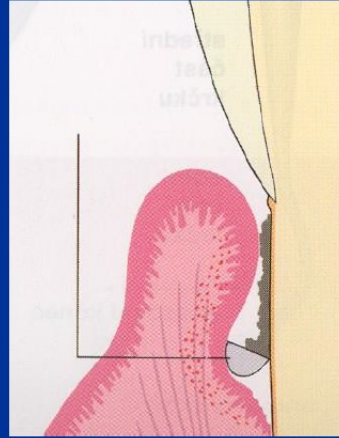
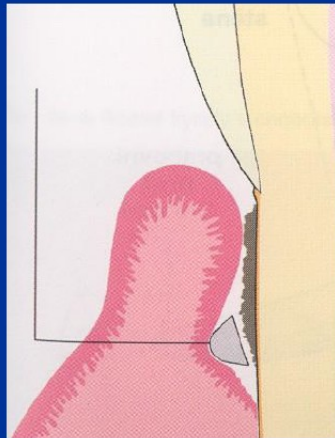
Shank

Edge



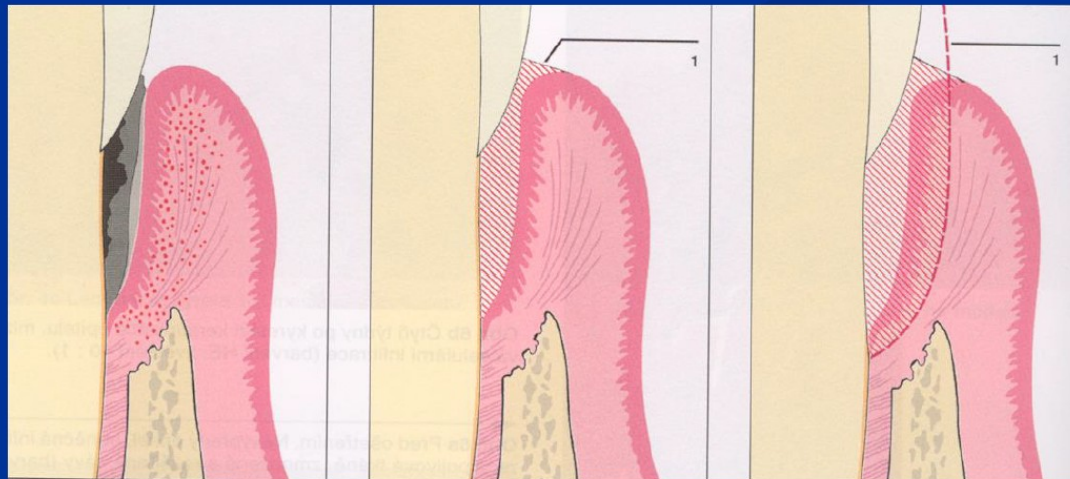
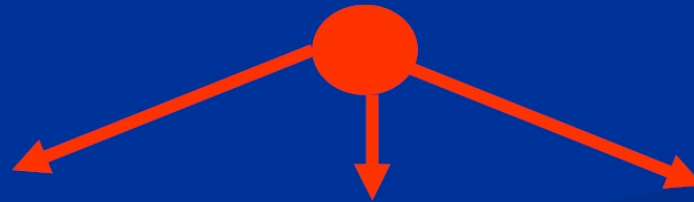
Scaling, root planing

- Gracey curettes, cleaning of the root surface



Therapy

- 2. Subgingival treatment – scaling root planing, curettage



Scalers

- Sharp pointed instruments for supragingival treatment



Curretes

- Sharp spoons for subgingival treatment



Periodontal surgery





Phenytoin



Nifedipin



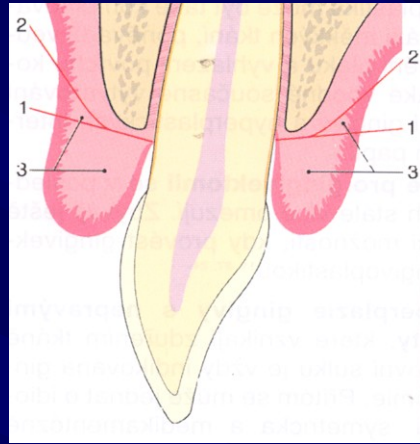
Cyclosporin A



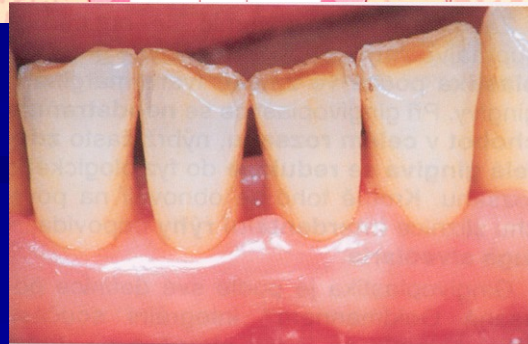
Blokátory kalciových kanálů



Gingivectomy

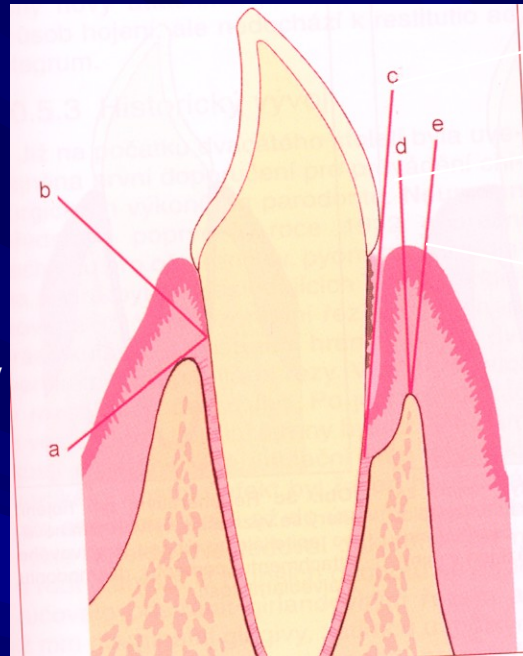


Gingivoplasty



Internal gingivectomy

External gingivectomy



Intrasulcular

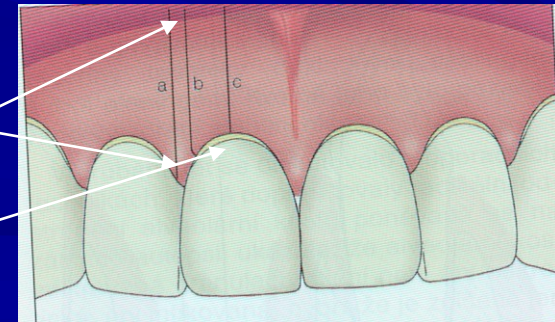
Marginal

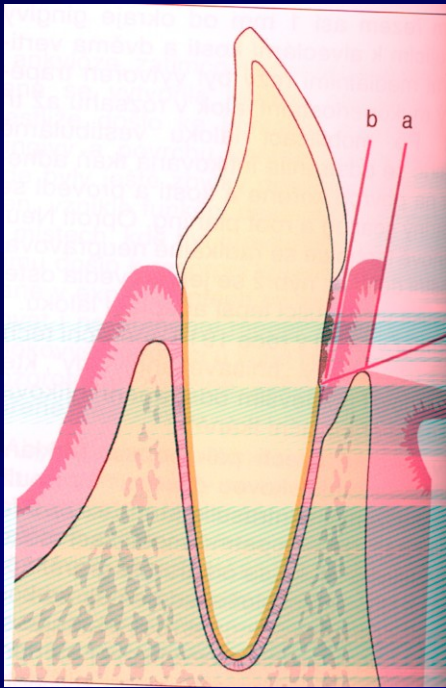
Paramarginal

Papilar

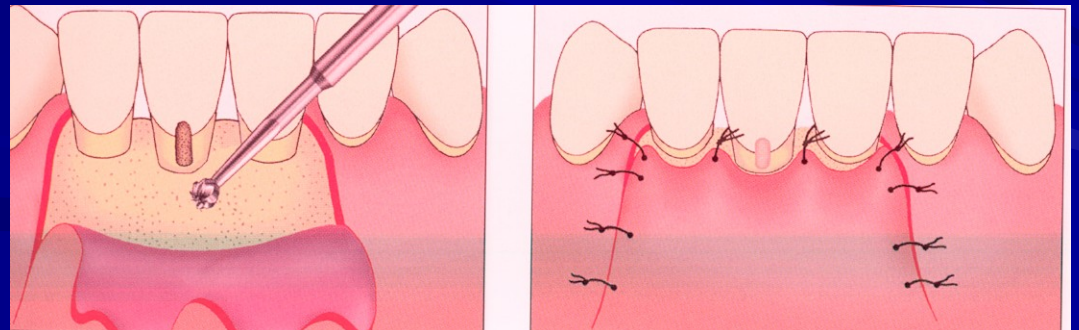
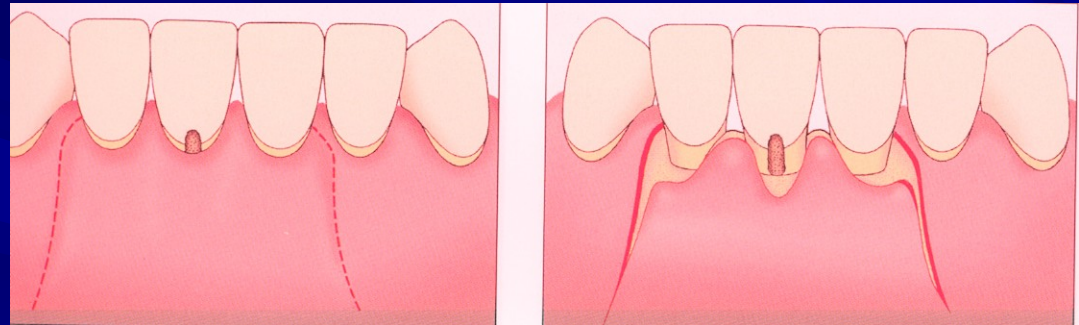
Paramedial

Medial

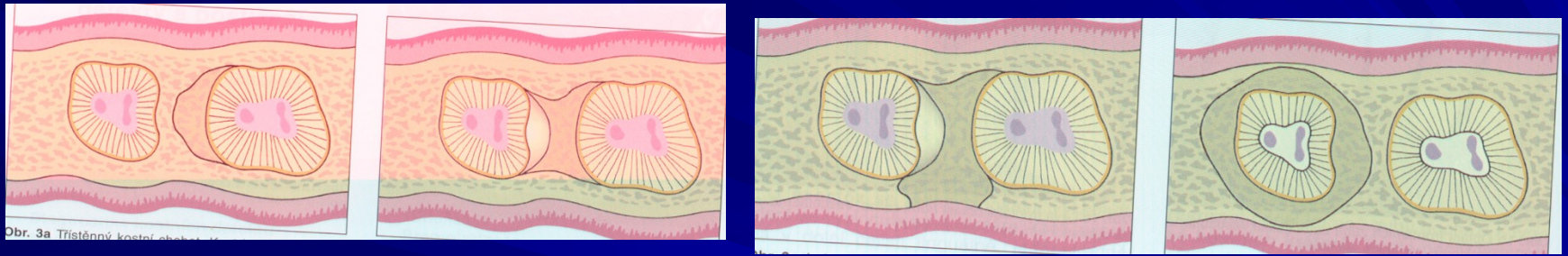




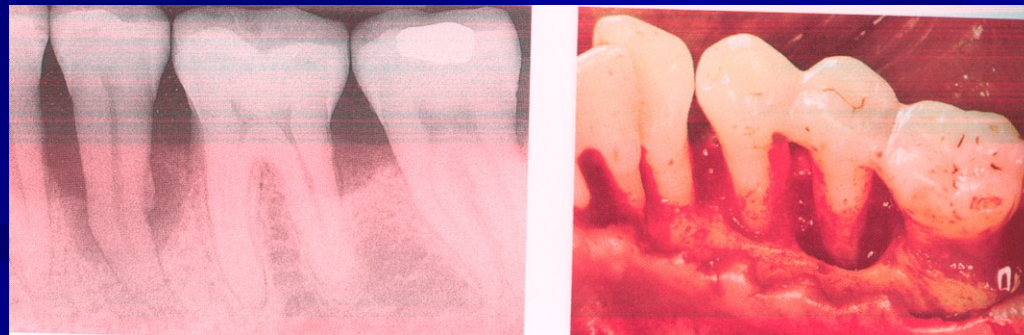
Flap operations



Bone defect operations



Dbr. 3a Třístěnný kostní oběh



Frenulectomy

