Classification acc. to Black

- Class I.

Pit and fissure caries

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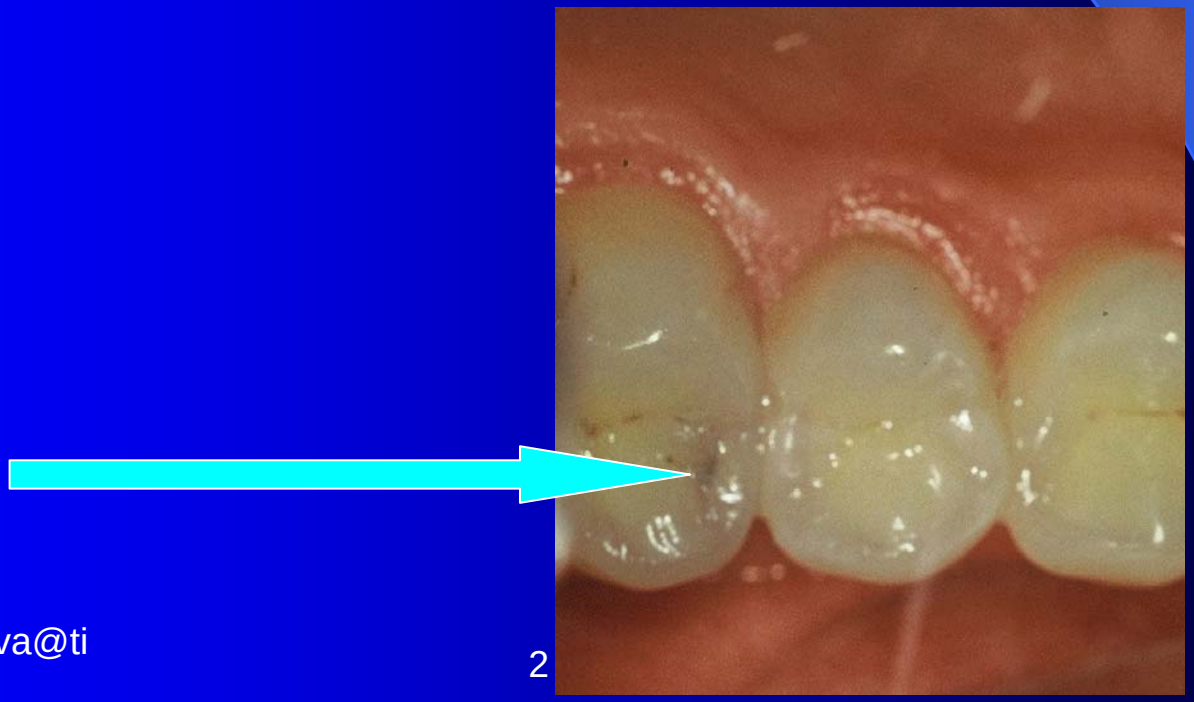
Classification acc. to Black

- Class II.

Proximal surfaces in premolars and molars



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Classification acc. to Black

- Class III.

Proximal surfaces of incisors and canines without lost any part if incisal edge

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Classification acc. to Black

- Class IV.

Proximal surfaces of incisors and canines with lost an incisal ridge

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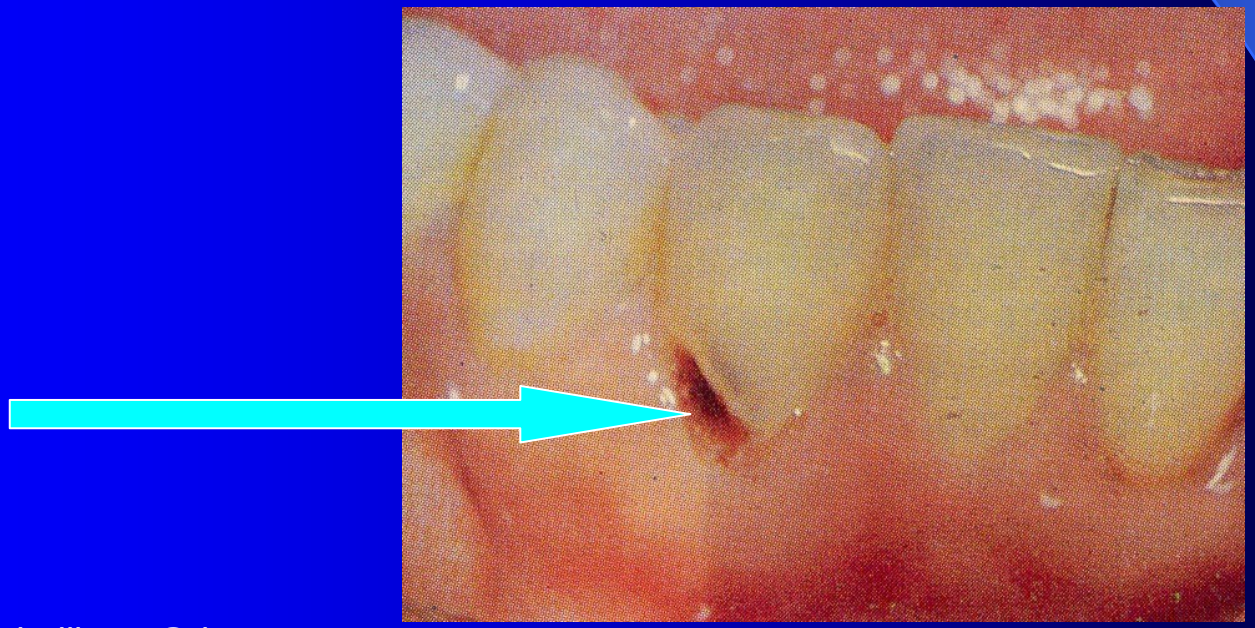
Classification acc. to Black

- Class V. cervical lesions



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Preparation of cavities
Basic rules

Access to the cavity

Outlines – cavosurface margin (extention for prevention)

Principles of retention

Principles of resistance

Excavation of carious dentin

Preparation of borders – finishing

Control

Protection of dentin wound

- Dentin wound should be covered – protection of dental pulp against irritation

Physicial

-thermal

-osmotic

Chemical

Combination

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Protection of dentin wound

Isolation
Filling (small cavities)

Base (moderate – large cavities- depth 2mm and more approx.)

Adhesive systems (composite materials)

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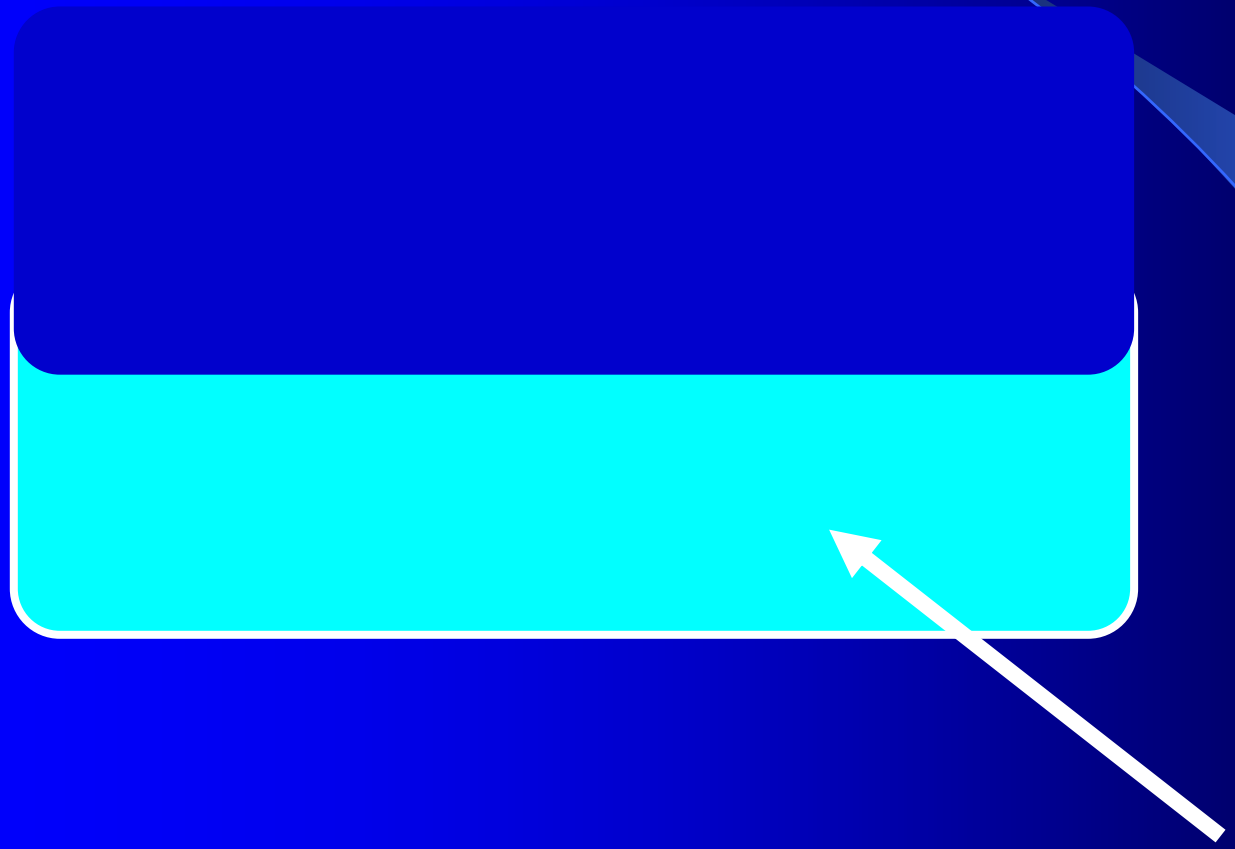
Filling

- Filling replaces lost hard dental tissue anatomically and functionally
- Always different properties in comparison to hard dental tissues.

Base is made usually of zinkoxidphosphate cement It is placed only on pulpal wall



Preparation of the cavity I.st class acc. to Black

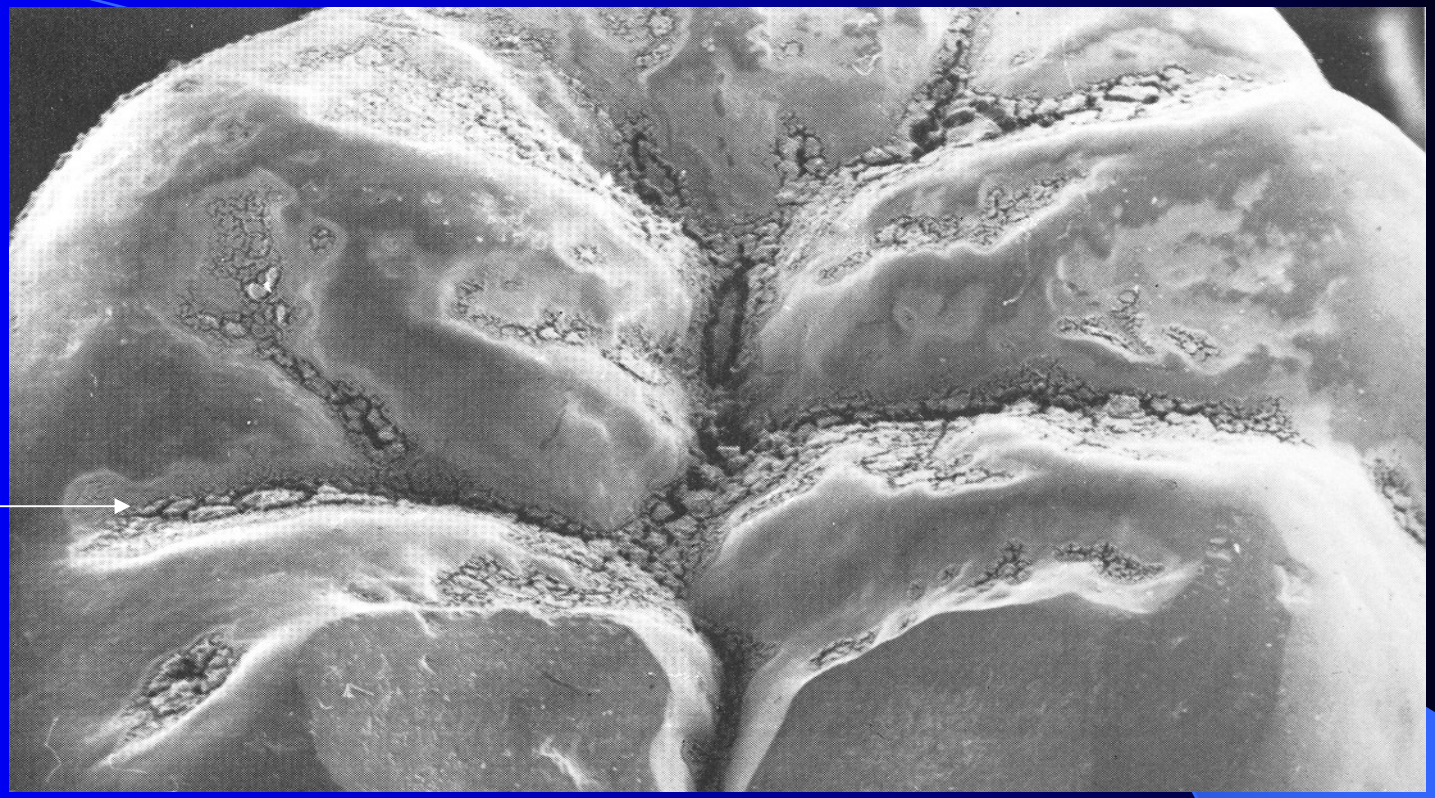
- Cavities in fissures and pits
- (Occlusal surfaces of premolars and molars and in f. coeca)

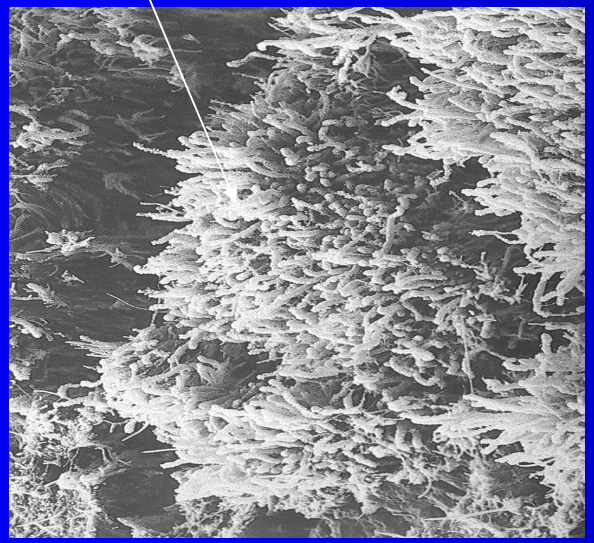
F. Coeca: buccal surfaces of lower molars,

Palatal surfaces of lower molars, palatal surfaces of upper incisors (mostly lateral)

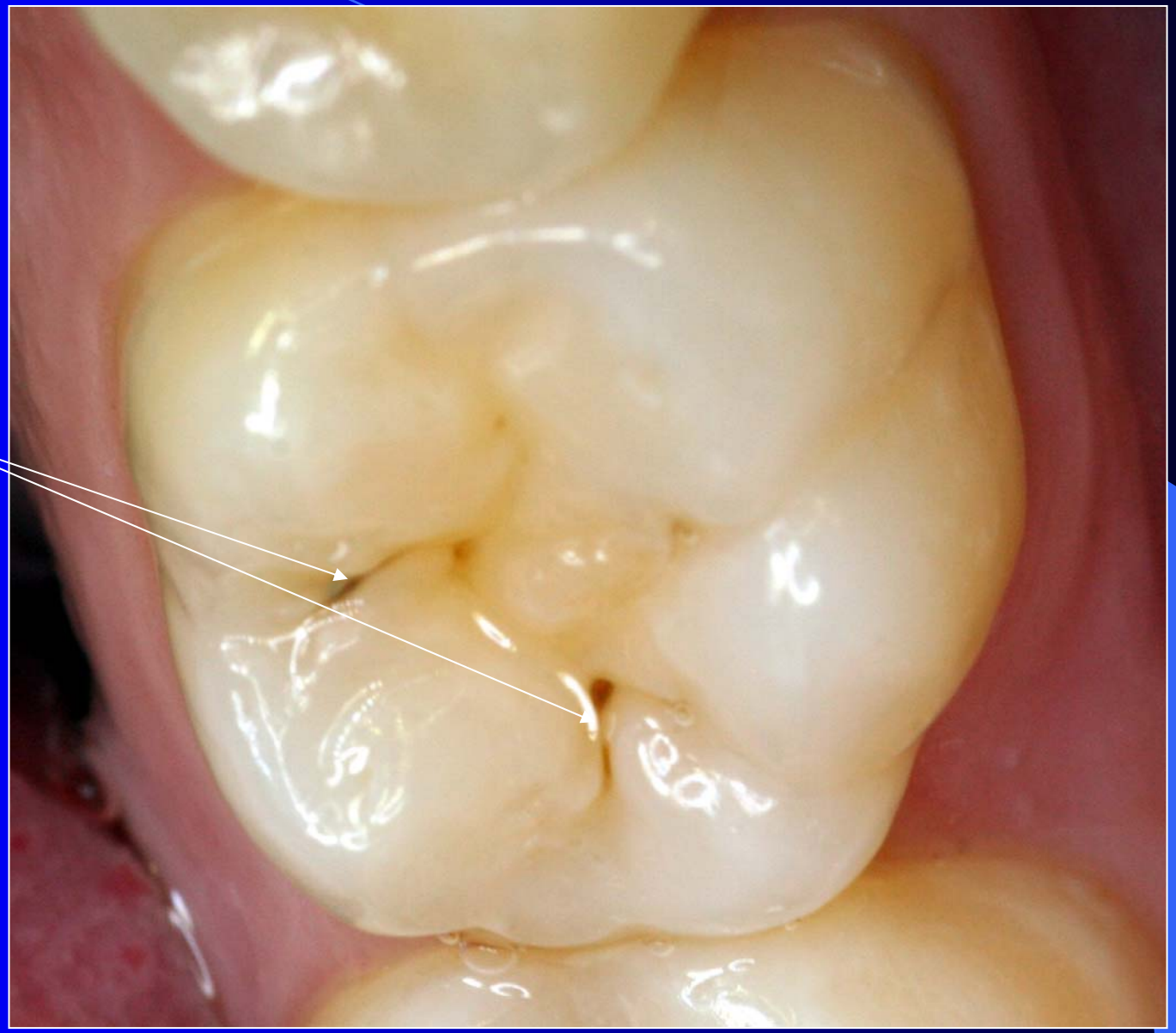
Morphology of fissures

Biofilm





Caries



All pit and fissure restorations (fillings)

They are assigned in to three groups.
R. on occlusal surface of premolars and molars

R. in foramina coeca – usually on occlusal two thirds of the facial and lingual surfaces of molars.

R.on lingual surface of maxillary incisors.

Materials: Amalgam, composite.

Amalgam:

Pertinent material qualities and propeties

Strength

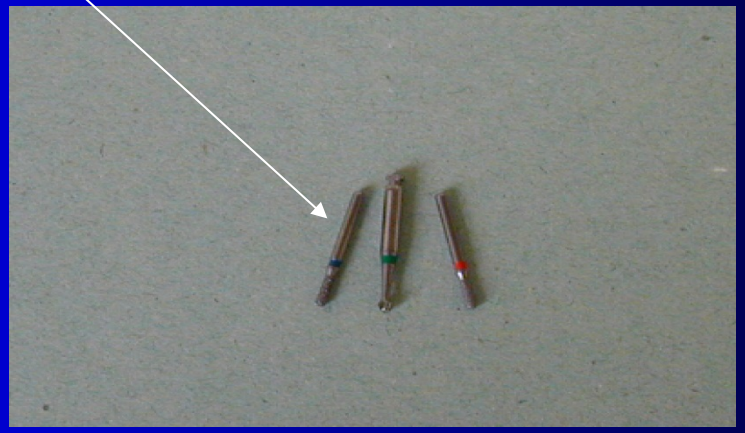
Longevity

Easy of use

Clinically proven sucess

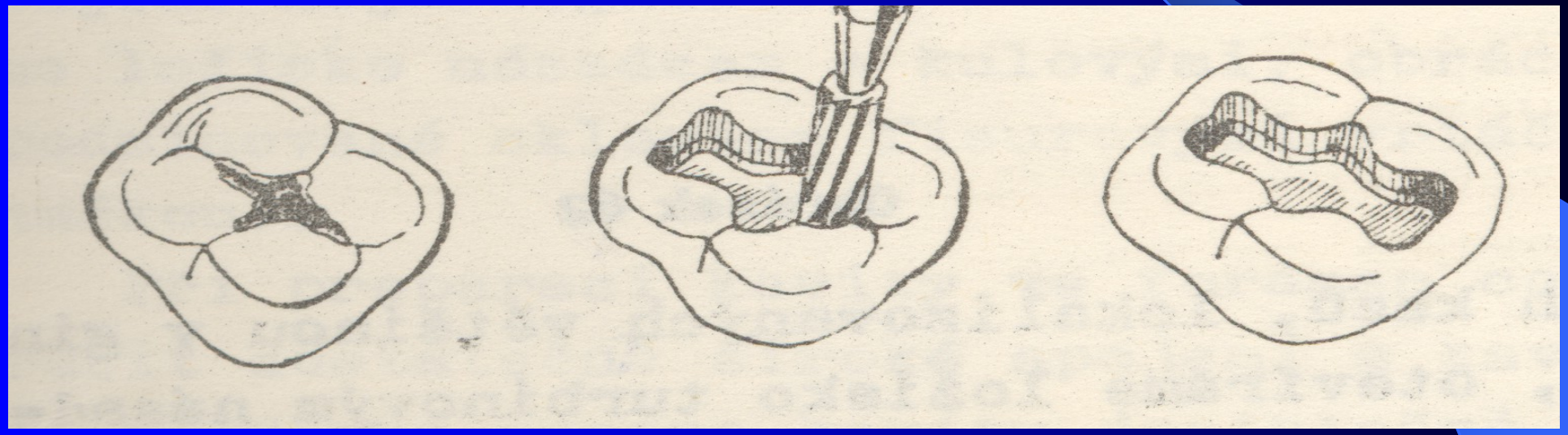
Access to the cavity

- From the occlusal surface using the fissure bur (or diamond burs, see below).



Outline

- Ideal outline includes all occlusal pits and fissures. If crista transversa (1st lower premolar)or obliqua (1st and 2nd upper molar)are not affected, it is strongly recommended no to prepare them.

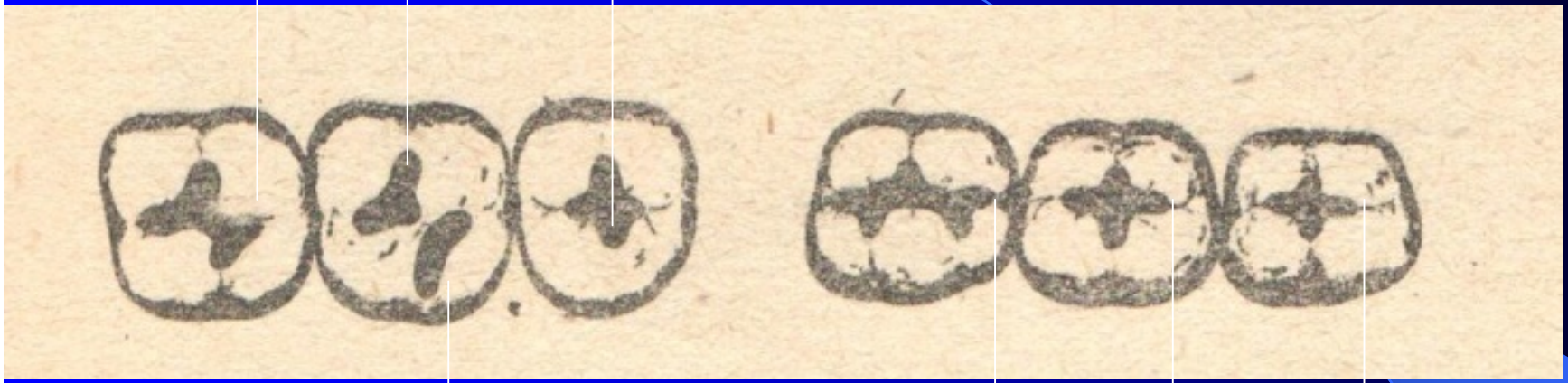


Cavosurface margin is in ½ distance between bottom of the fissure and the cuso

Upper jaw

Molars

M1 M2 M3



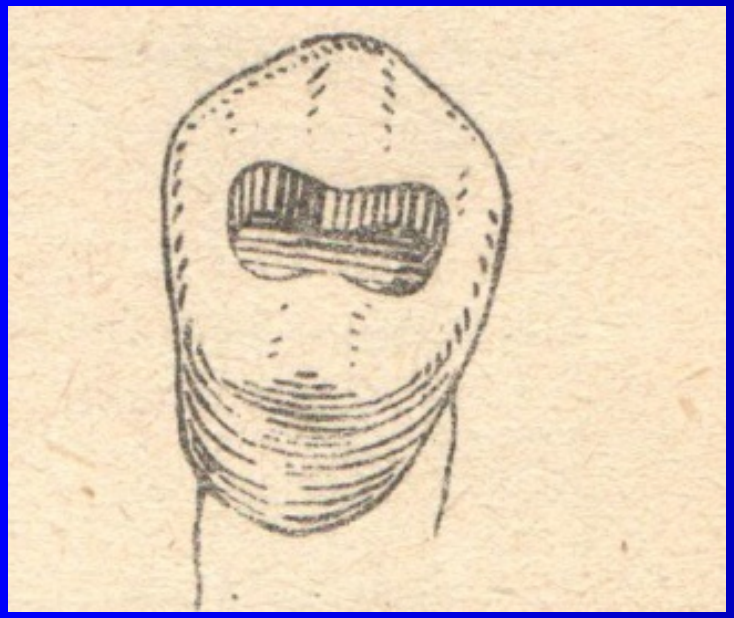
Crista obliqua

M1 M2 M3

Lower jaw

Premolars

Crista transversa
Lower P1

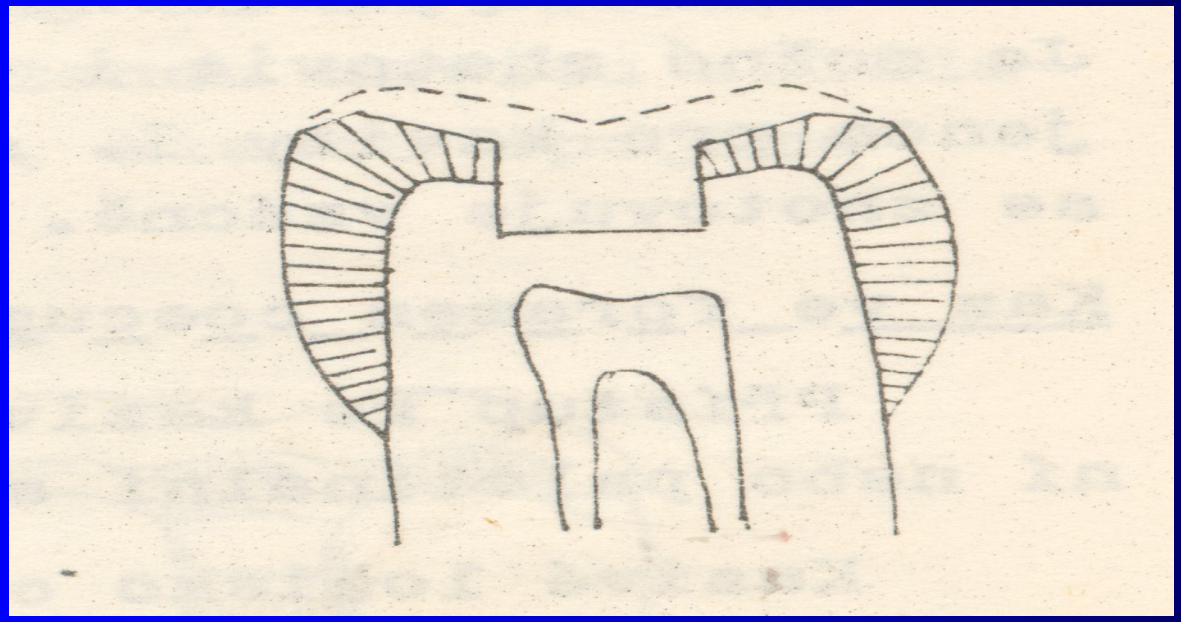


Retention principles

- Prepare the box – the bottom is in dentin
- Undercuts can be prepared, the proximal ridges must not be weakened!

Retention principles

- Box in dentin

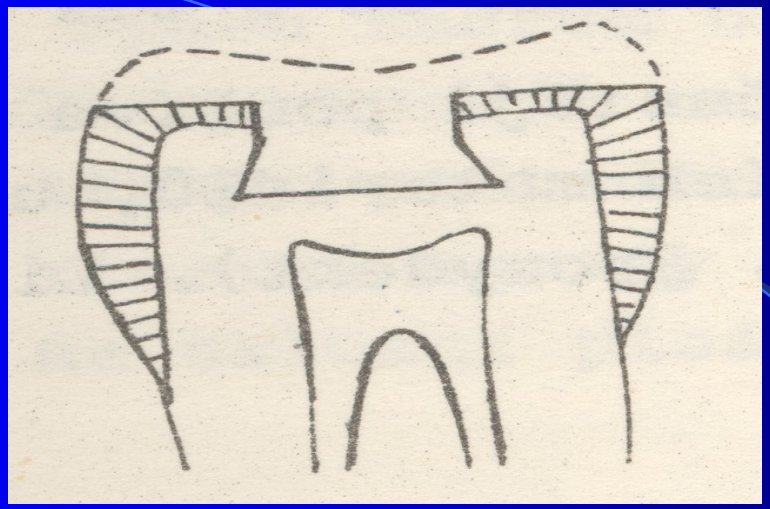


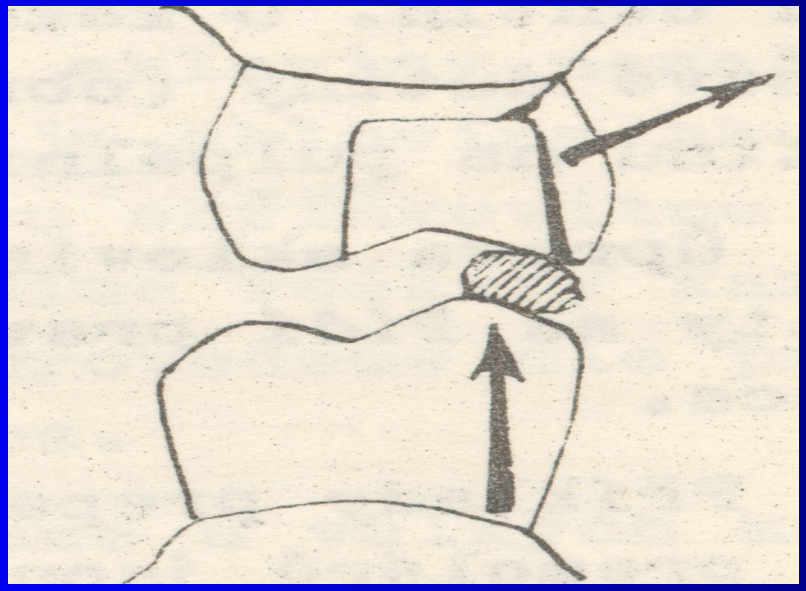
Box (remember rounded edges)

Box with undercut

Resistance principles

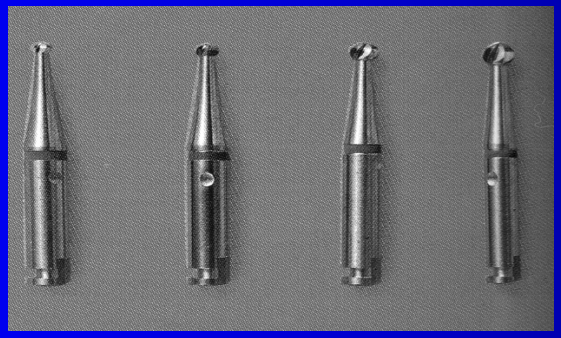
- Box – space for amalgam 1,5 – 2 mm
- Keep the facial and lingual margin extensions as minimal as possible between the central groove and the cusp tips. Max 1/2
- Extending the outline to include fissures, thereby placing the margins on relatively smooth sound tooth structure.
- Minimally extending into the marginal ridge without removing dentinal support.
- Never leave the enamel undermined
- All corners are round, the bottom smooth.



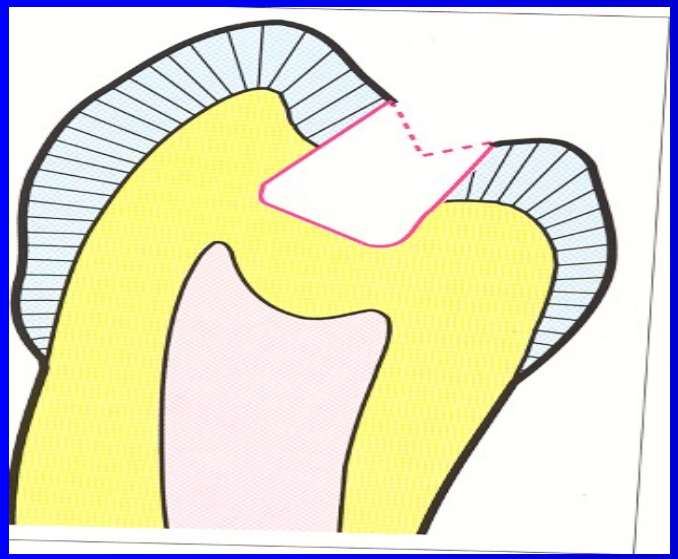


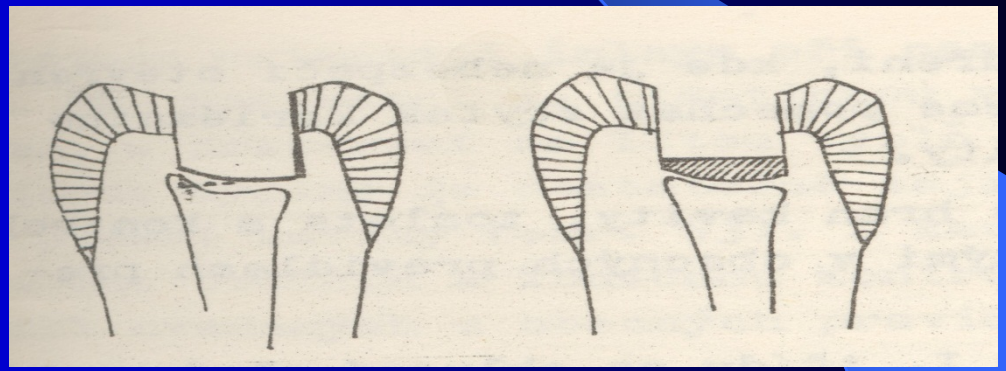
Removal of carious, infected, dentin

- Spoon excavator or a slowly revolving , round carbid bur of appropriate size.



The pulpal wall and pulp chamber



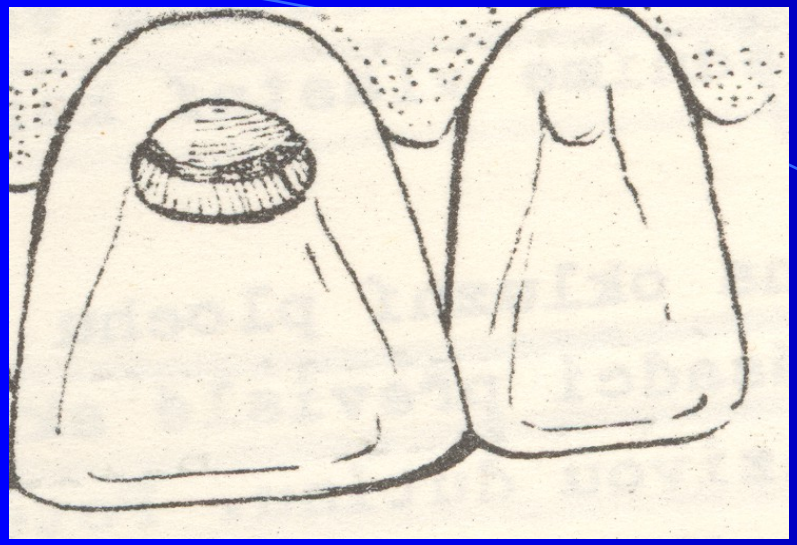


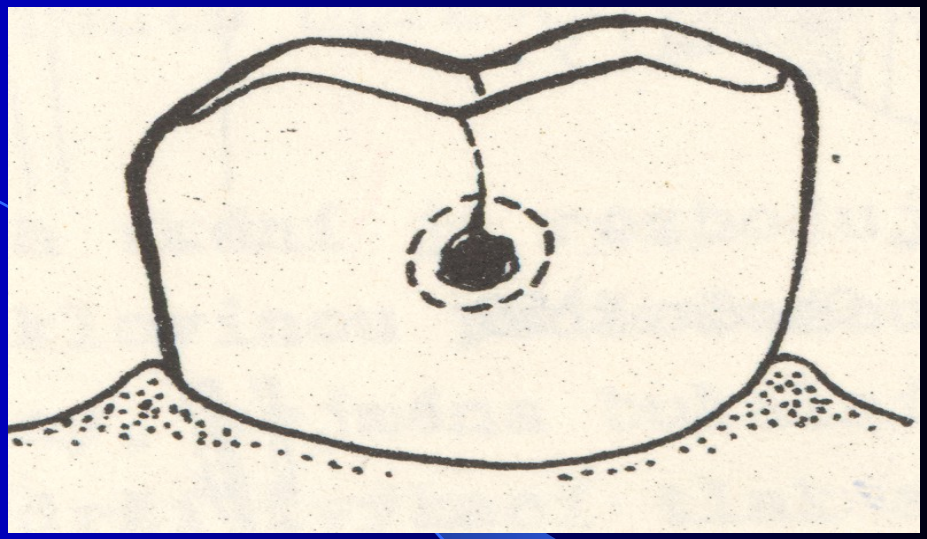
Finishing and polishing

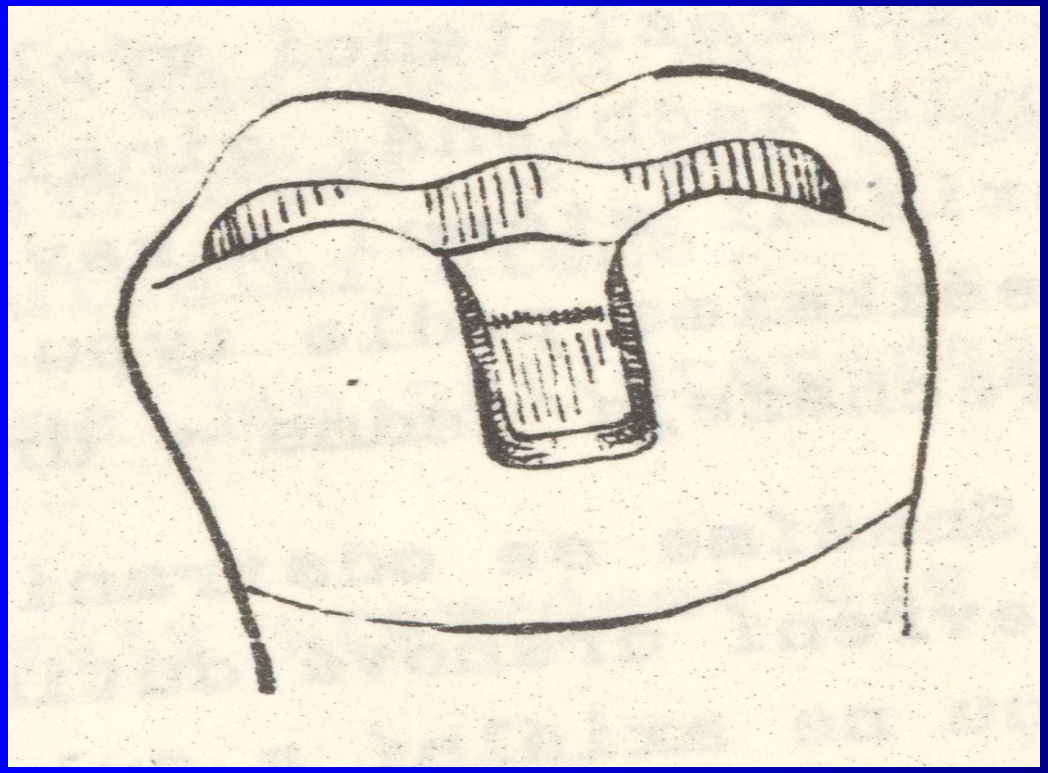
- Fine grit diamond bur.

Final control

- Wash and dry the cavity
- Check the praparation in good illumination





Preparation is limited on the caries lesion
1,5 mm deep
Undercuts can be prepared

If the caries undermined the occlusa enamel, prepare the cavity on the occlusal surface.