Preparation and making fillings Class V., III., IV.

Class V.

- Cervical defects
- Dental caries
- Non carious lesions (erosion, abrasion, V shaped defects)

Types of defects

- Caries
- Erosion
- Abrasion
- V shaped defects
- Erosion

Choice of material

- Amalgam (posterior area)
- Composite (mainly in anterior teeth where the defect is situated in enamel)
- Glassionomer: caries defects, esp deeper, situated out of enamel, higher caries risk

V.Class Amalgam

- Posterior area

Access

- Elimination od the undermined enamel
- Burs or diamonds (pear), tapered fissure bur
- Separation of the gingiva– temporary filling guttapercha, fermit, clip, zinkoxidsulfate cement, cavit, provimat).
- Ablation of ingrown gingiva – surgical (scalpel, laser, high frequency current)

Cavosurface margins

Gingival: axial dephth of 0,5 mm inside the DEJ.

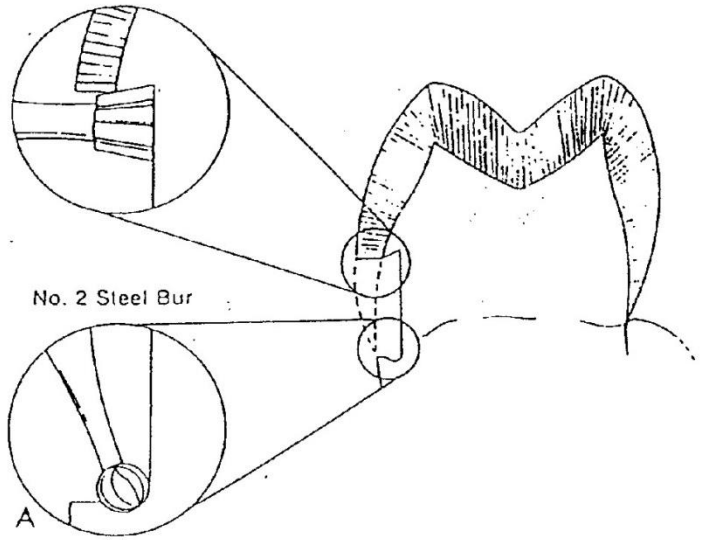
Extention of the preparation incisally,

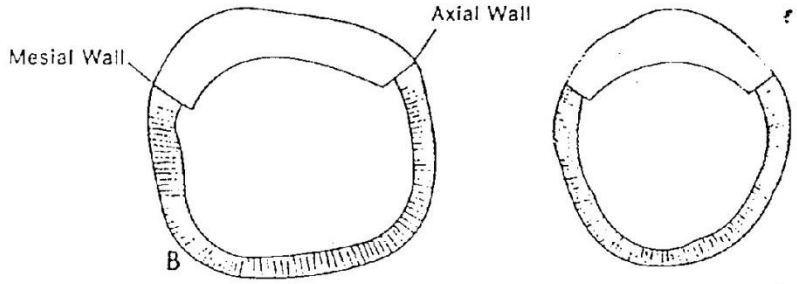
Gingivally: 0,5 mm subgingivally

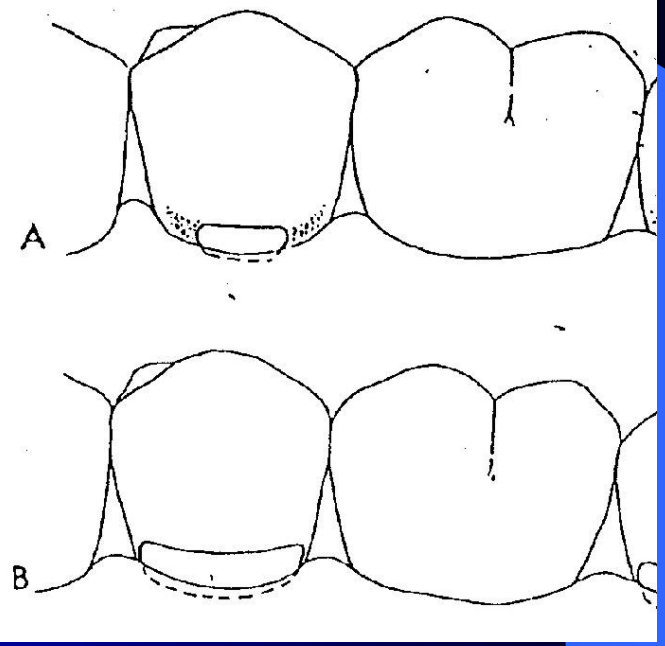
mesially and distally: to axial walls

Or: untill the cavosurface margins are positioned in sound dental structure. (small cavities, good oral hygiene)

Total dephth: 1 – 1.25 mm. If on root surface -0,75 mm

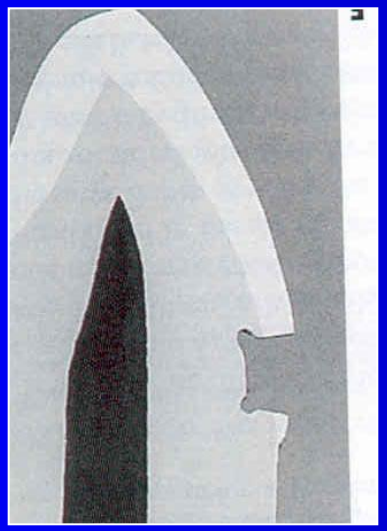

No. 2 Steel Bur
A

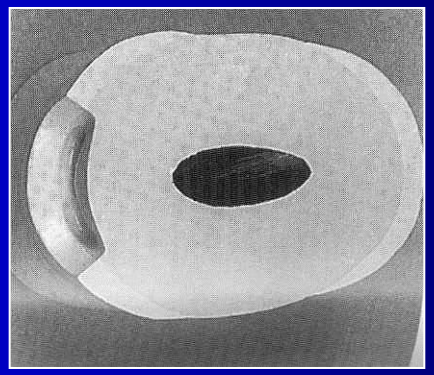

Axial Wall
Mesial Wall
B


A
B

Retention

- Box 0,75 – 1,25 mm deep, undercuts,





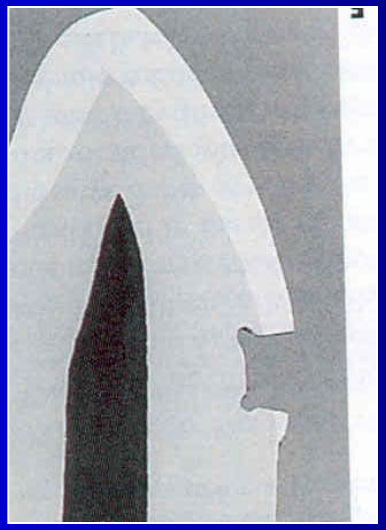
Depht

Gingivally: axial dephth of 0,5 mm inside the DEJ.

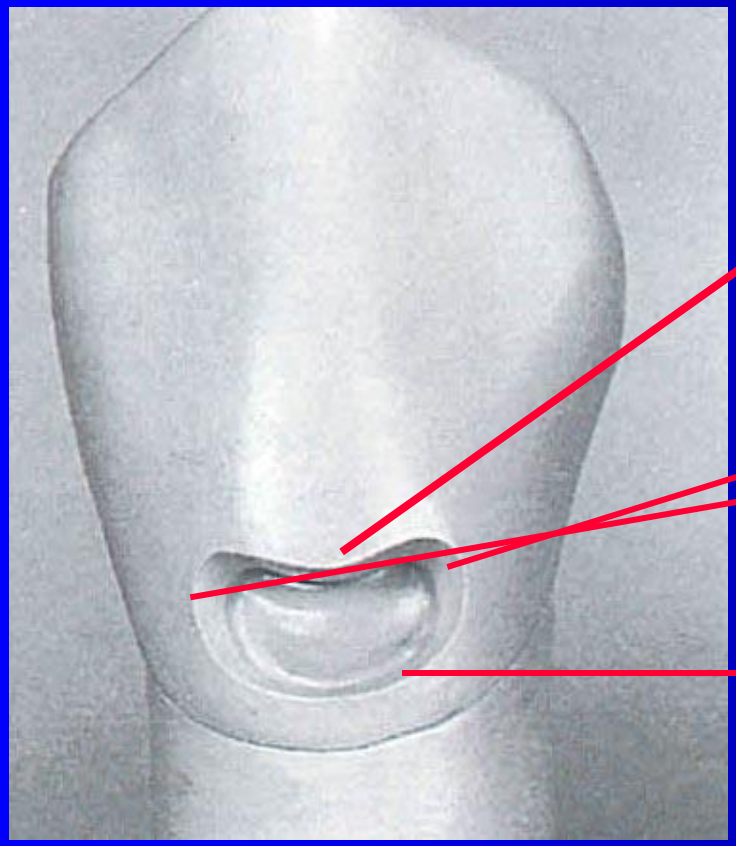
Total dephth: 1 – 1.25 mm. If on root surface -0,75 mm

Resistance

No occlusal forces



The bottom of the cavity follows the convexity of the crown.



Occlusal margin

Mesial and
distal margin

Gingival margin

Filling

Base – pulpal wall

Amalgam – portion by portion, condensor with straight front, burnisher (spatula).

Class V. composit

- Aesthetic area
- Margin in enamel

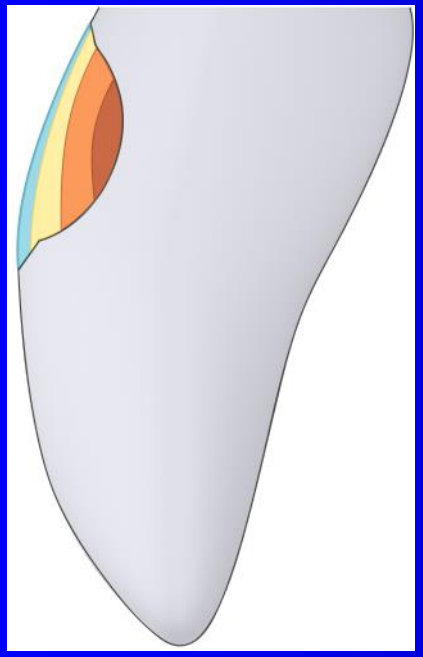
Preparation for composite, making filling

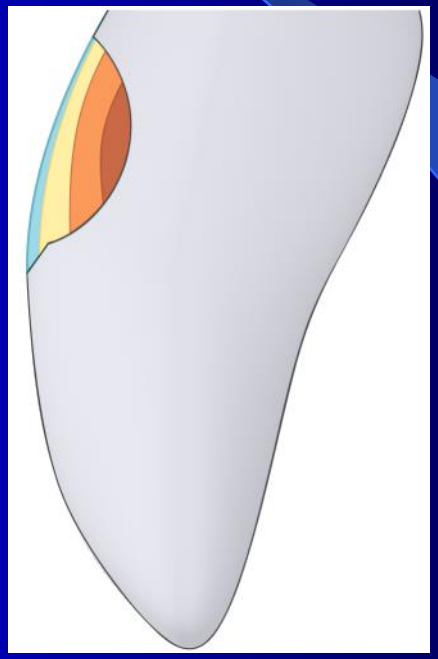
Cavity is limited on caries lesion only

Enamel must be beveled

Etching, priming + bonding

Placement of composite





Matrices

Transparent cervical matrices

Matrix band acc. to Belvedere

Laser

Rotační nástroj

Class V. glassionomer

- Cavities with margins in cementum
- Or also in enamel or partly in enamel (in patients with worse level of oral hygiene)

Glassionomer

- Bonds chemically
- Realease fluoride ions
- Thermal expansion similar to dentin
- Acceptable aesthetics

Preparation for glassionomer making filling

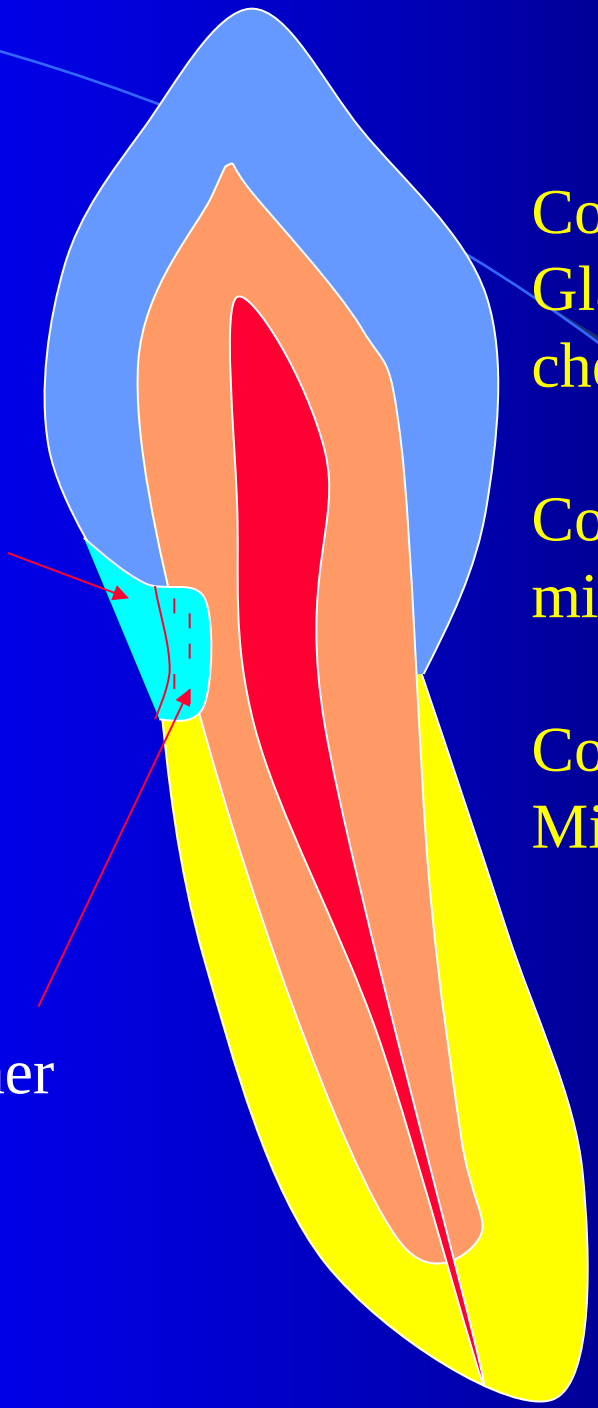
- Cavity is limited on carious lesion only
- Margins sholud be smoothen (no bevel)
- Conditioner (polyacrylic acid) -20 s
- Washing
- Placement of glassionomer (one bulk)
- Matrix (transparent or aluminium cervical
- matrix)

Combination of materials

- Glassionomer – replaces lost dentin
- Composite – replaces lost enamel

Composite

base of glassionomer

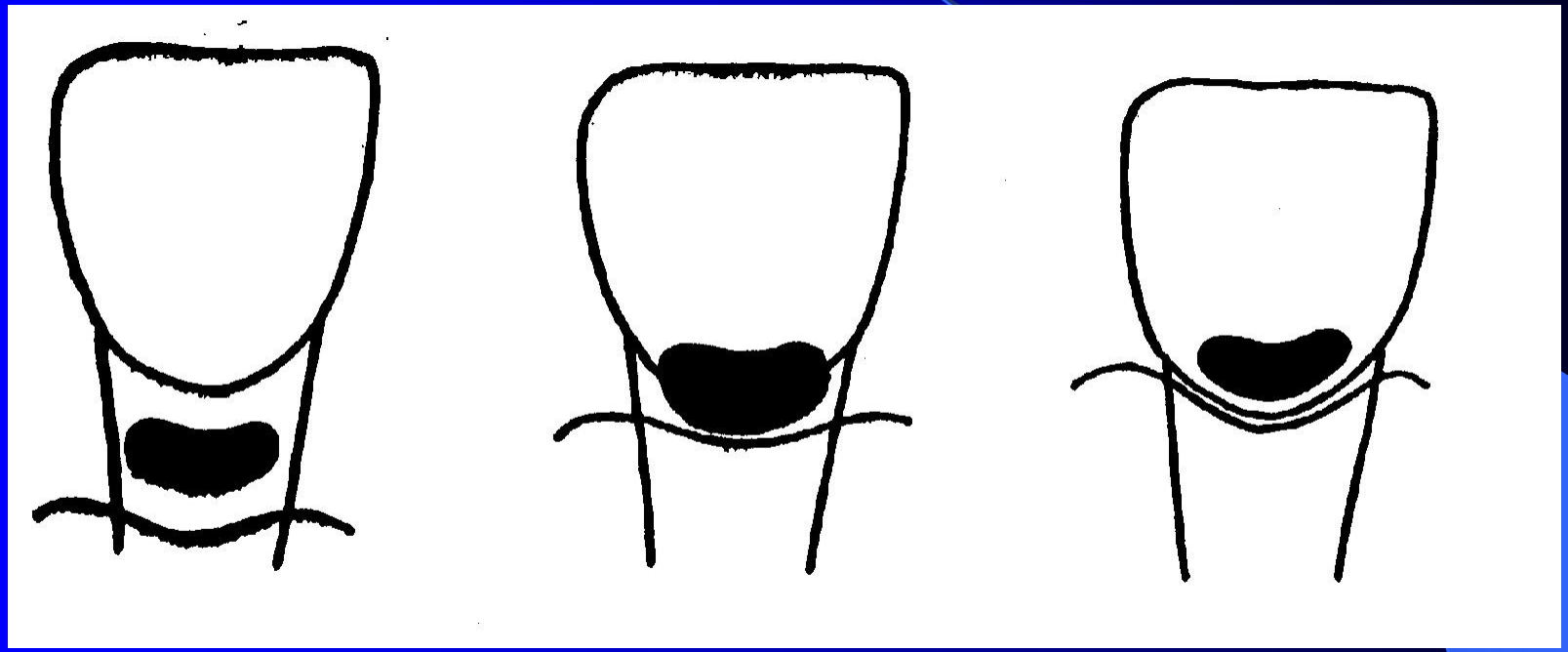


Connection
Glassionomer – tooth: chemical

Composite – tooth: micromechanical

Composite – glassionomer Micromechanical.

Choice of materials



Glassionomer Combination Composite

Or amalgam in posterior area

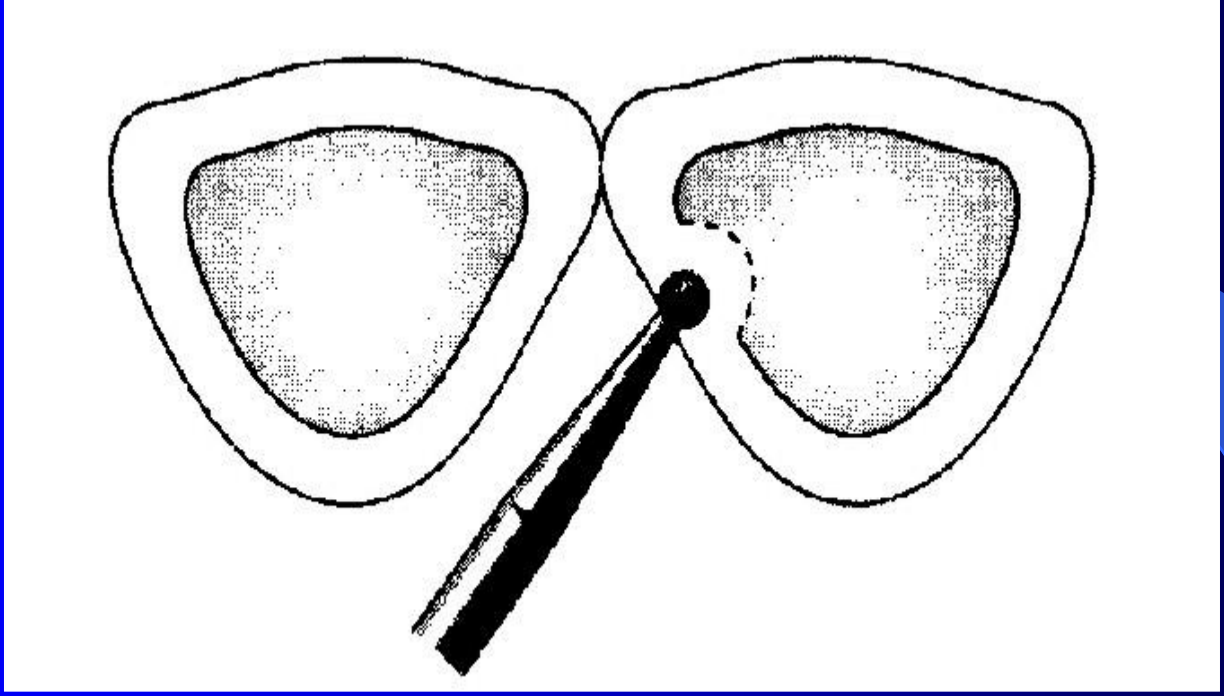
Class III.

Proximal surface of frontal teeth (incisors and canines) without loss of incisal edge

Access to the cavity

- **Through the enamel from the oral side**
- **Removal of old filling**
- **Separation of teeth - wedges**
- **Removal od hyperplastic gingiva**

Access



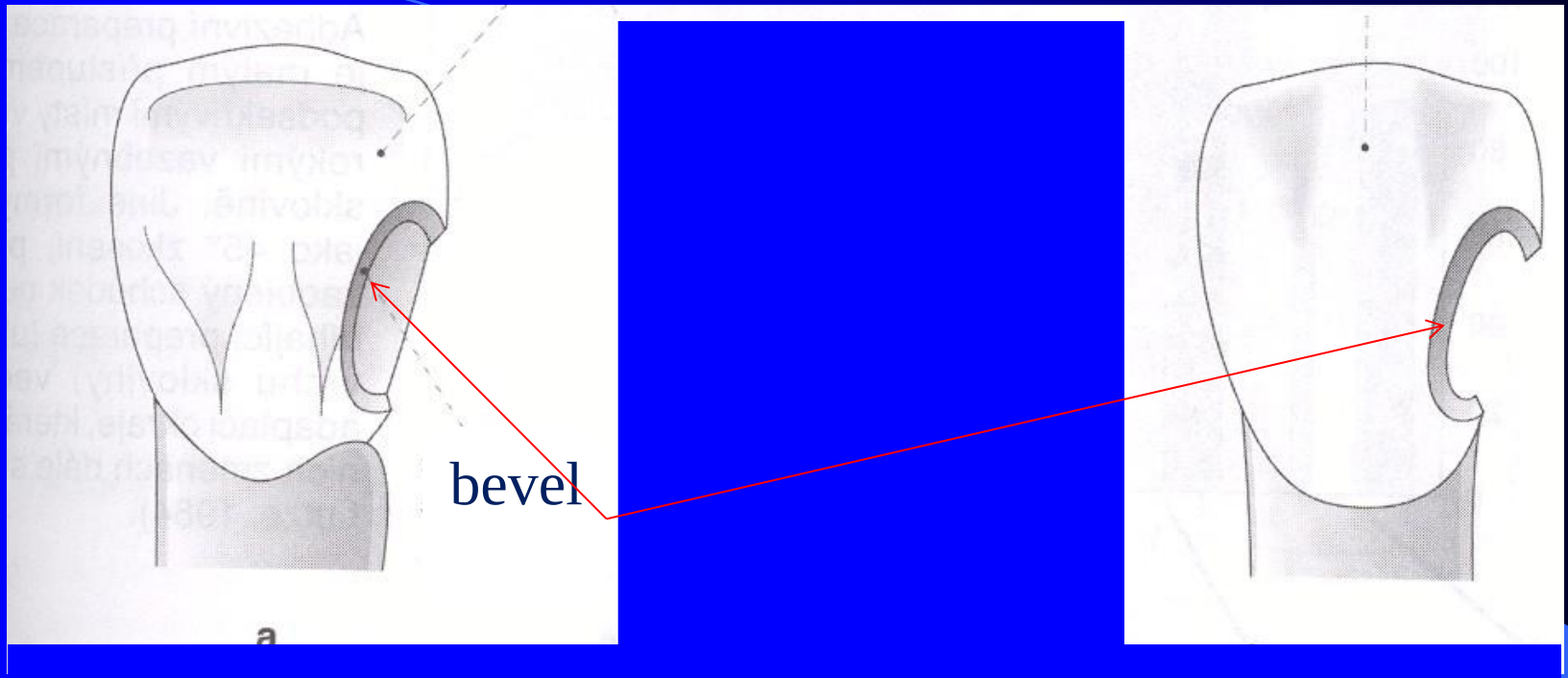
Round bur or diamond,
from oral side,
the caries lesion
on proximal wall must be reached

Cavosurface margin

- Cavity is limited on carious lesion only
- Margins must be beveled

Retention

- Margins must be beveled – micromechanical retention


bevel
a

Dry field!!!!

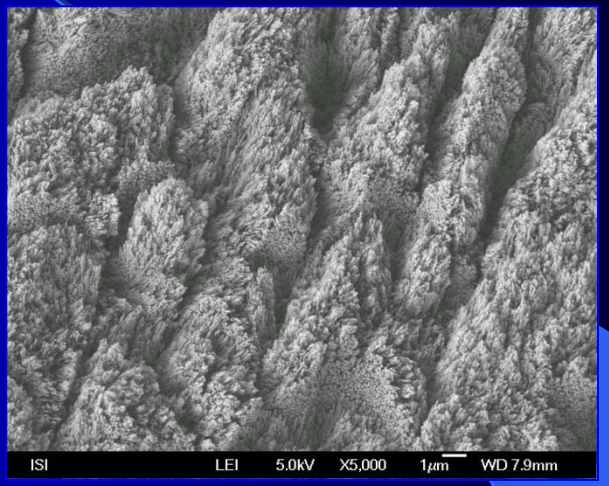
Etching of enamel and dentin

Bonding

Surface Morphology for Adhesion

- Enamel

- regular surface with opened inter/intraprismatic spaces

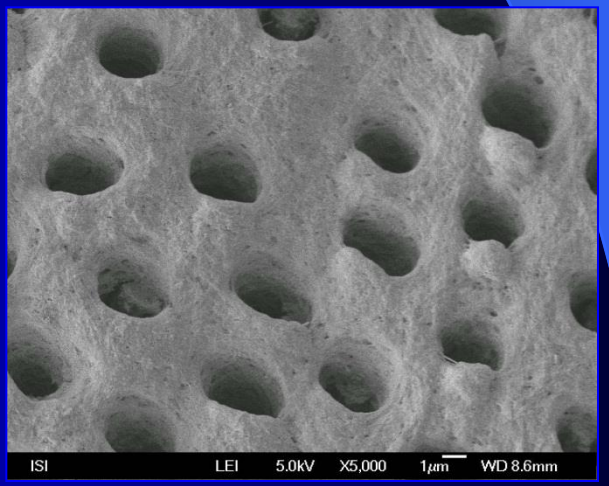


- Dentin

- no smear layer

- opened dentinal tubules

- collagen with microscopic spaces (after etching)



Preparation

Preparace kavity

Acid etching – protection of the tooth

Matrix and wedge, bonding

Palcement of the composite

Layering of the composite

- Palatal wall (matrix in situ) – enamel shade
- Dentin shade
- Enamel shade

Matrix has been removed

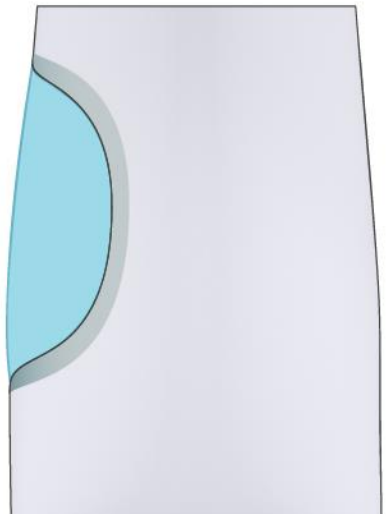
Finishing

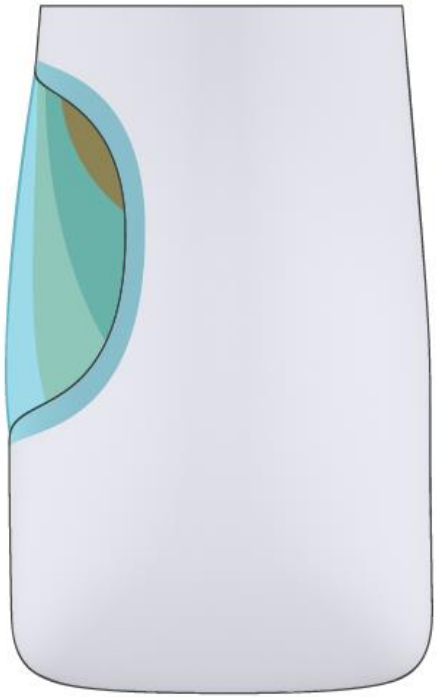
Ultrafine diamonds.
Flexible discs

Polishing

Rubber cups, brushes

Finished filling





Class IV.

Defects on proximal surfaces premolars and molars with loss of part or complete incisal edge

Dental caries

Trauma

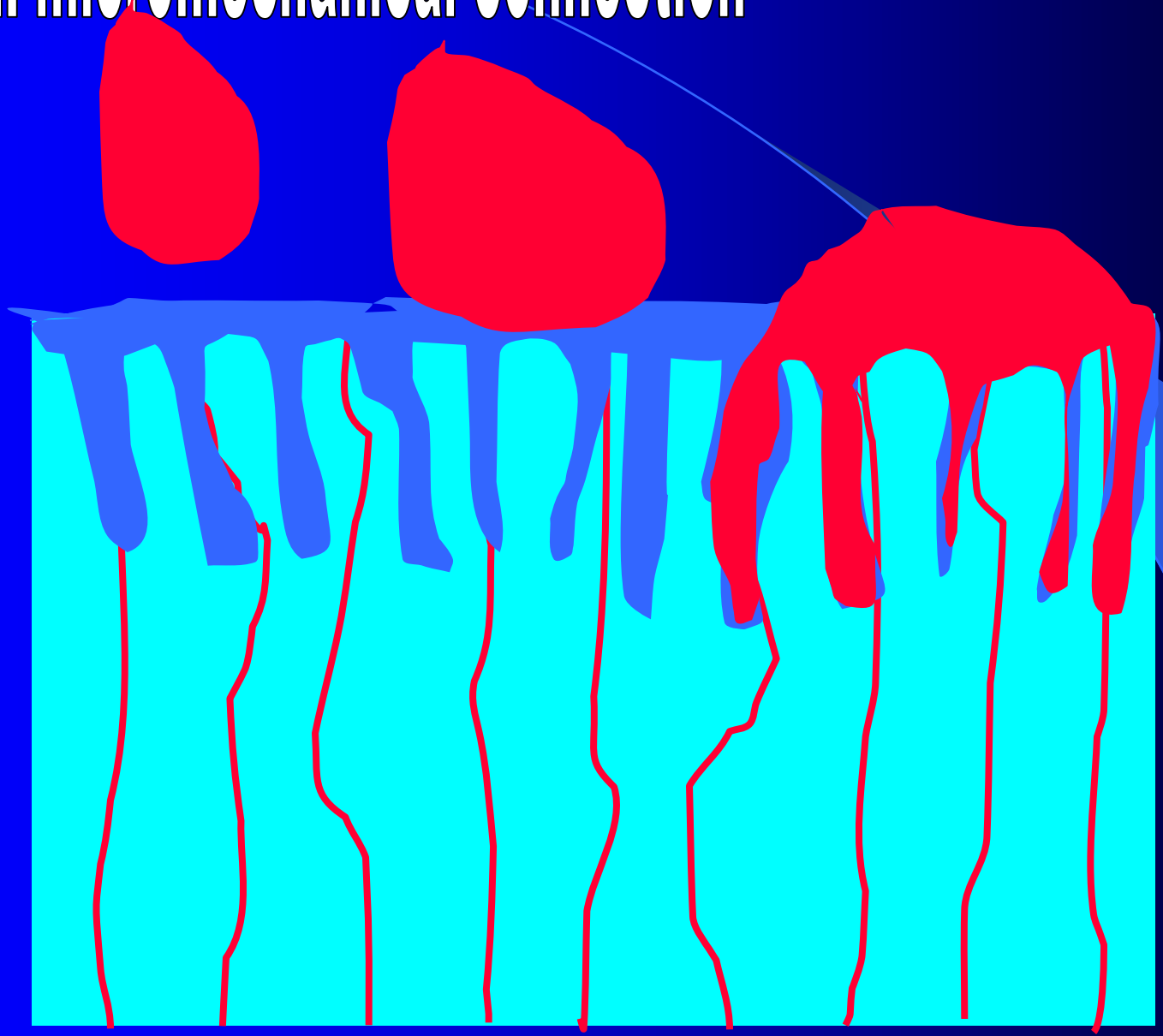
Access

Cavosurface margin

Preparation is limited on the defect

Compoiste is plastic material of only choice

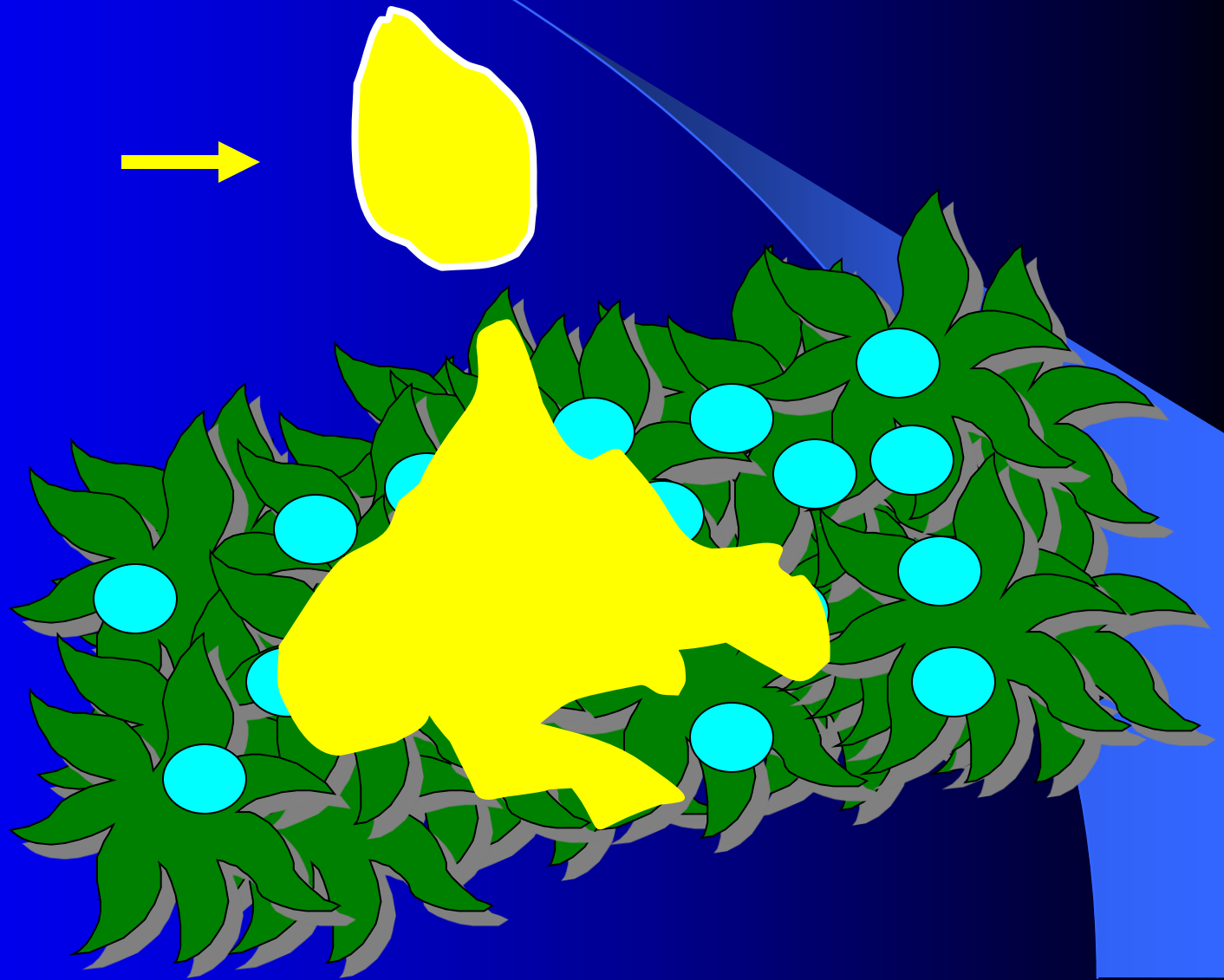
Enamel: micromechanical connection



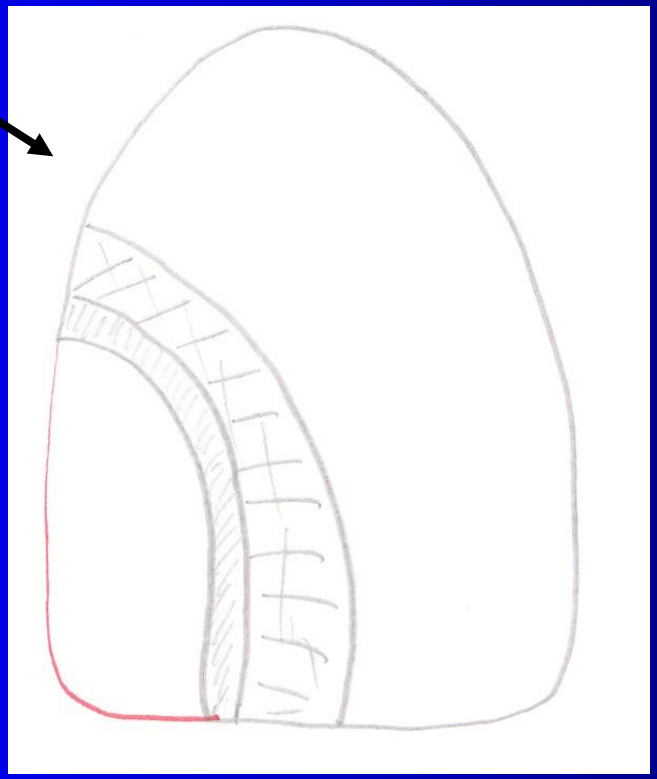
Dentin

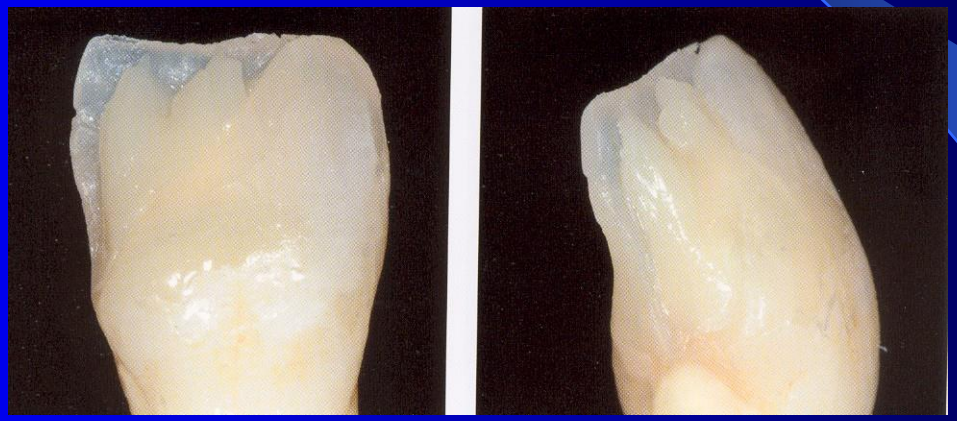
Micromechanical connection

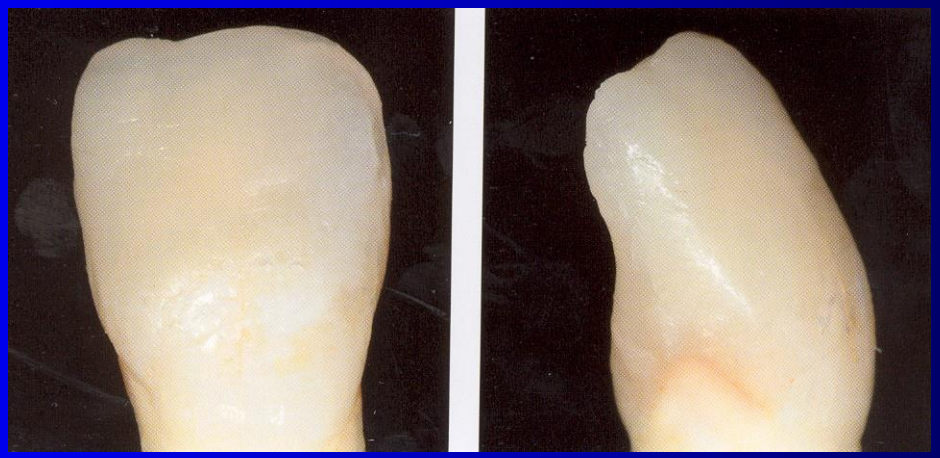
Primer and bond



The enamel must be beveled





Silicone matrix

Oral surface

Incisal edge