Classification acc. to Black

- Class I.

Pit and fissure caries

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Classification acc. to Black

- Class II.

Proximal surfaces in pre

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Classification acc. to Black

- Class III.

Proximal surfaces of incisors and canines without

lost an incisal ridge

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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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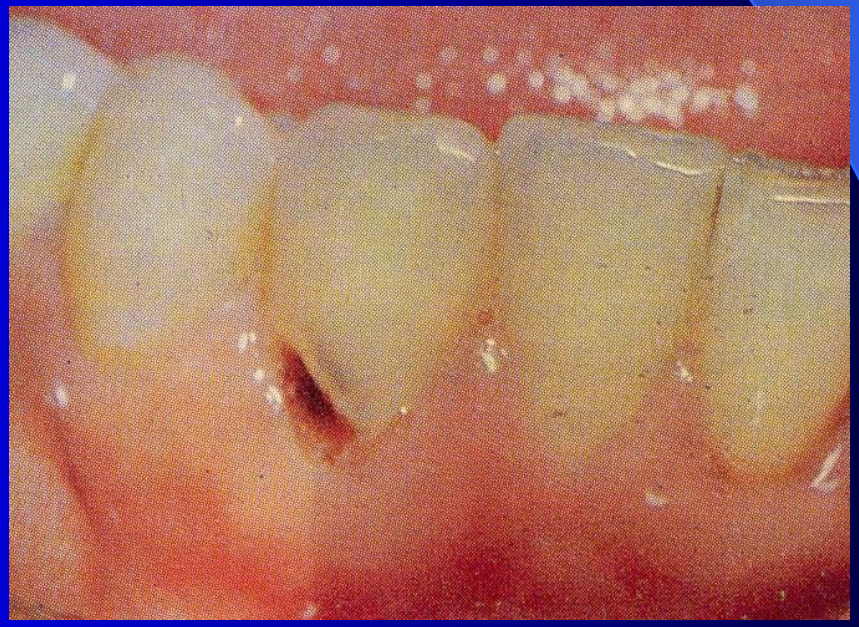
Classification acc. to Black

- Class V. cervical lesions



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Basic rules preparation of cavities

Access to the cavity

Outlines – cavosurface margin (extention for prevention)

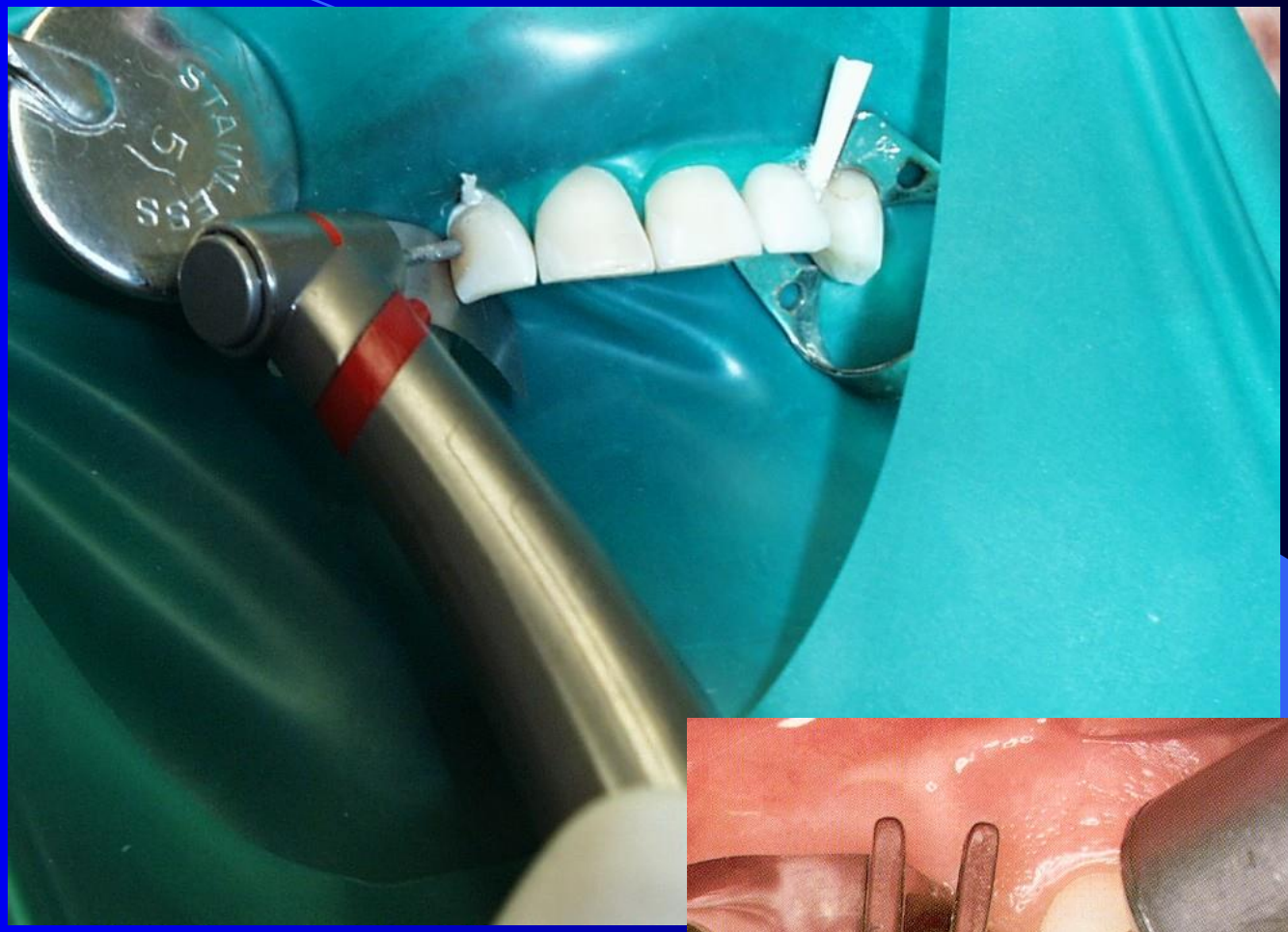
Retention

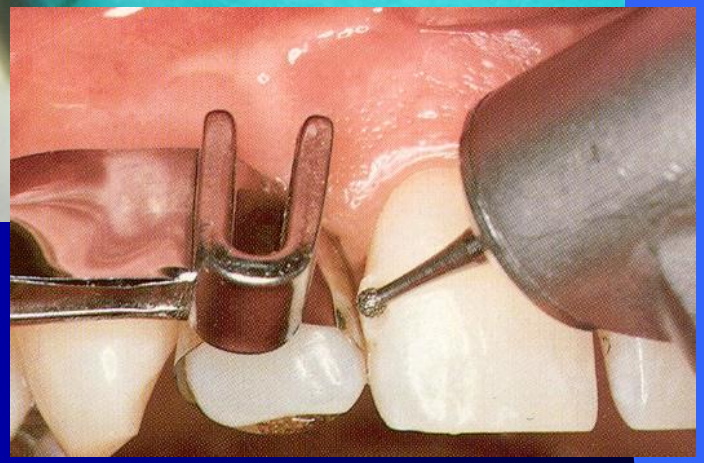
Resistance

Excavation of carious dentin

Preparation of borders – finishing

Control





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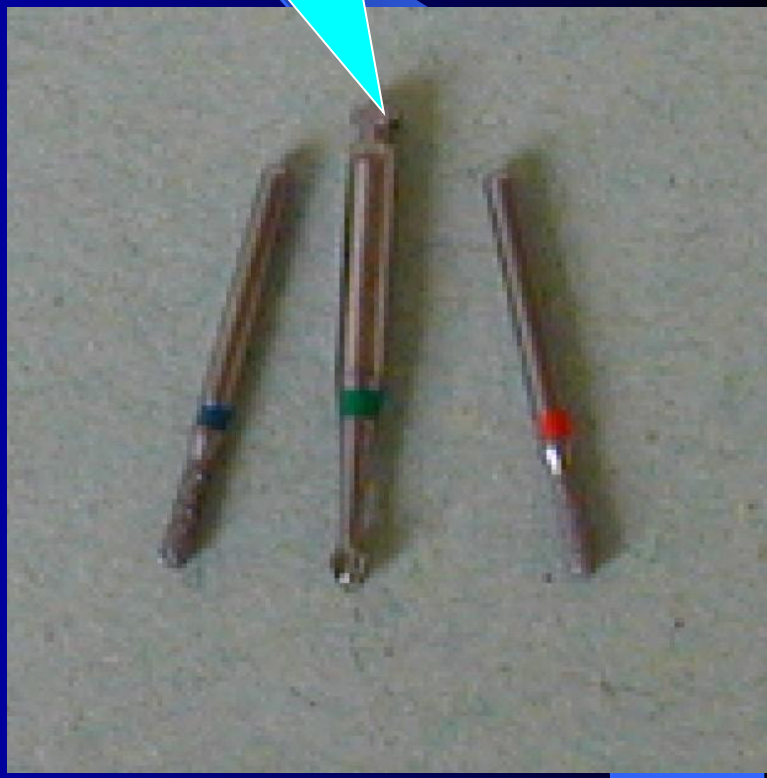

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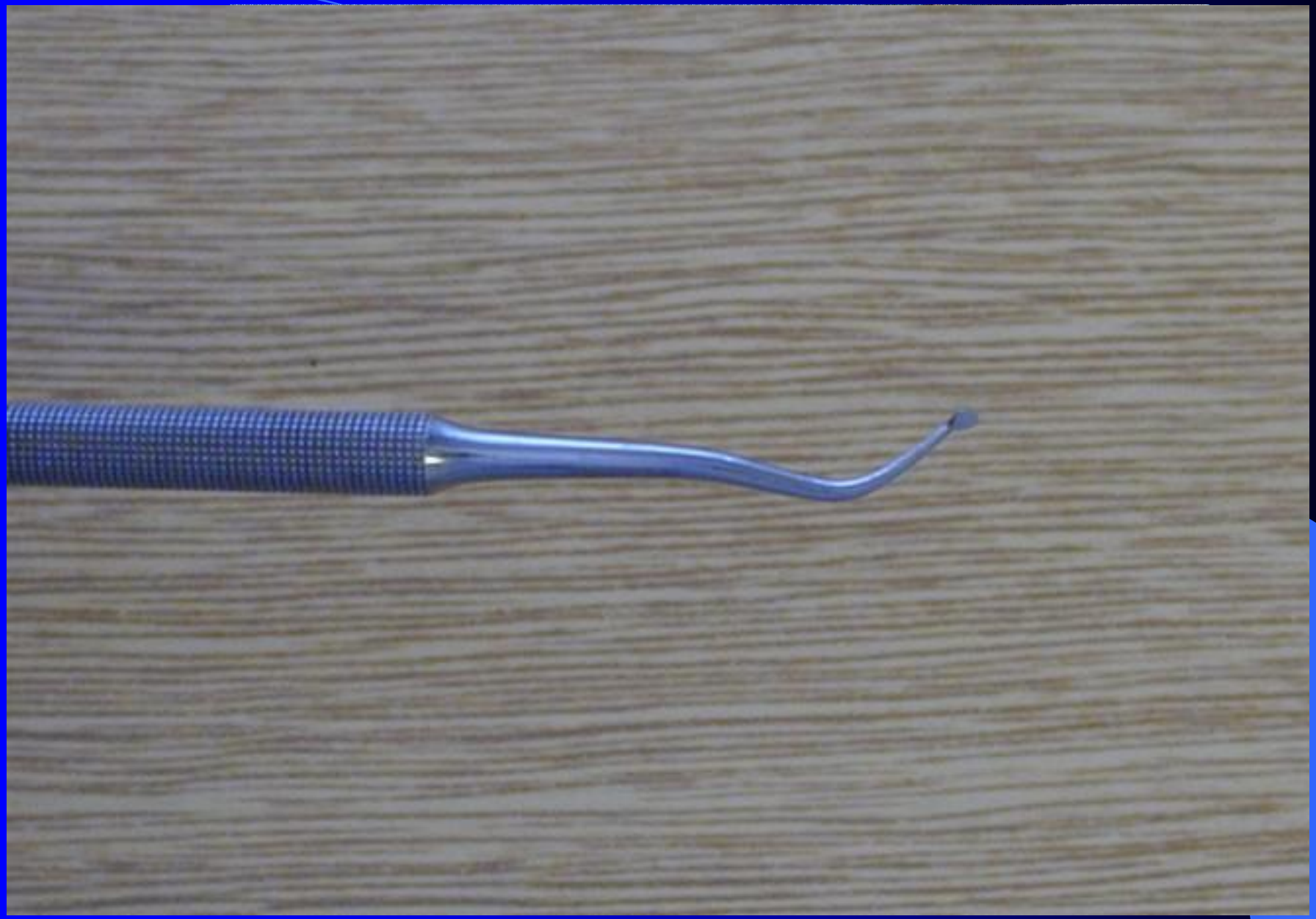

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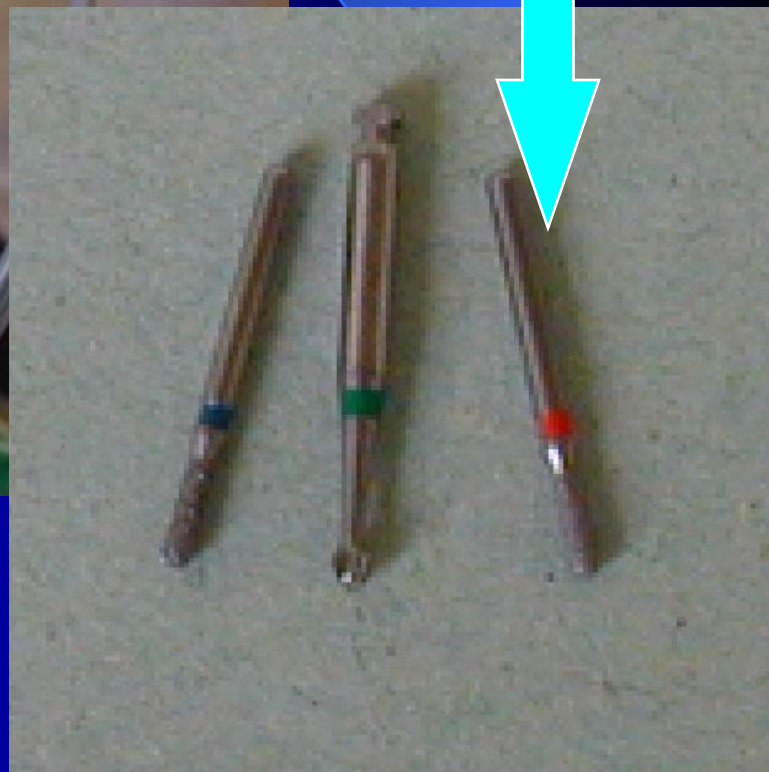

Úprava sklovinných stěn

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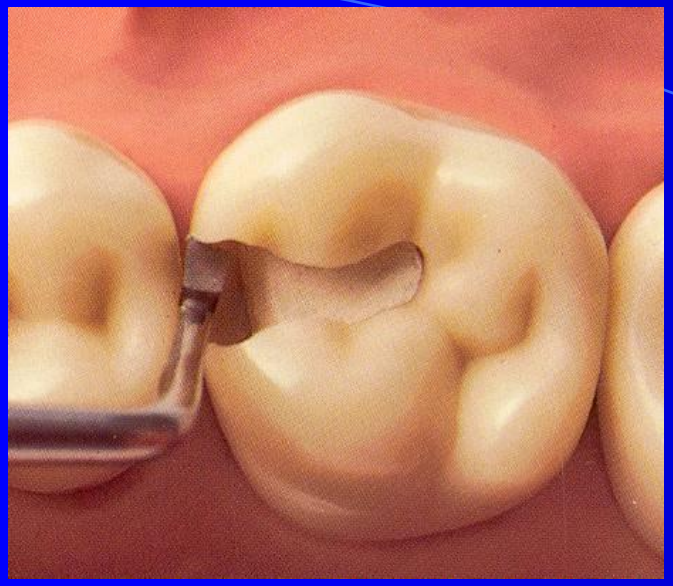

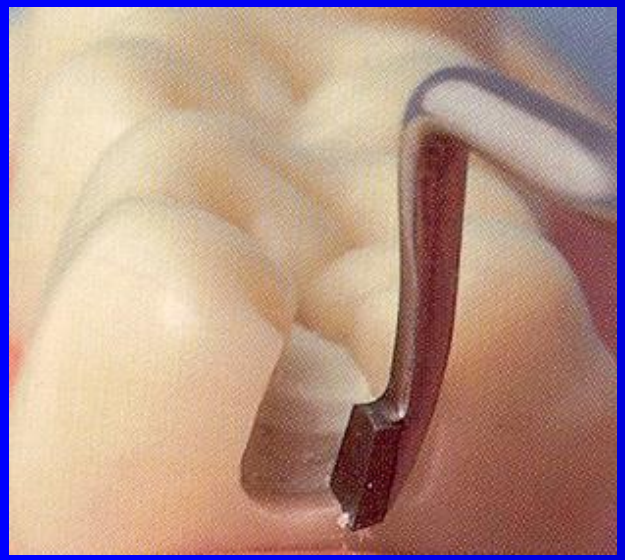

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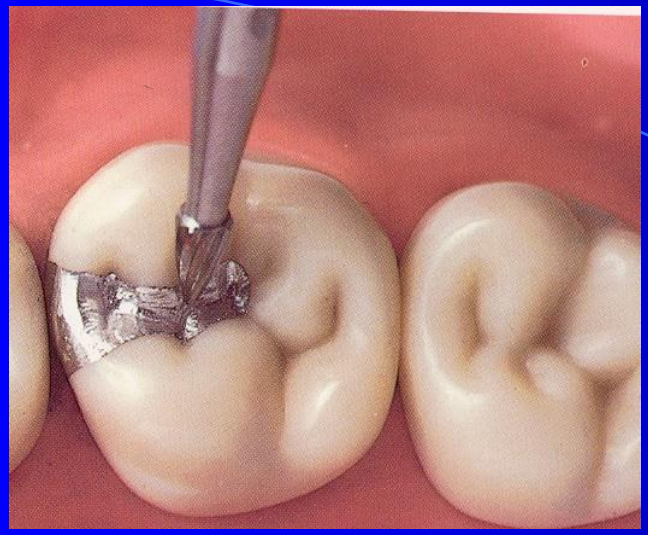

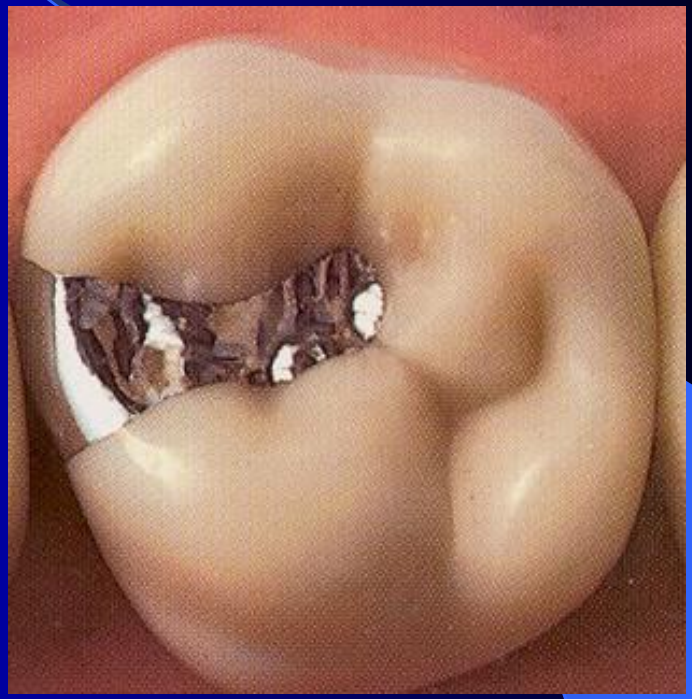

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Protection of dentin wound

- Dentin wound – open dentin tubules – movement of dentinal liquor – hydrodynamic effect.

Phycial rasons

-thermal

-osmotic

Chemical reasons

Combination

Protection of dentin wound

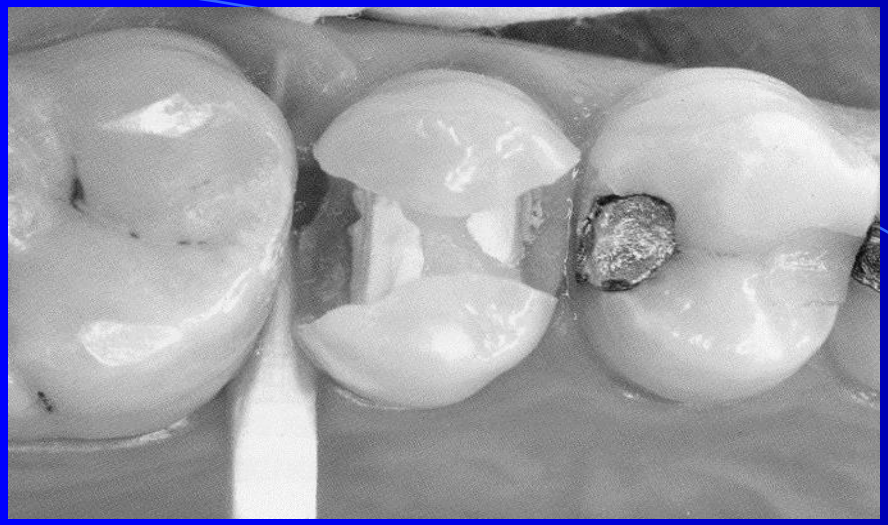
Isolation
Base
Lining
Subbase

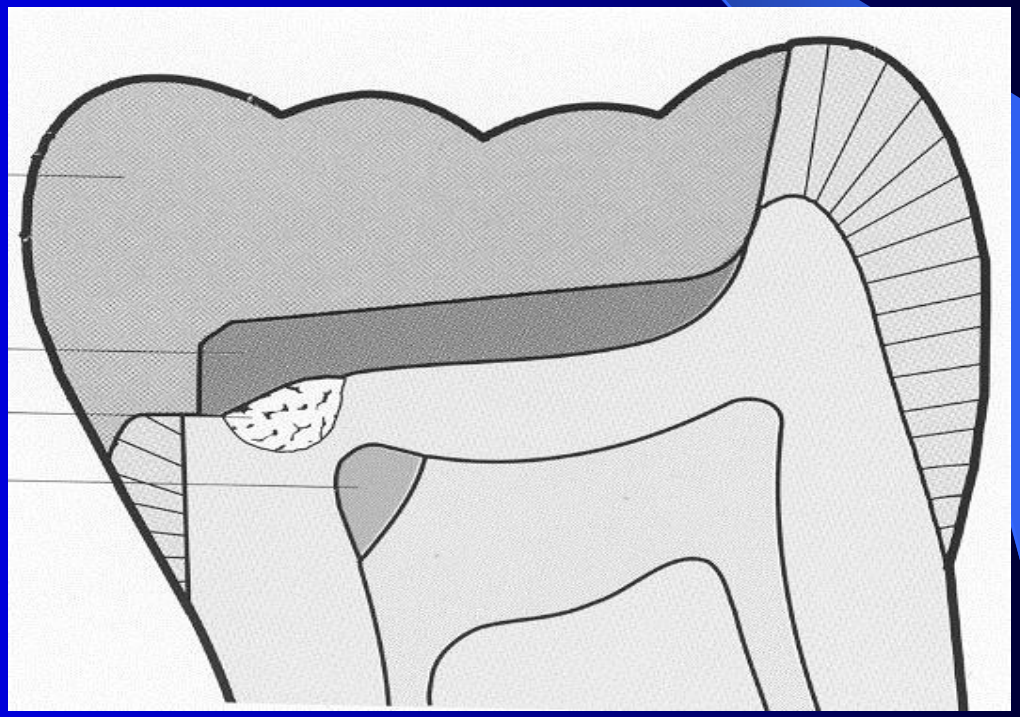
Adhesive systems (explanatiom later)

Making fillings

- Filling replaces lost hard dentalů tissue anatomically and functionally

- Always different properties in comparison to hard dental tissues.





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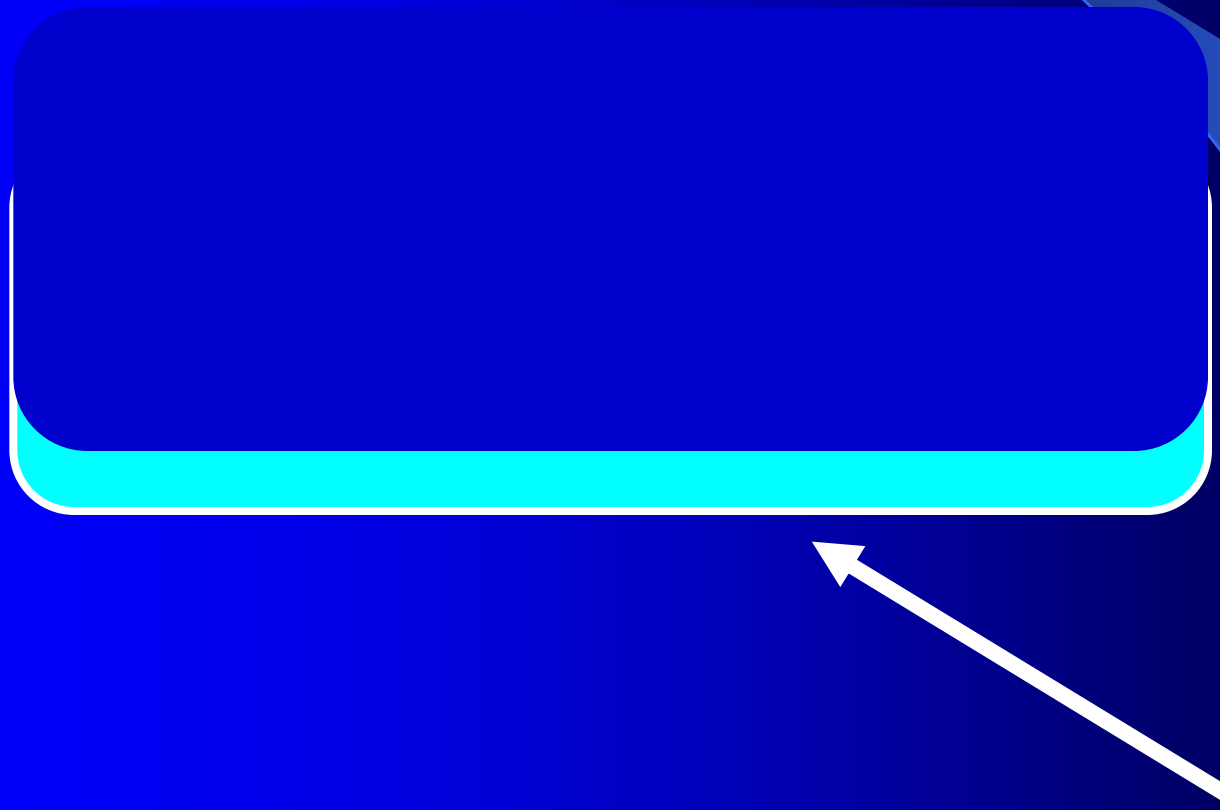
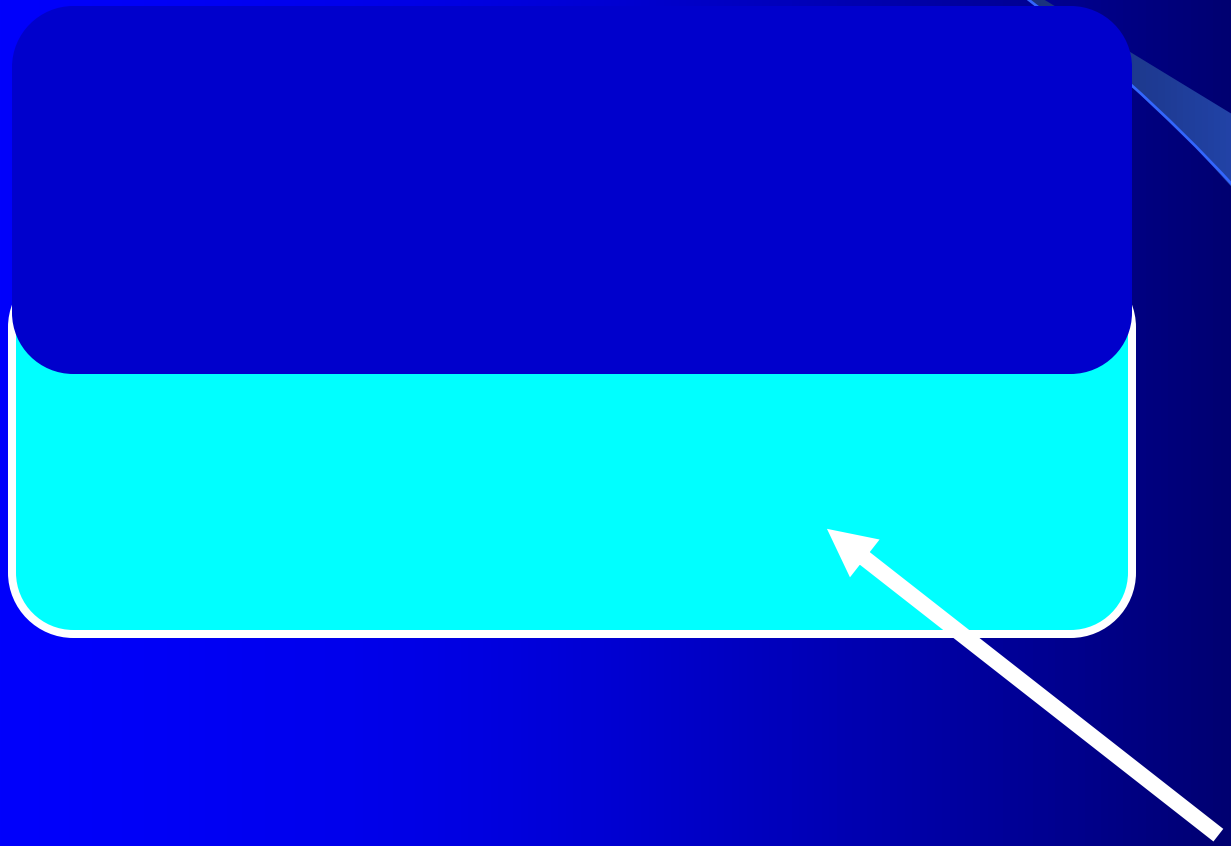
Lining



Base



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 od canines.

All pit and fissure restorations.

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

Ease of use

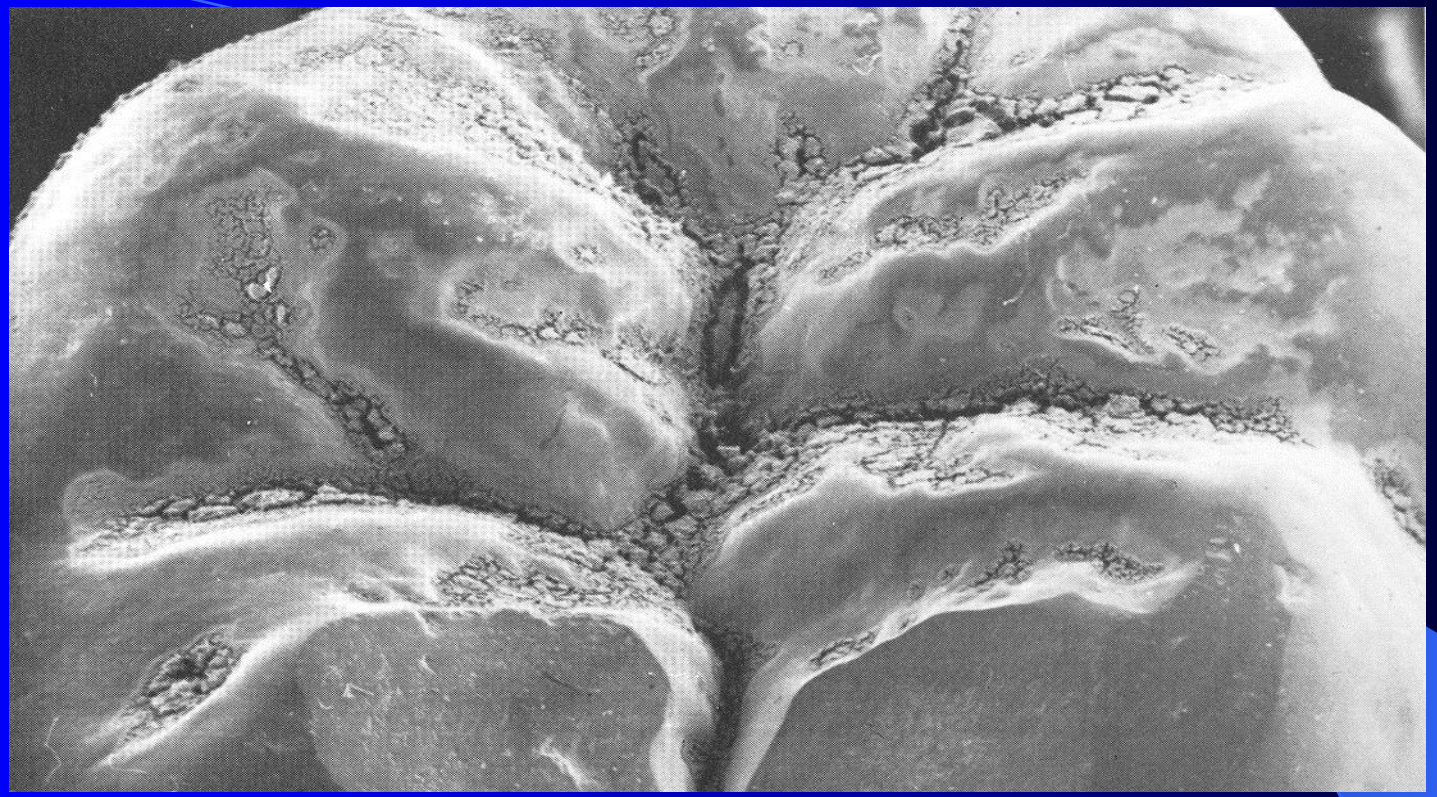
Clinically proven sucess

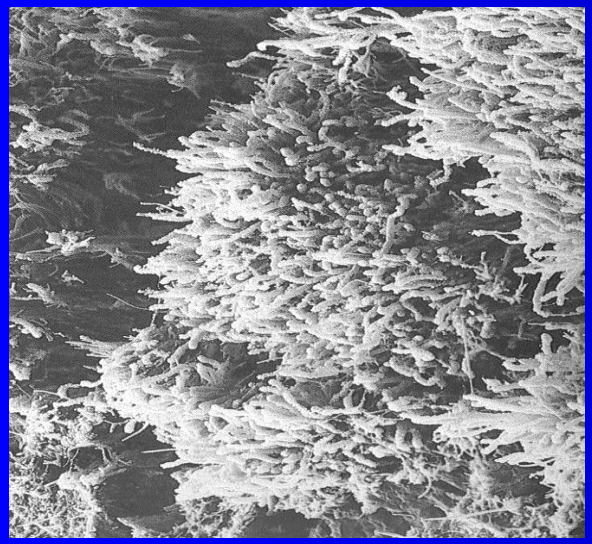
Indications

- Moderate to large restorations
- Restorations that are not in highly aesthetics areas
- Restorations that have heavy occlusal contacts
- Restorations that cannot be well isolated
- Restorations that extend onto the root surface
- Foundations
- Abutmjent teeth for removable partioal dentures
- Temporary or caries control restorations.

Contraindications

- Aesthetically prominent areas of posterior teeth
- Small moderate classes I. that can be well isolated





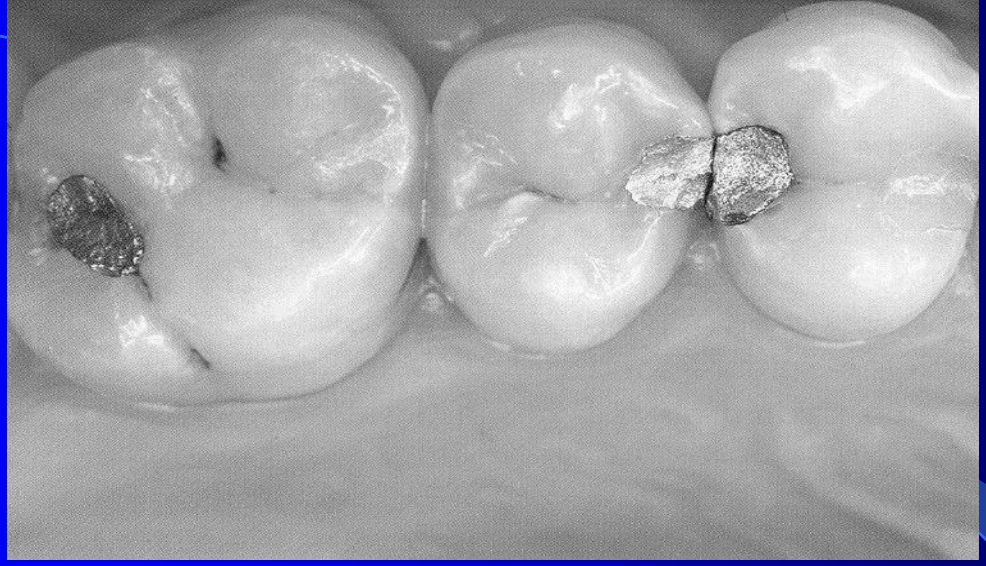

V
S
FW
FB

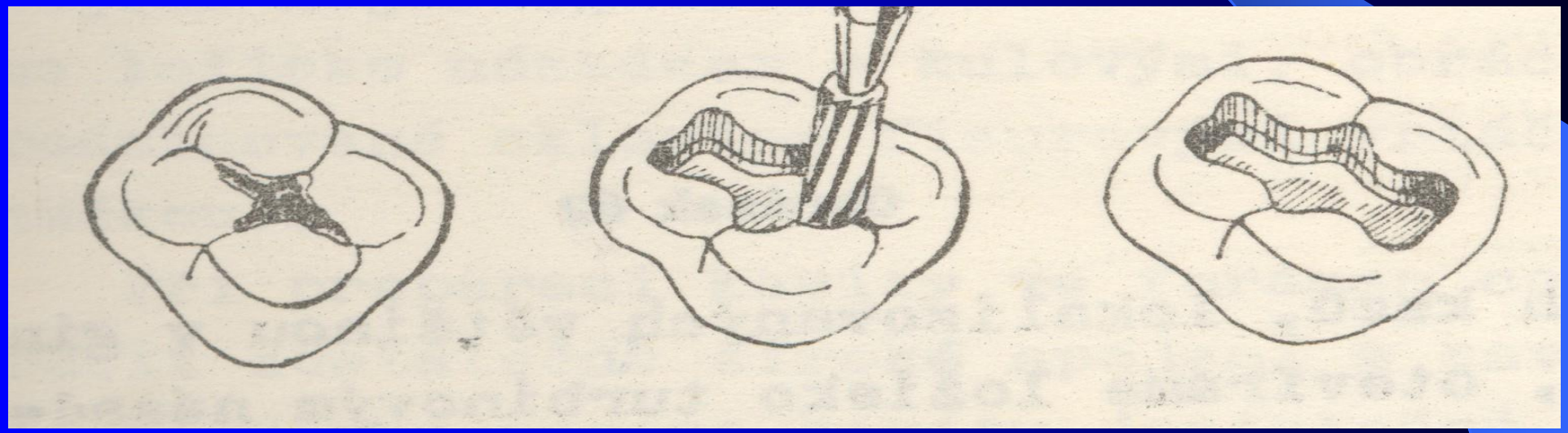
Access to the cavity

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

Outline

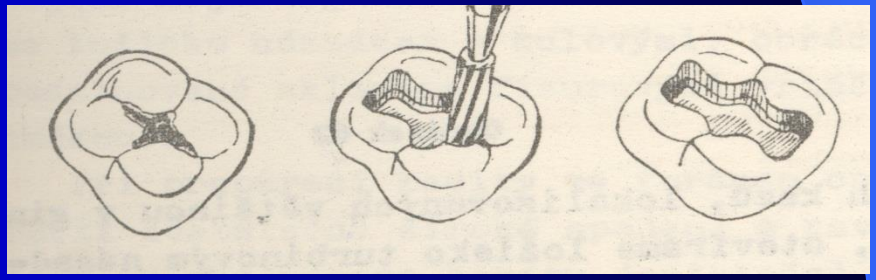
- Ideal outline includes all occlusal pits and fissures. If crista transversa od obliqua are no affected, it is recommended no to prepare them.





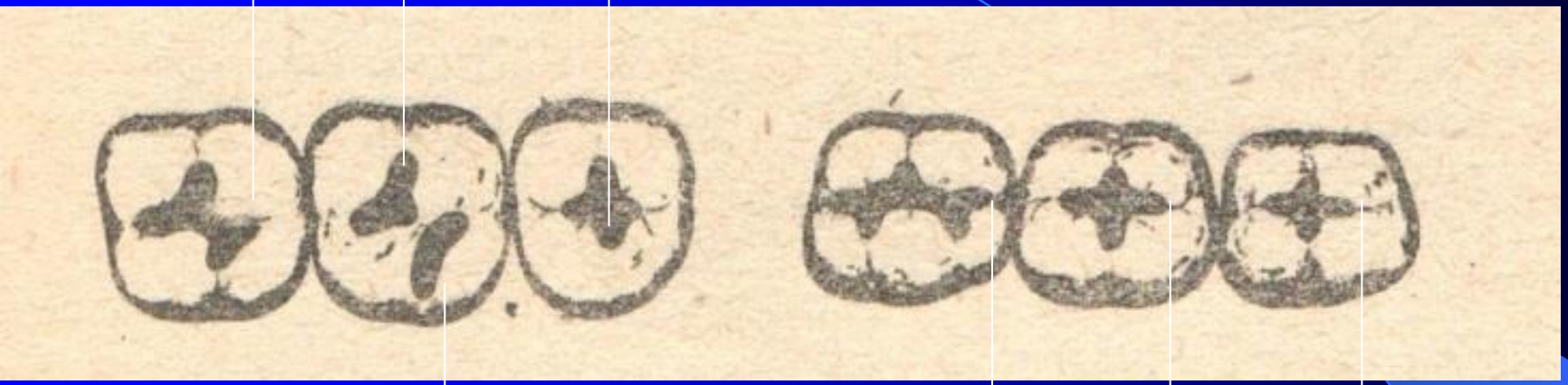
Vytvoření obrysu kavity a preventivní extenze

Kavita zaujímá veškeré rýhy ústící do Ložiska (kavita kopíruje fissurální komplex). Crista obliqua nebo crista transversa se ponechává, není – li zasažena kazem.



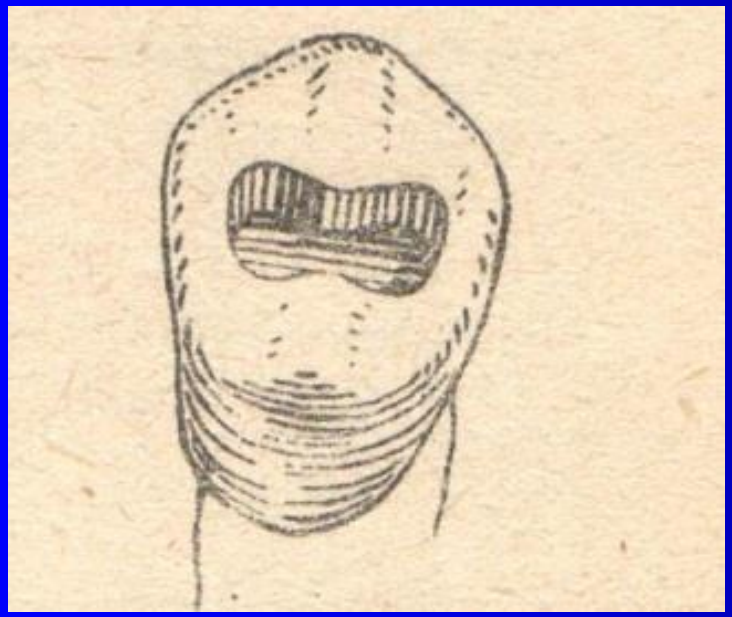
Kavita sahá do ½ úbočí hrbolků

Kavity na molárech



Zachování crista obliqua

Kavity na premolárech



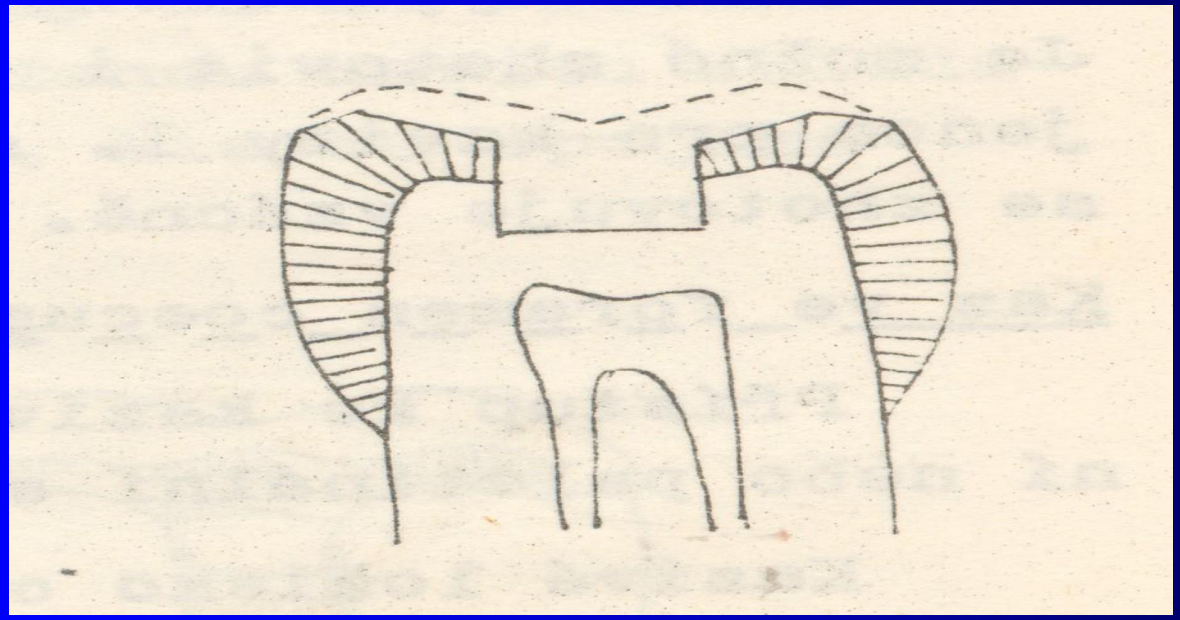
Zachování crista transversa

Retention principles

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

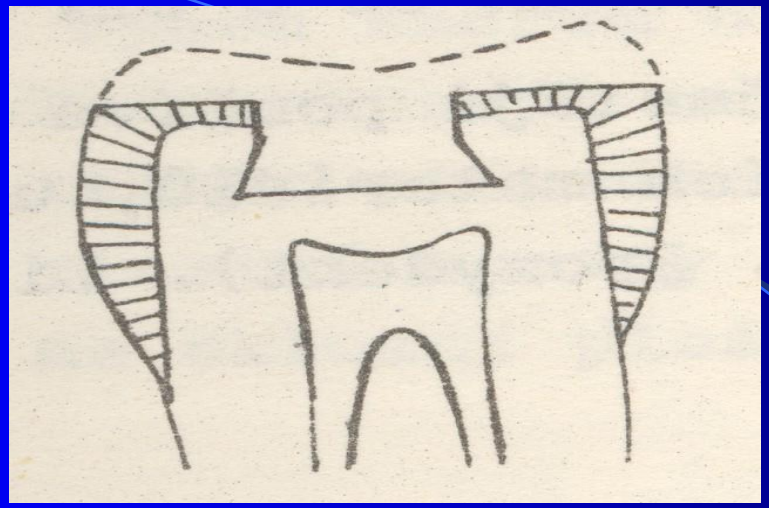
Retention principles

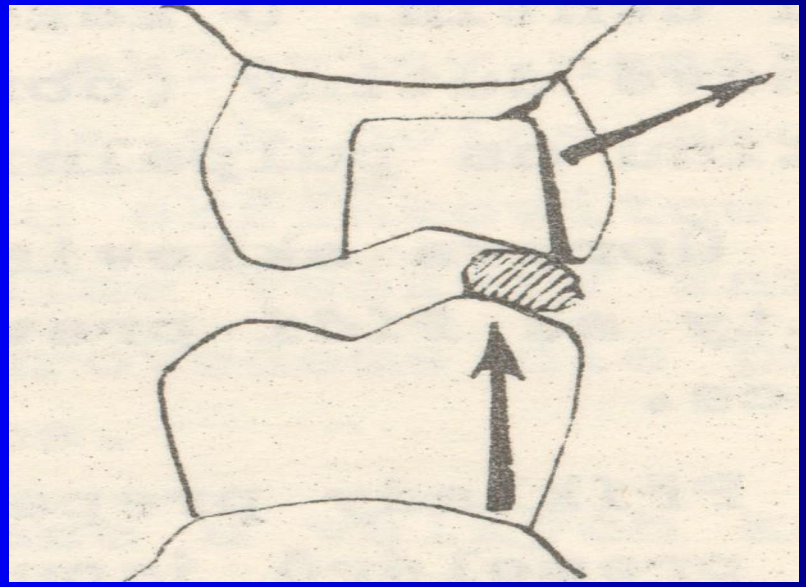
- Box in dentin

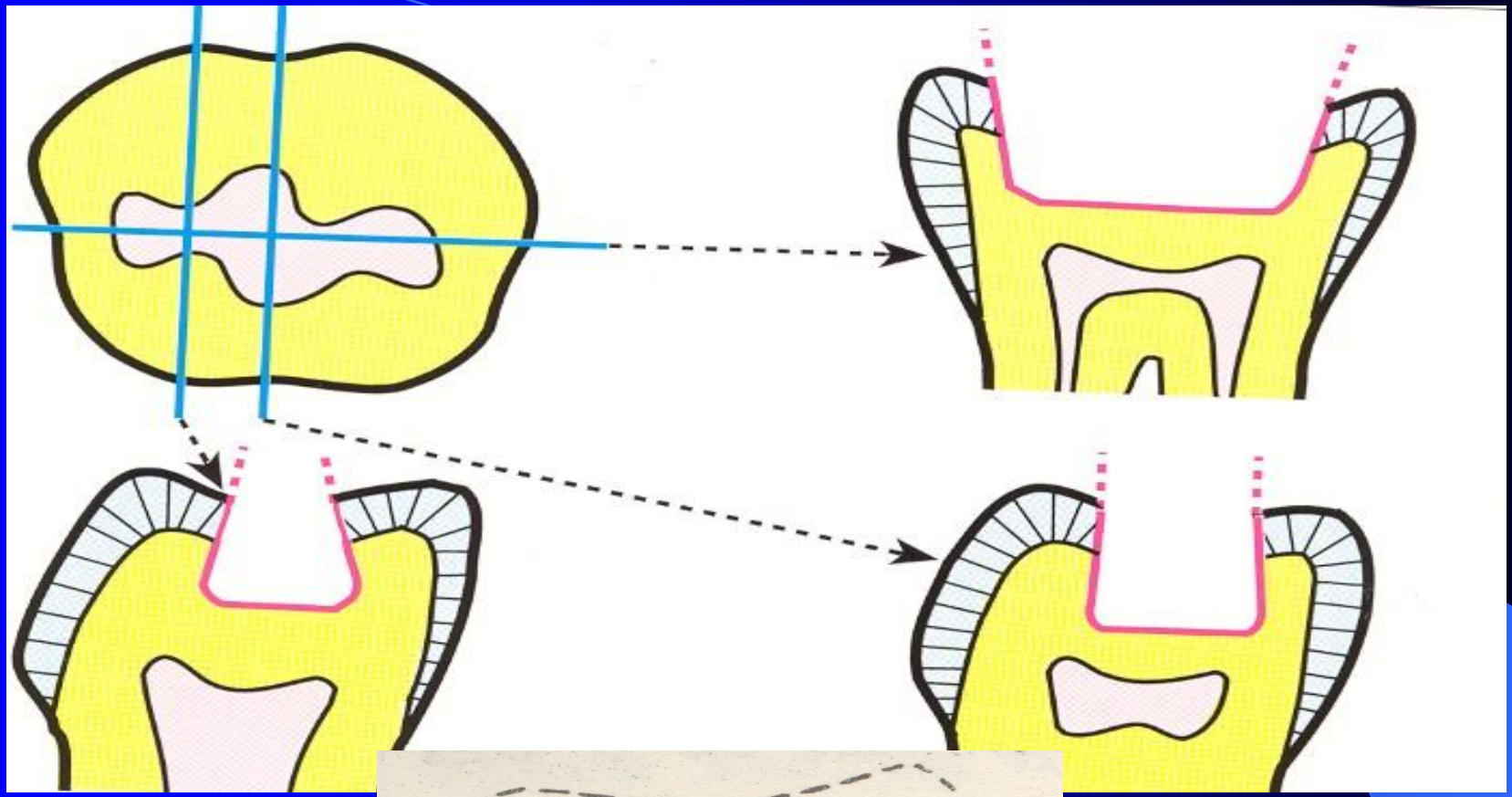


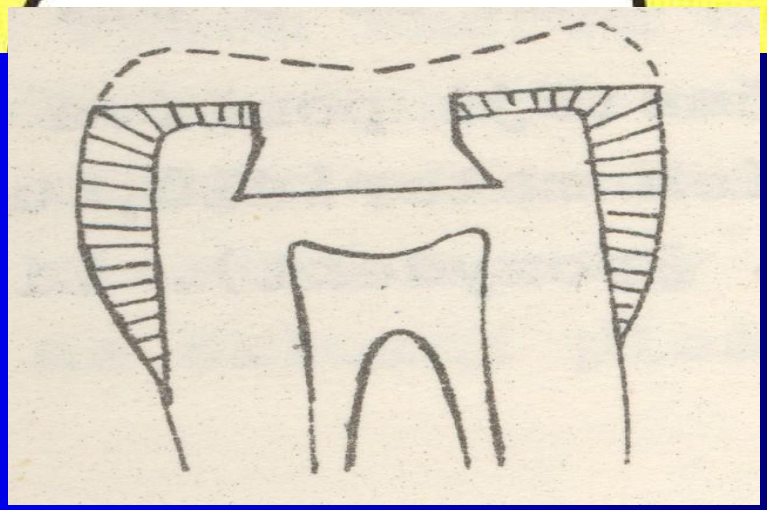
Resistance principles

- Box – space for amalgam 1,5 – 2 mm
- Keep the facial and lingual margin extensionsas minimal as possible between the central groove and the cusp tips.
- 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.



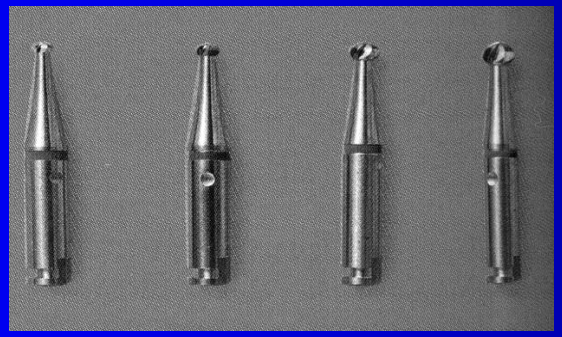




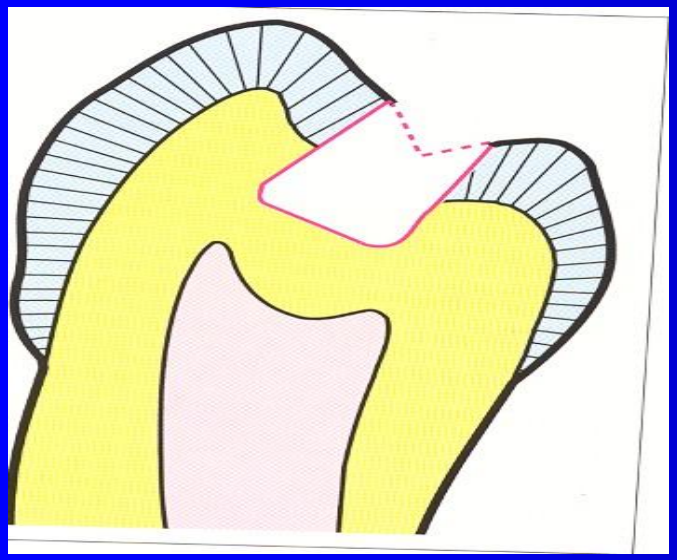


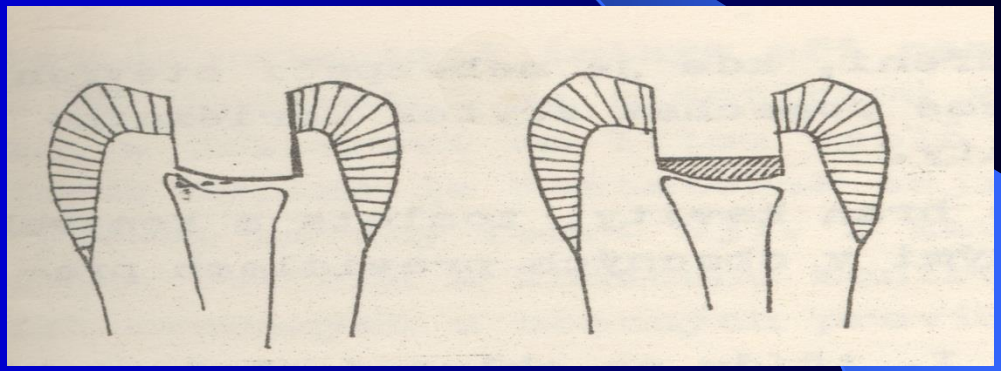
Removal of carious, infected, dentin and remaining defective enamel.

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

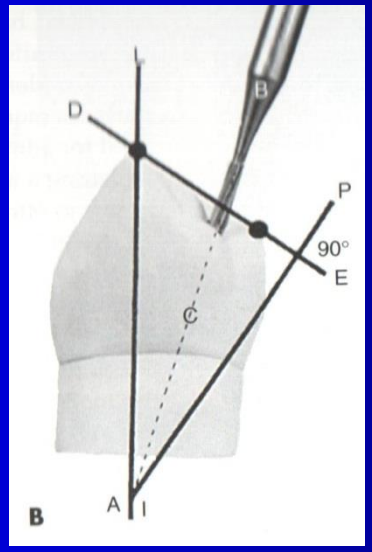


The pulpal wall and pulp chamber





Correct direction of the bur



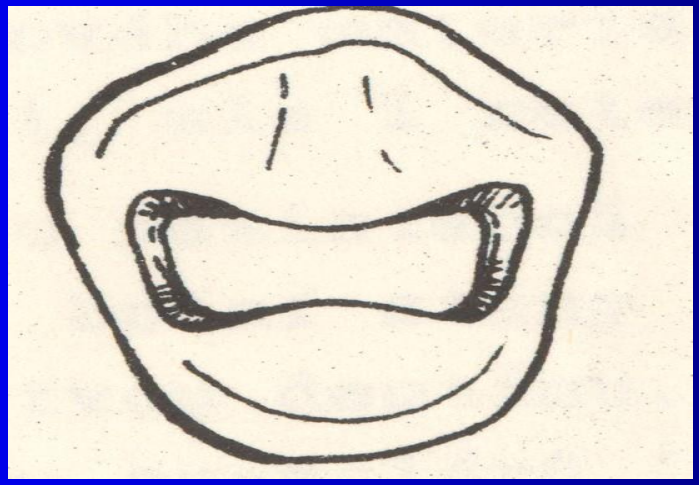
Finishing and polishing

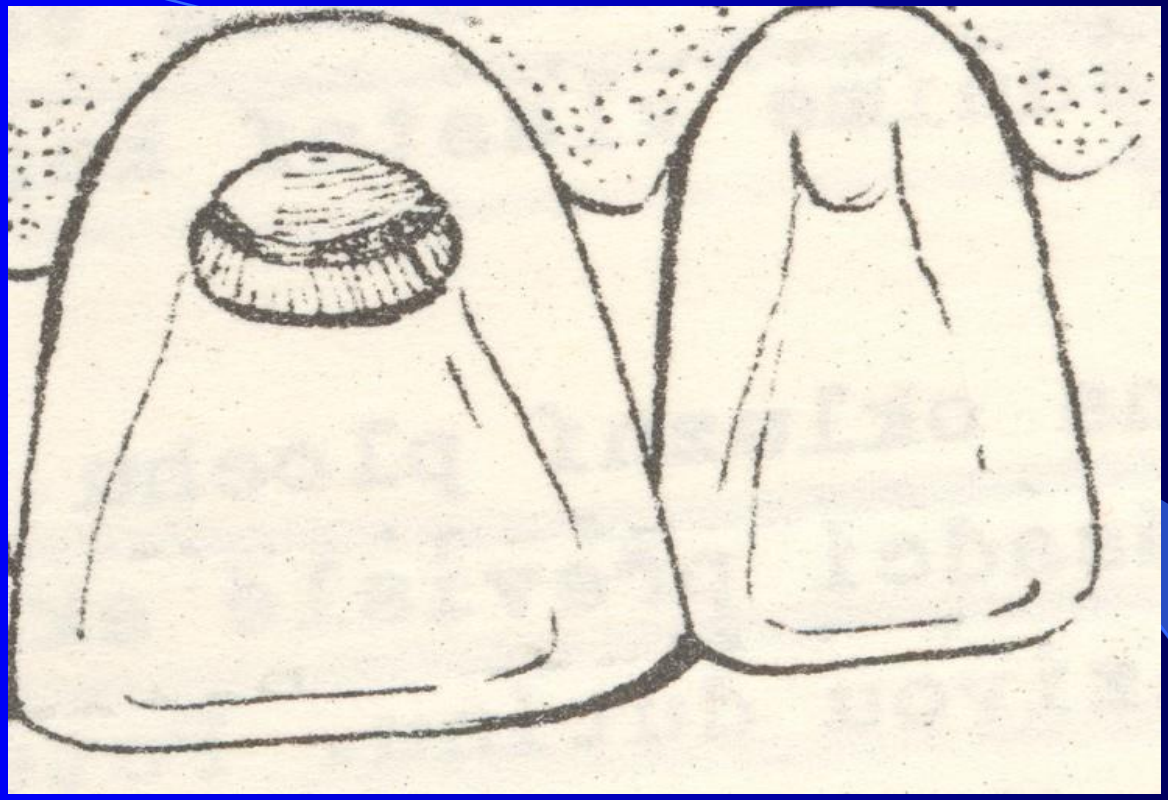
- Fine grit diamond bur.

Preparation of borders and final check

Smoothen (red coced diamond)

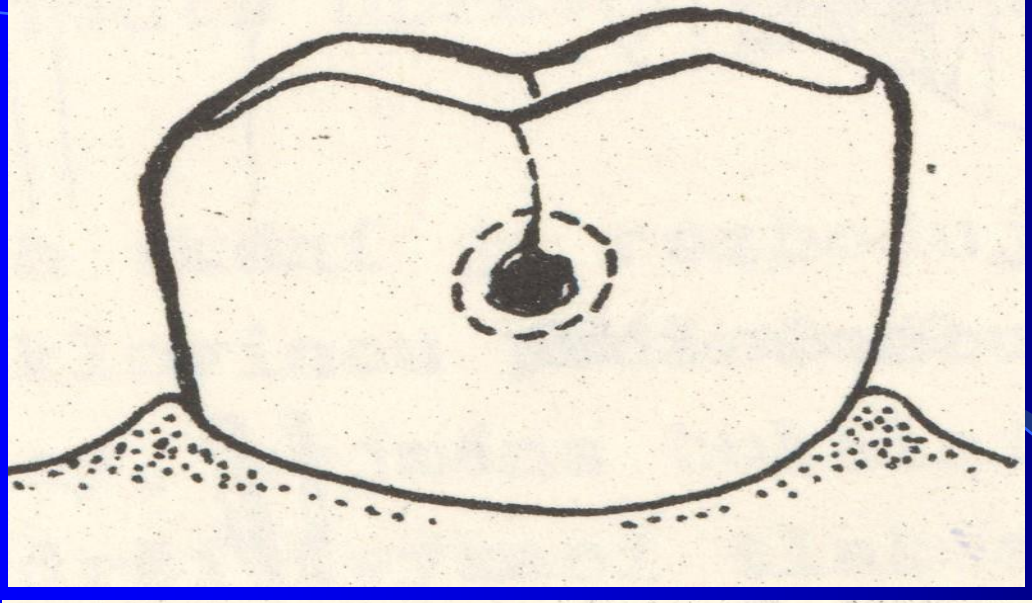
20.000 rpm.

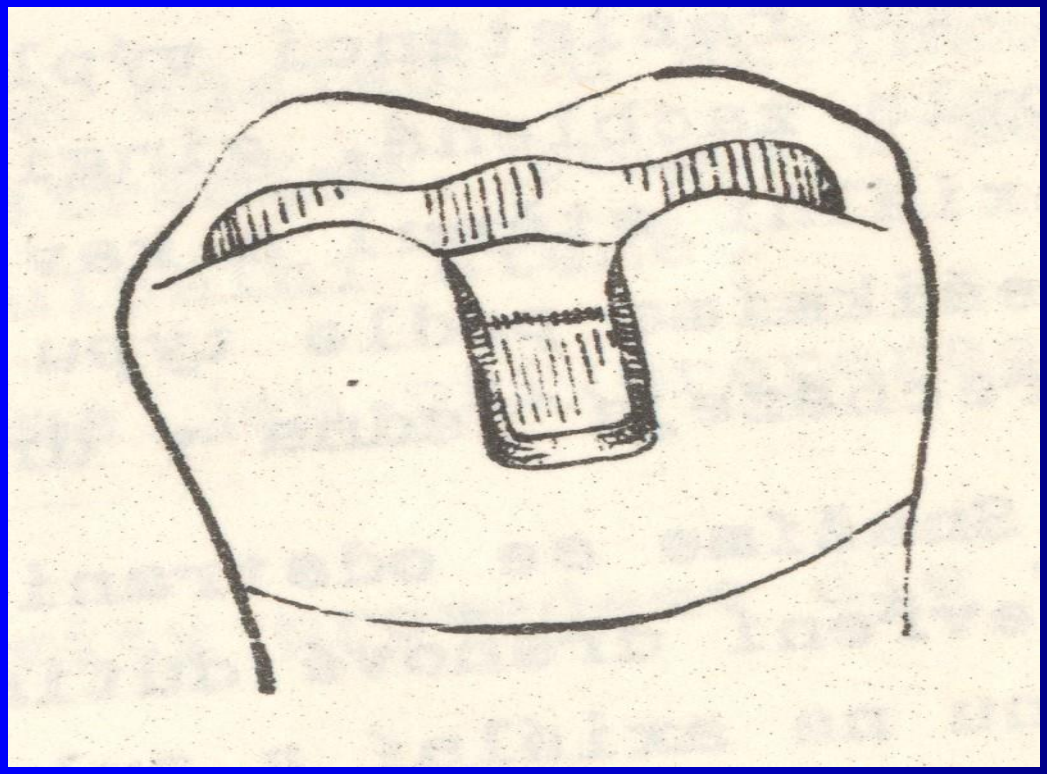




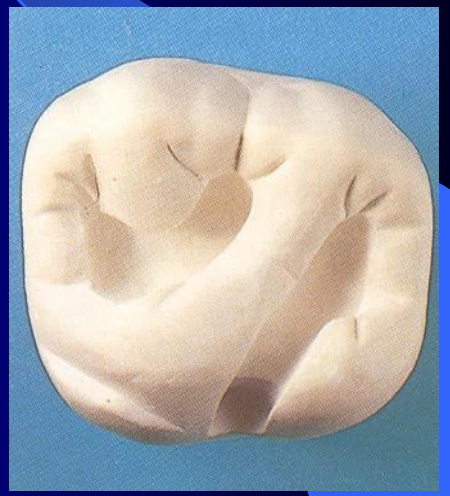
F.Coecum

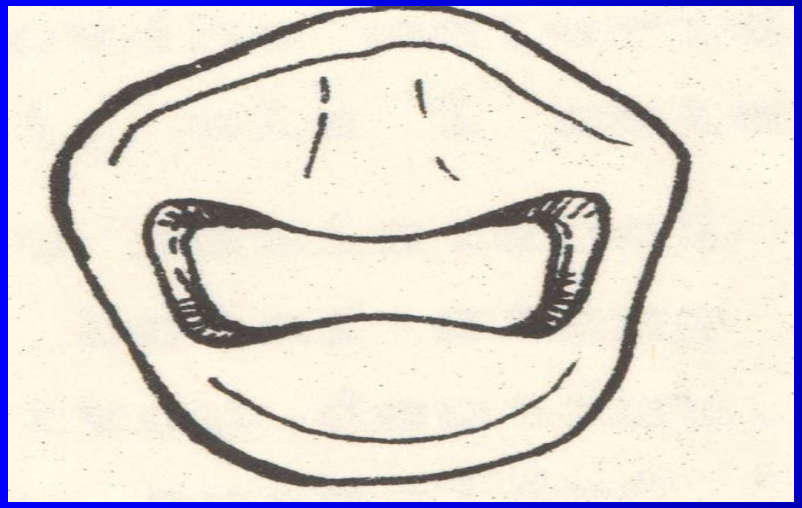
Preparation islimited on carious lesion only undercts





Combination of Cavity in f.coecum and occlusal cavity





Preparation for composit

Cavity is limited on the carious lesion

It has a form of deeper dish

No undercuts

More single cavities can be prepared

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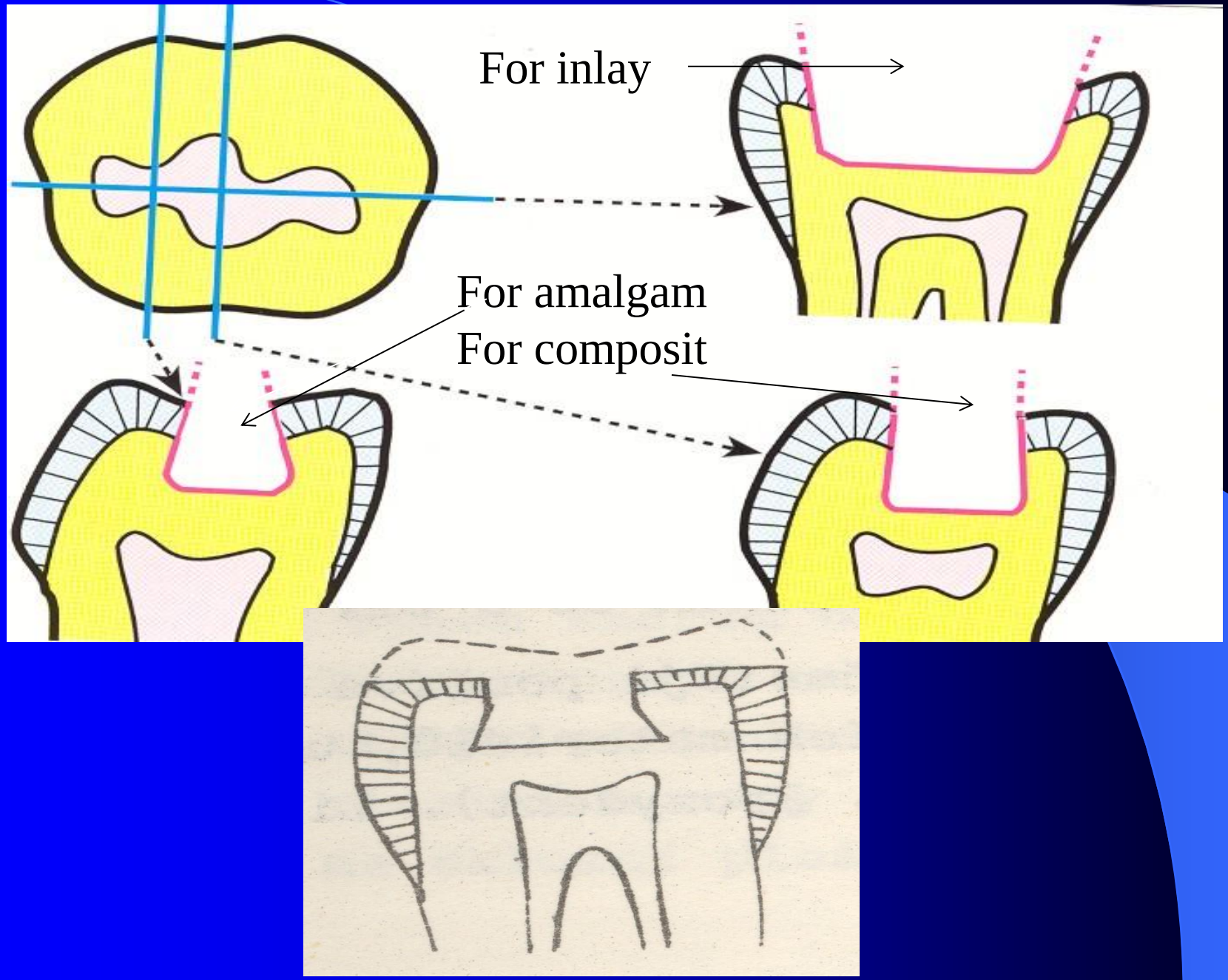
Preparation for inlay

- Inlay is a rigid filling
- It is fabricated out of oral cavity in dental lab
- It is luted into the cavity using luting material -cement
- Preparation is different – the walls are divergent


For inlay
For amalgam
For composit

Inlays

- Rigid fillings
- Manufactured in a dental lab
- Direct or indirect method
  - Direct method rarely
  - Indirect method most common

Inlay

- Crown inlay

- a part of a clinical crown is replaced

- Root canal inlay

- The inlay is cemented into the root canal and replaces a crown (abutment tooth – stump, snag)

Crown inlay

Material

- *Composit*
- *Ceramics*
- *Metal Alloys*

Crown inlays

Indikations

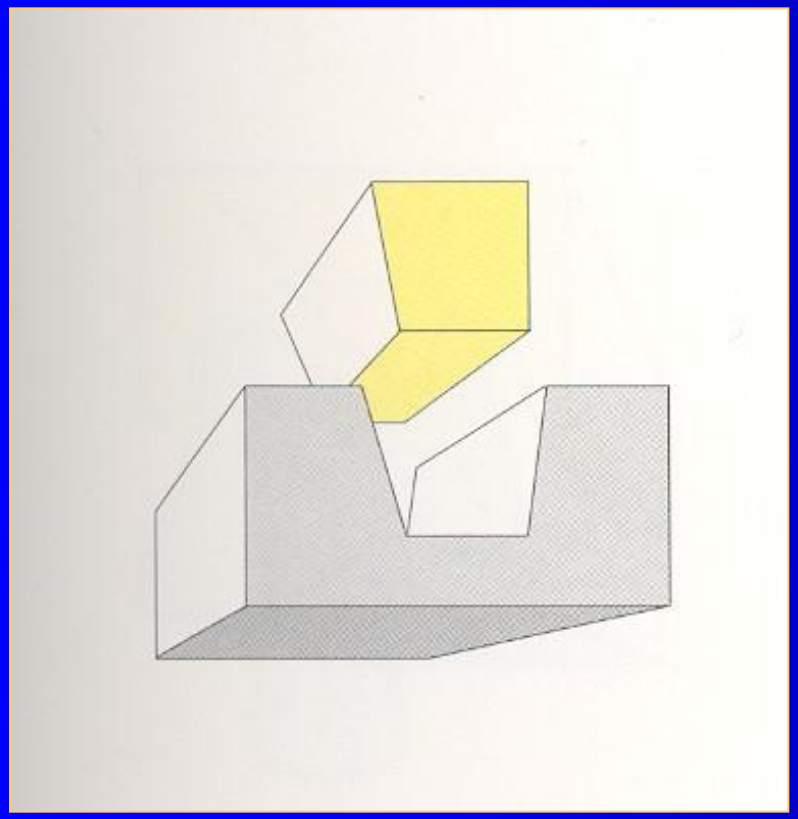
- A big lost of dental tissues
- Big interdental spaces
- Next to the crowns and bridges made of metal alloy

Crown inlays

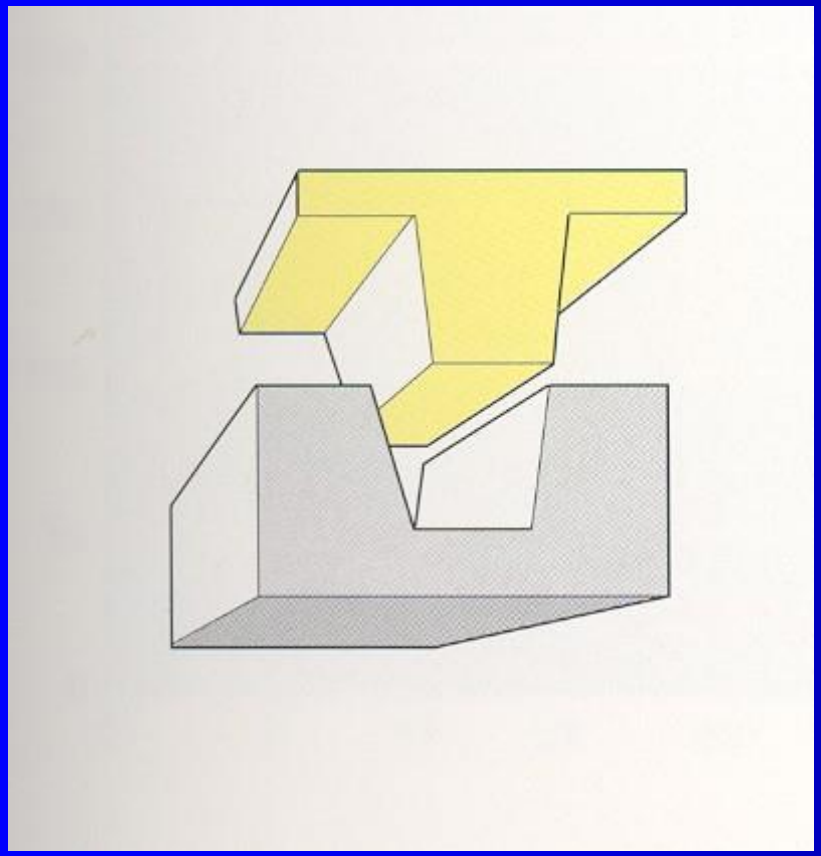
Contraindication

1. *Too small - shallow (flat) cavities*
2. *High caries risk*
3. *Frontal area (metallic)*

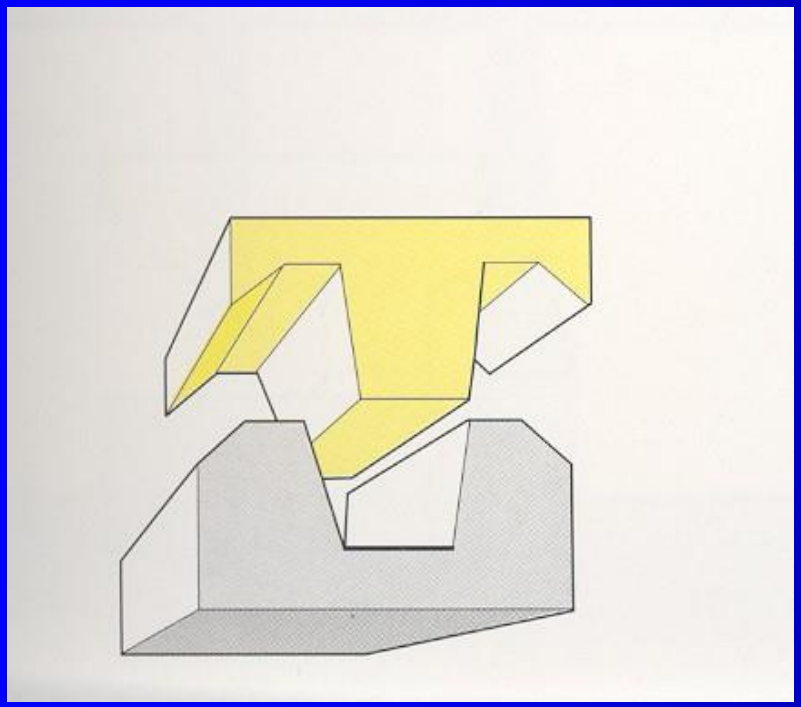
Inlay



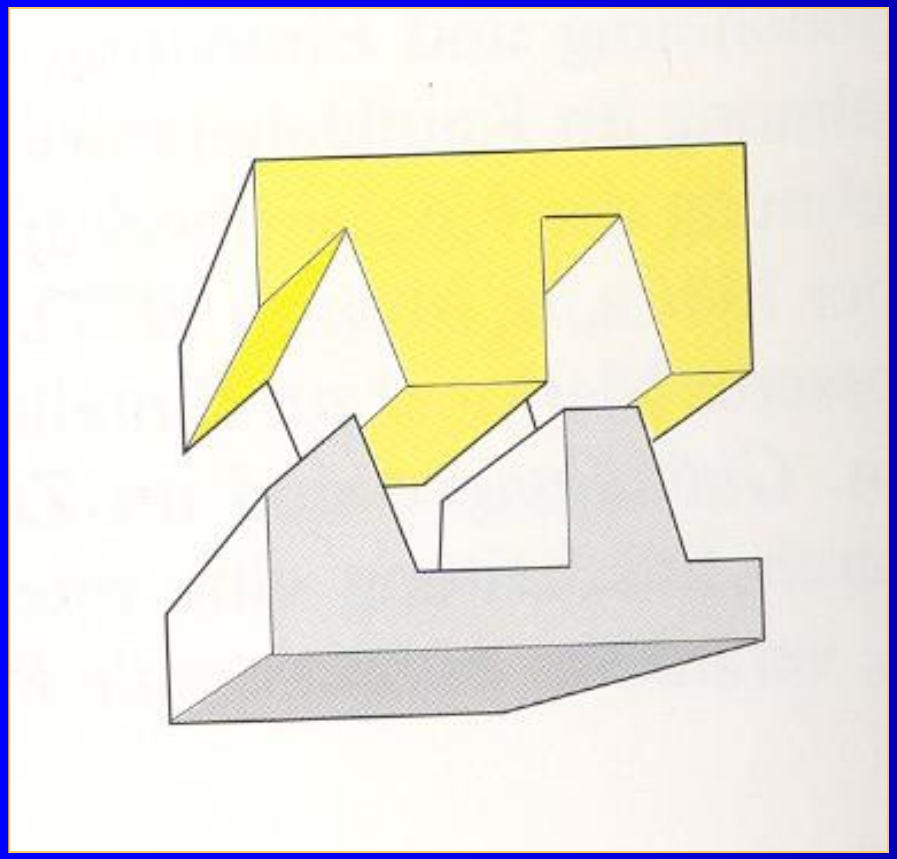
Onlay

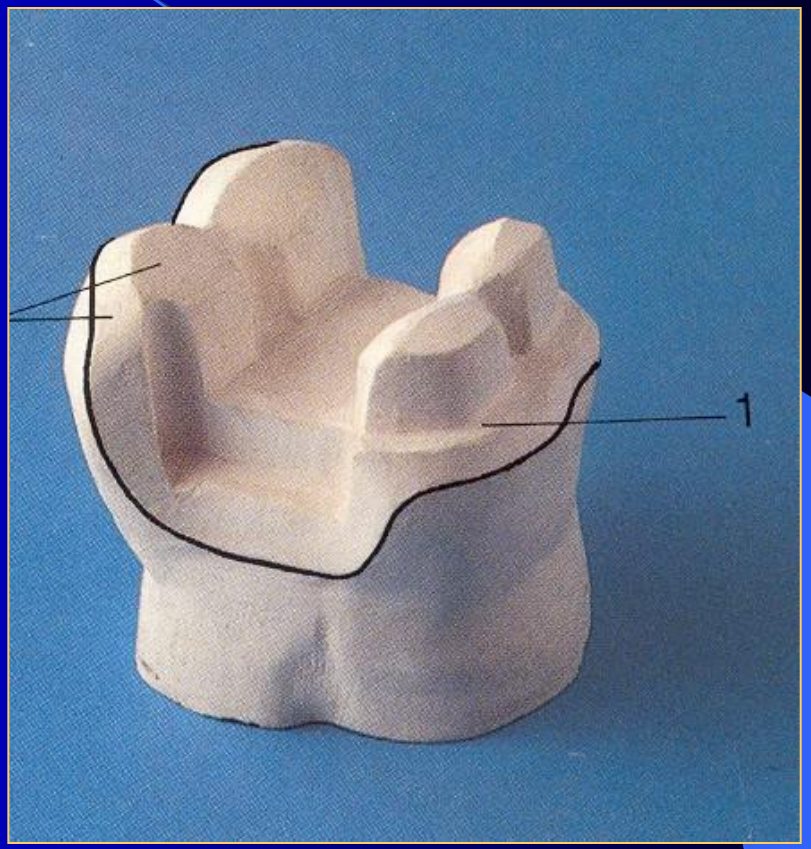


Overlay



Partial crown





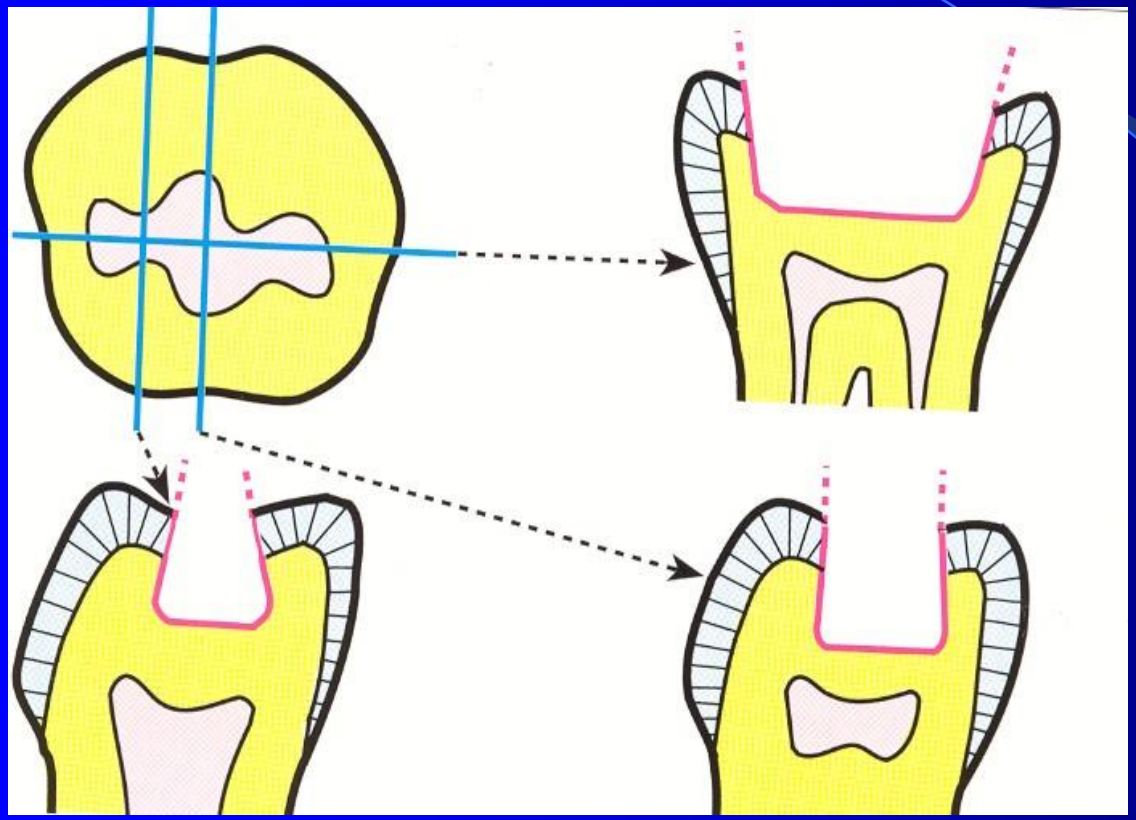
Angle of convergency

- 0° - maximum
- 6° - very good
- 15°- acceptable
- 20° - insuficient

Optimum 6° - 15°.

Basic rules of cavity preparation

- Box
- No undercuts
- Light divergence of the walls (facilitating shape)



Box

Undercuts

Simple box

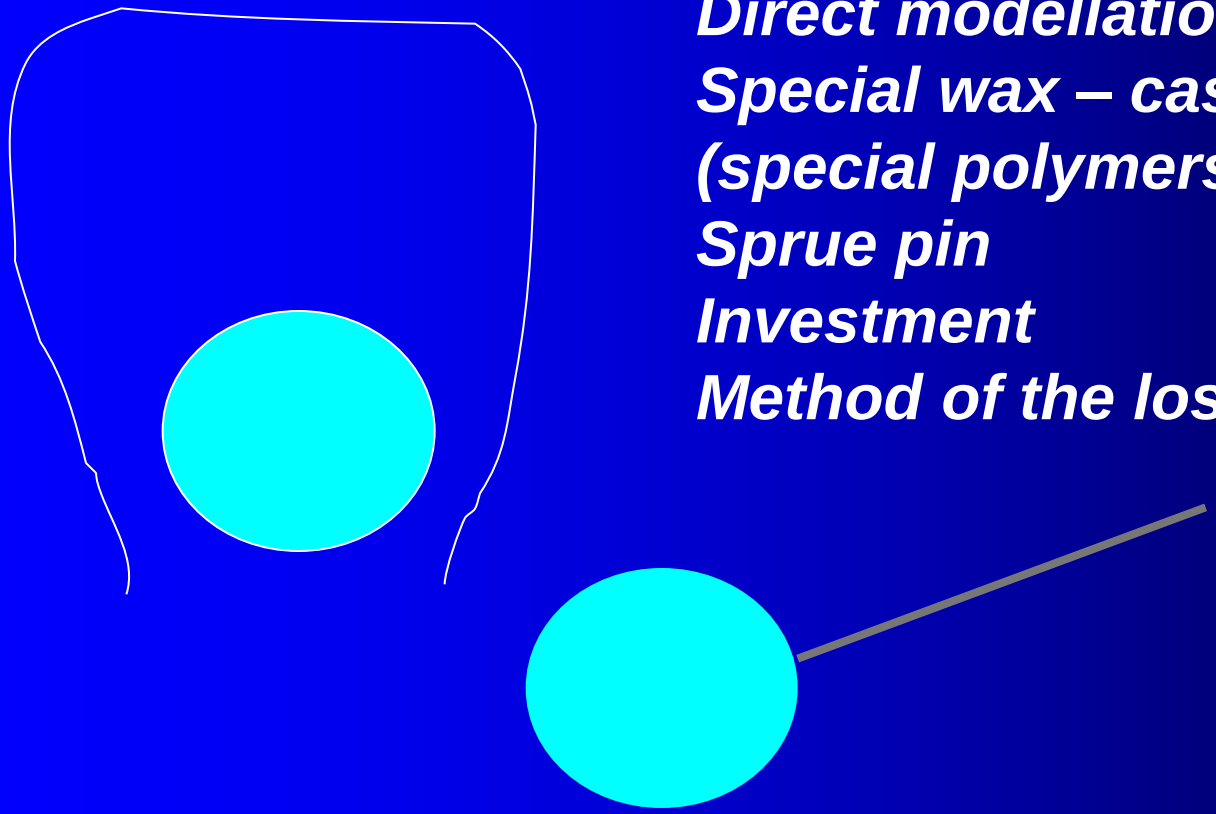
Facilitating form

Inlay of metal alloy

- Direct method
- Indirect method

Inlay of metal alloy

- Direct method



Direct modellation in the mouth
Special wax – casting wax, (special polymers)
Sprue pin
Investment
Method of the lost wax

Inlay of metal alloy

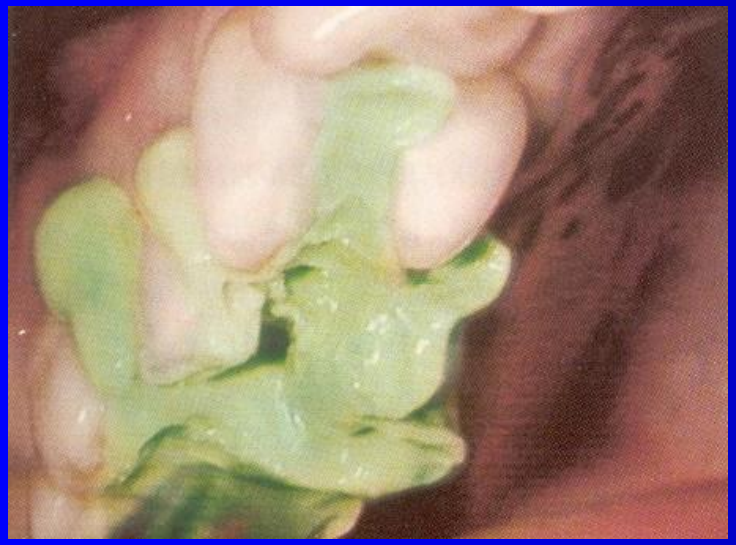
Direct method

- Central cavities (class I., classs V.)
- Root canal inlays

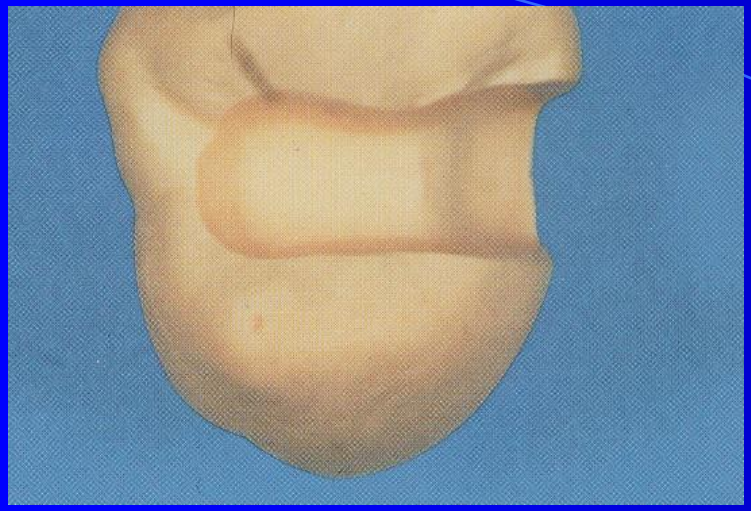
Inlay of metal alloy

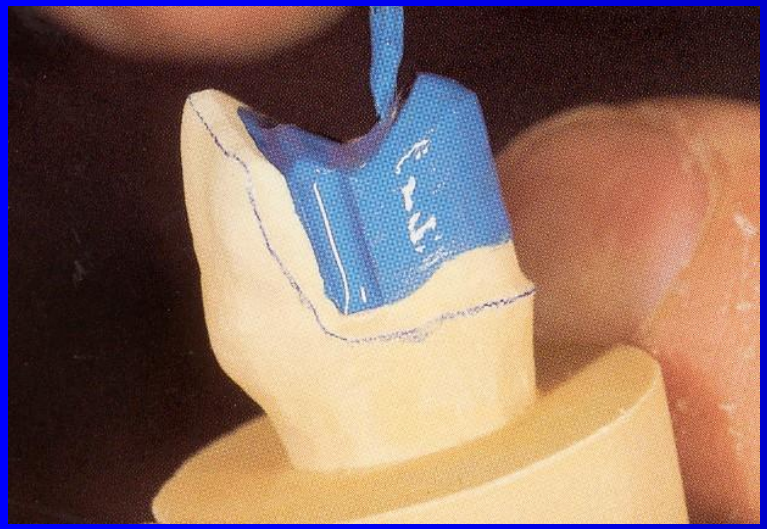
Indirect method

Taking of the impression
Model
Modellation of the casting wax,
(special polymers)
Sprue pin
Investment
Method of the lost wax




Art. 4986






Cement
Spacer
Blue
CAUTION: FLAMMABLE
THIN WITH
DIE PREP SETTING
RETARDANT

Aesthetic inlays – composite materials, ceramics

Special procedure

Indirect method always

CAD/CAM technology posible

Protection of dentin wound

- Against thermal or electric irritation
- Against chemical irritation

Protection of dentin wound

- Base – zinc phosphate cement
- Calcium hydroxide – caries next to dental pulp