

# Class II. cavity preparation

Class II.:

Defects affecting one or both proximal surfaces of posterior teeth.

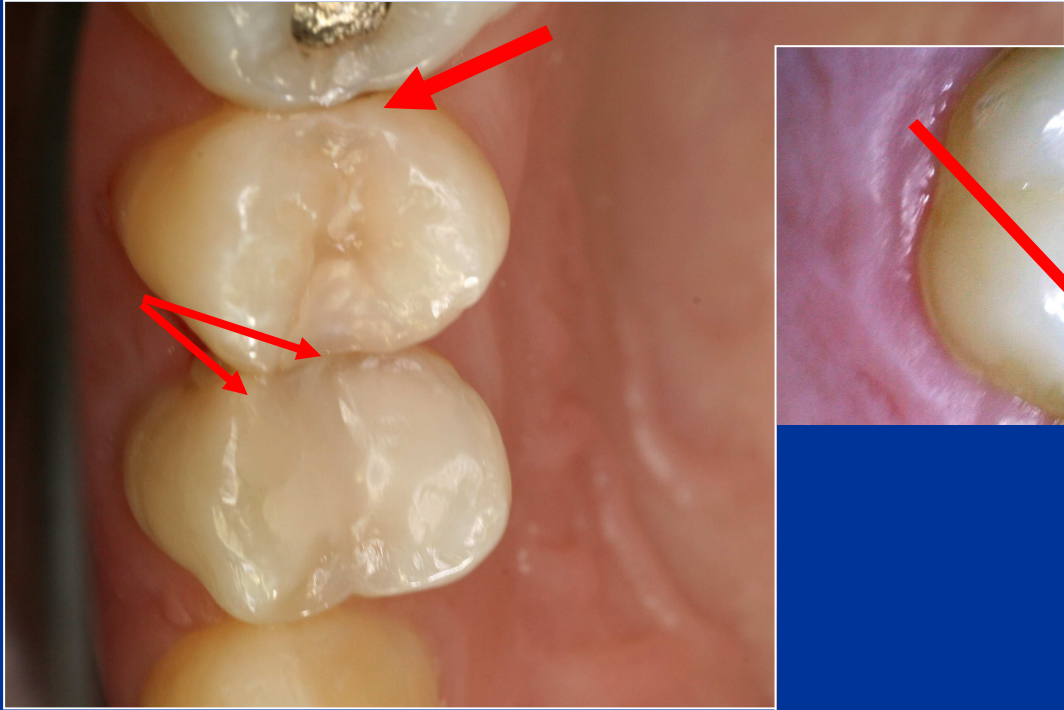


# Symptoms

- No symptoms
- Increased sensitivity (cold, sweet)
- Retention of food
- Defect (cariious lesion is open – the enamel is broken)
- Bite sensitivity (when cariious lesion is open)

# Diagnosis

- Visual changes of tooth structure
- Transillumination
- Radiography



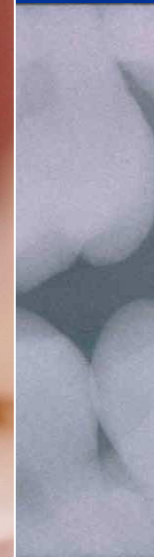
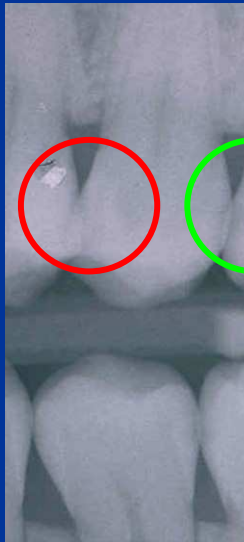
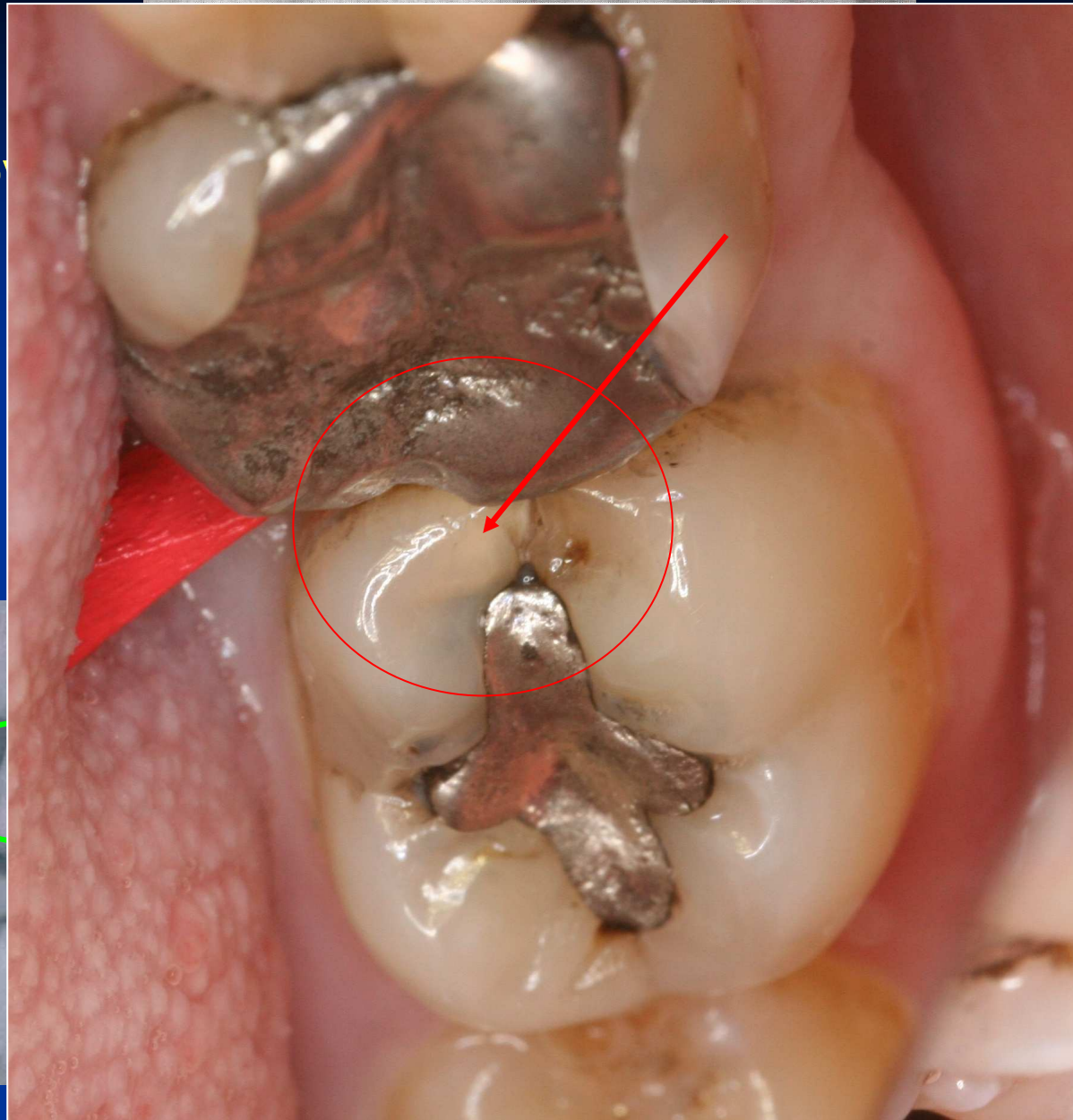








4 stupňo  
grading



KTG vyšetření = Bite wing

# Preparation - amalgam

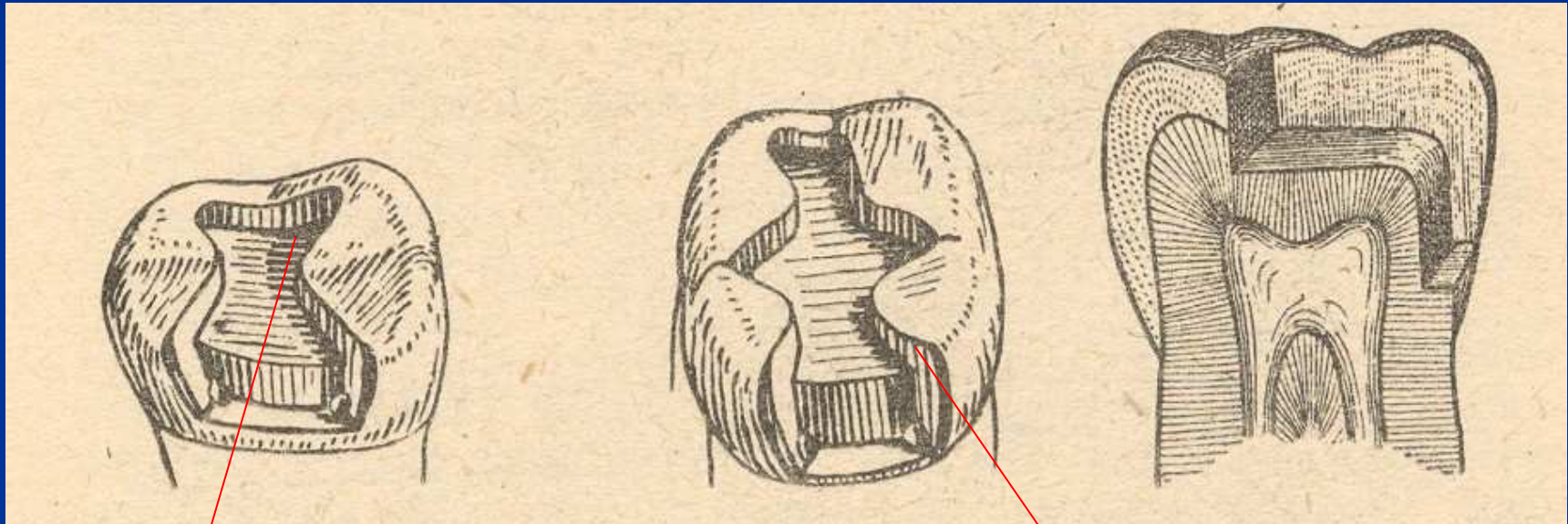
- Conventional preparation acc. to the Black's rules
- Slot preparation
- Large preparation – cusp(s) involved



# Preparation - adhesive materials

- Conventional preparation for composites
- Adhesive slot
- Tunnel preparation

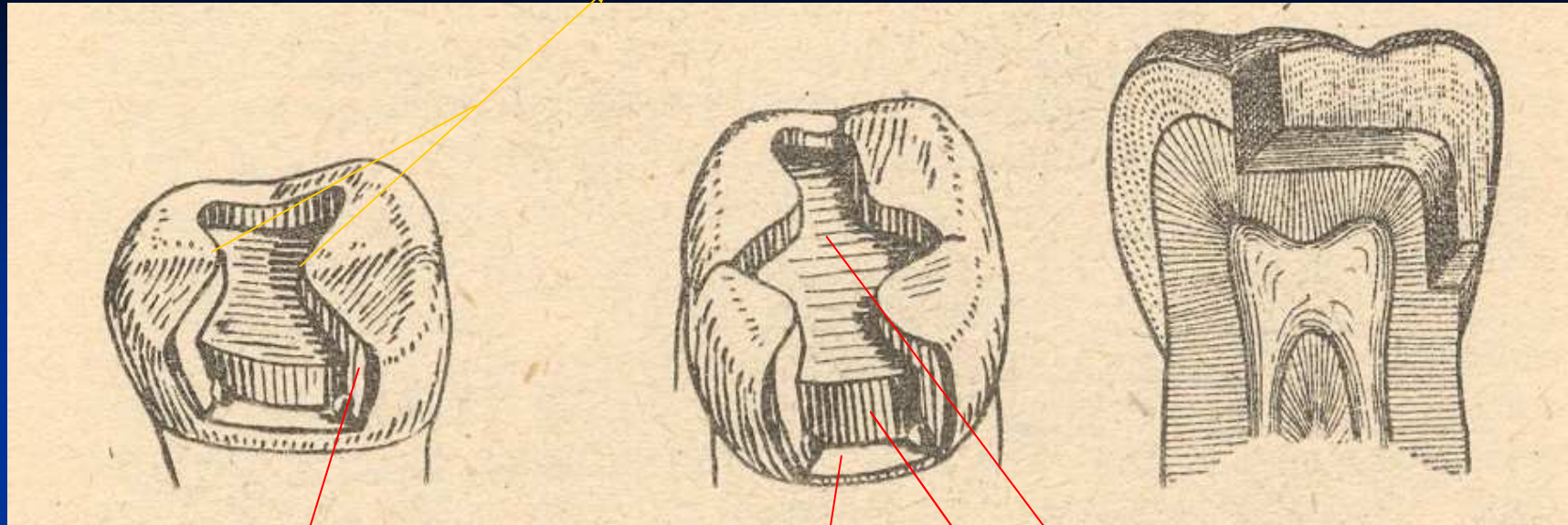
# Conventional preparation



Occlusal cavity

Proximal cavity - box

Isthmus



Axial wall

Gingival wall

Pulpal walls

# Access to the cavity

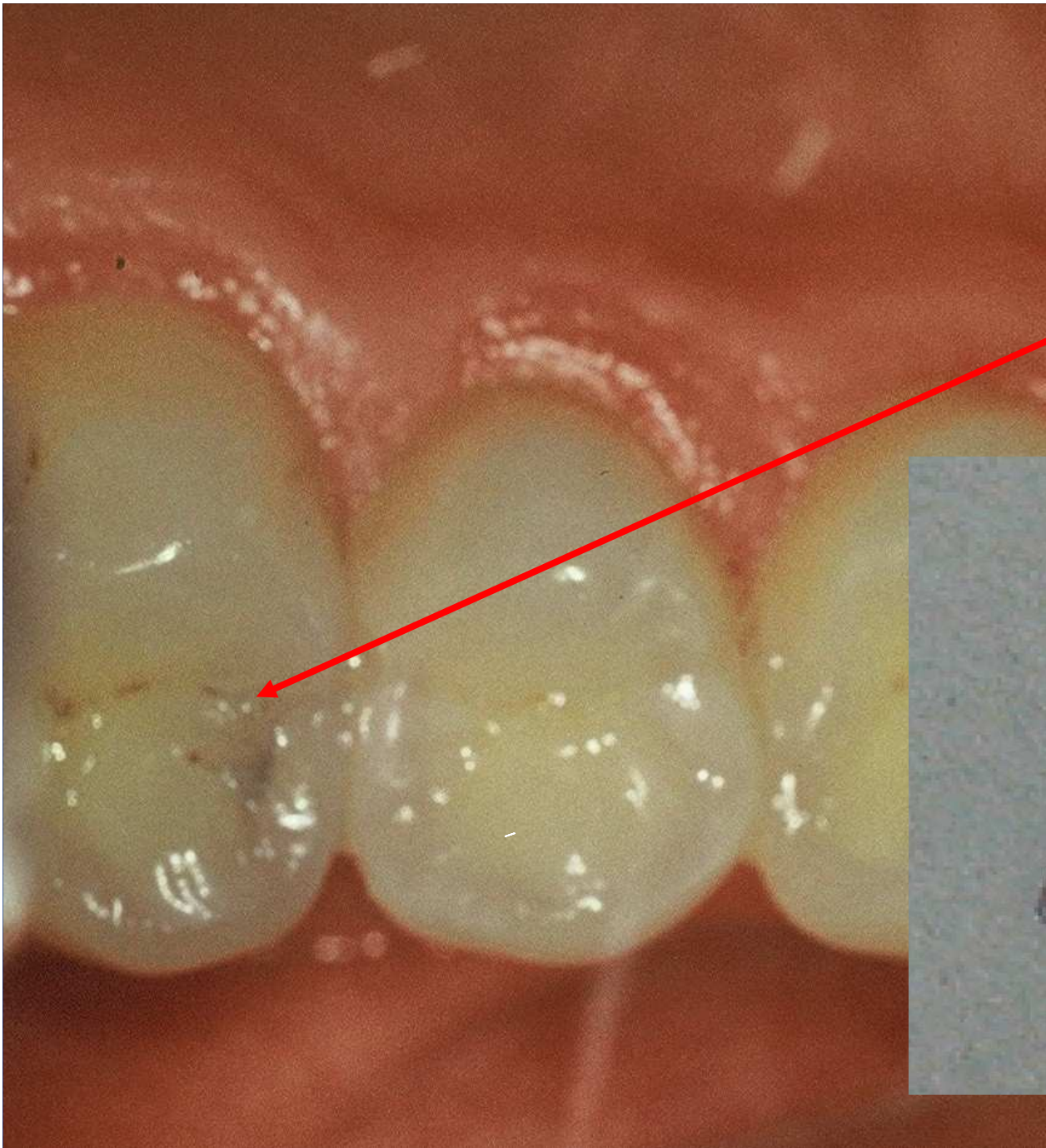
From the occlusal surface

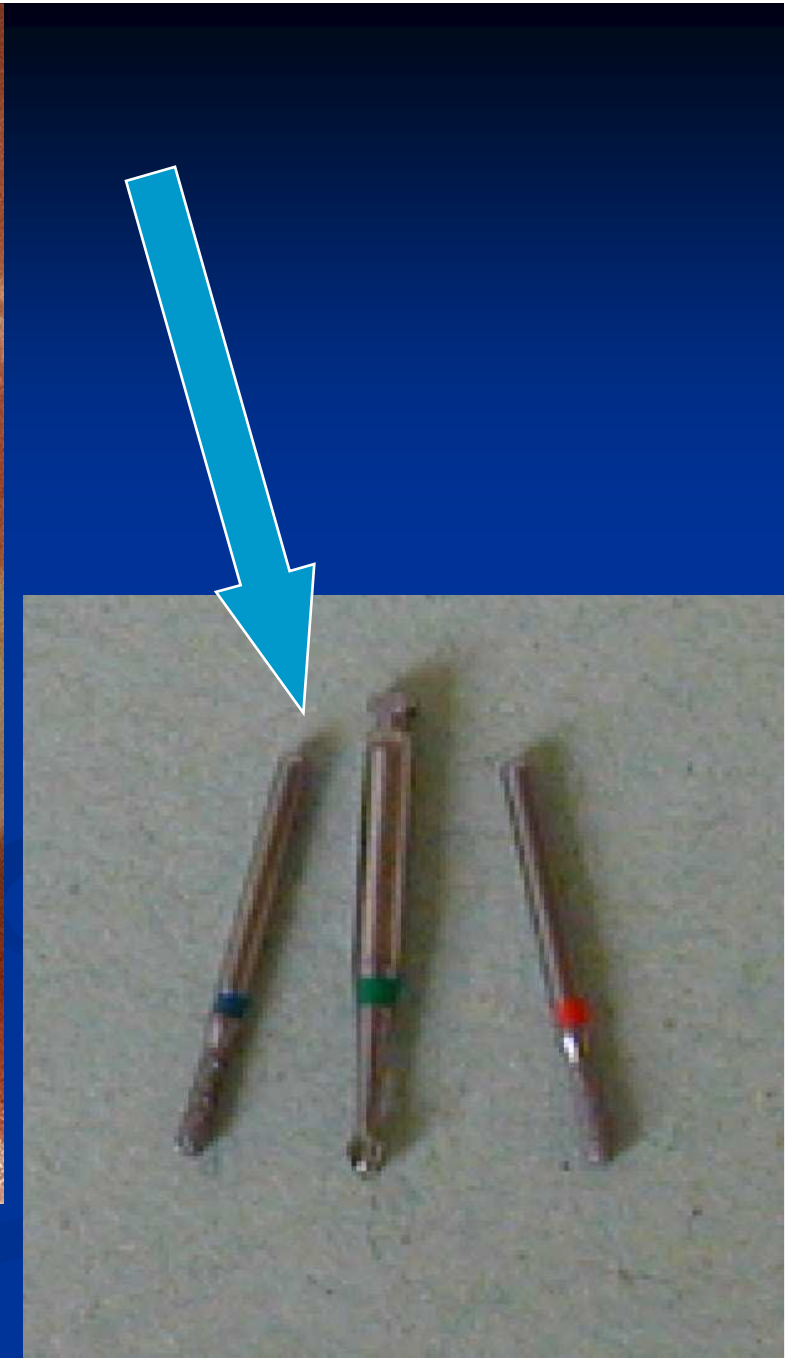
Through the undermined enamel

Separation using wooden wedges is useful



Pre op

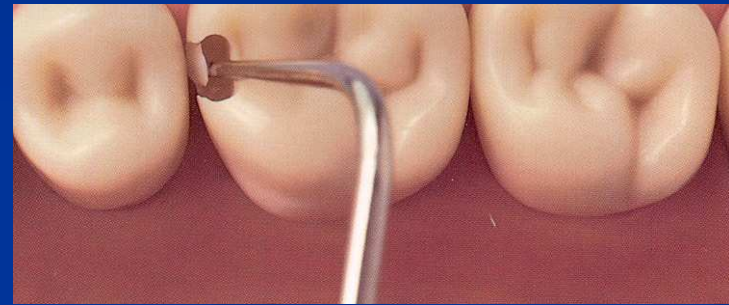




## Access to the cavity

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# Cavity border and extension for prevention

## Proximal box:

Axial wedges

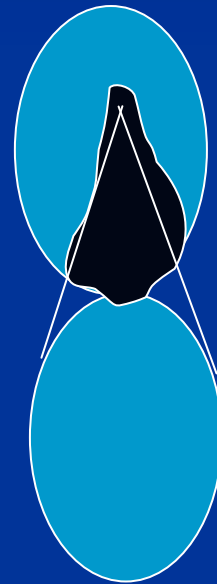
Under the free gingiva

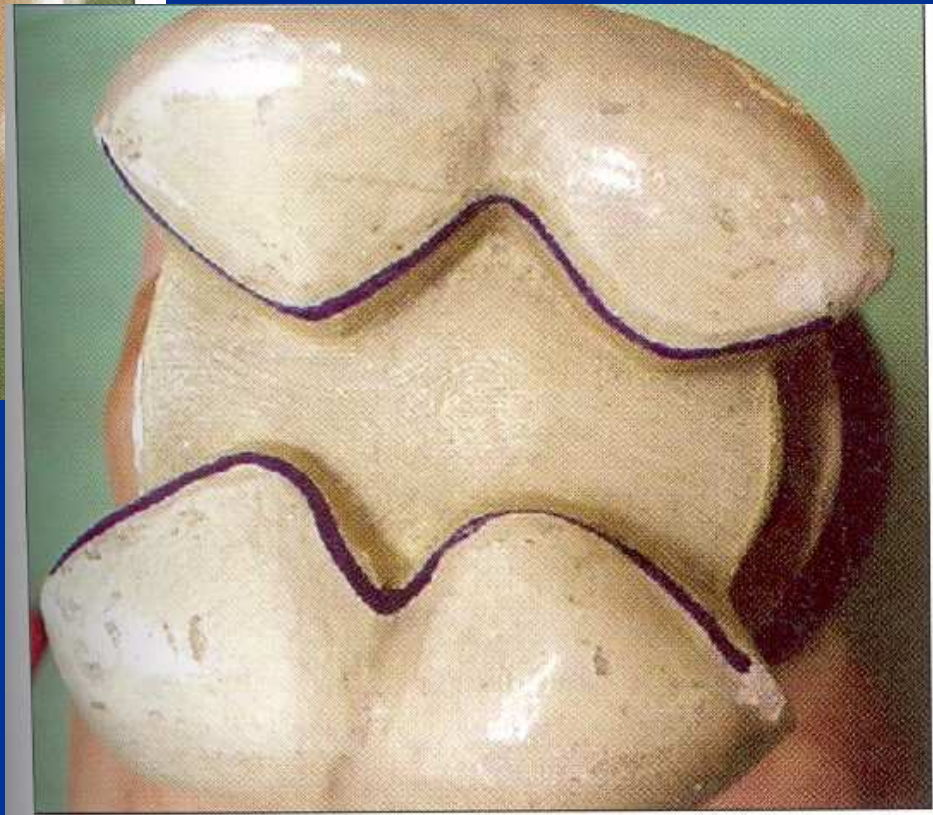
## Occlusal

Class I. cavity preparation



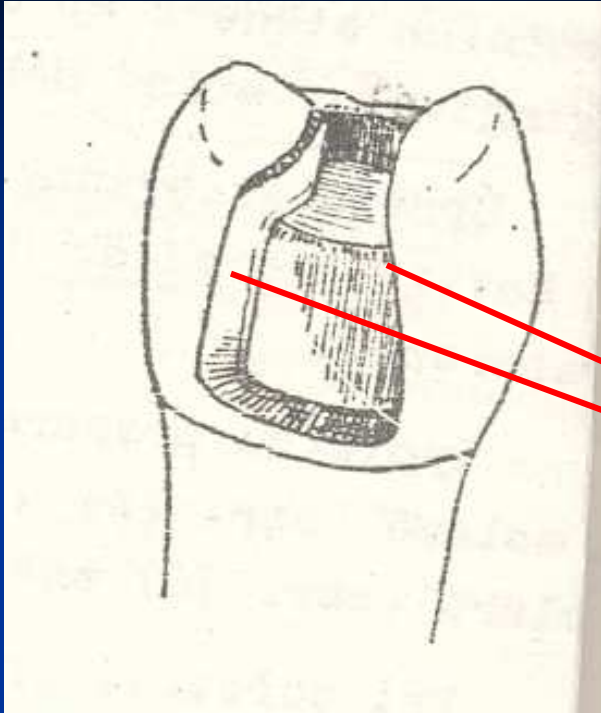
## American rule



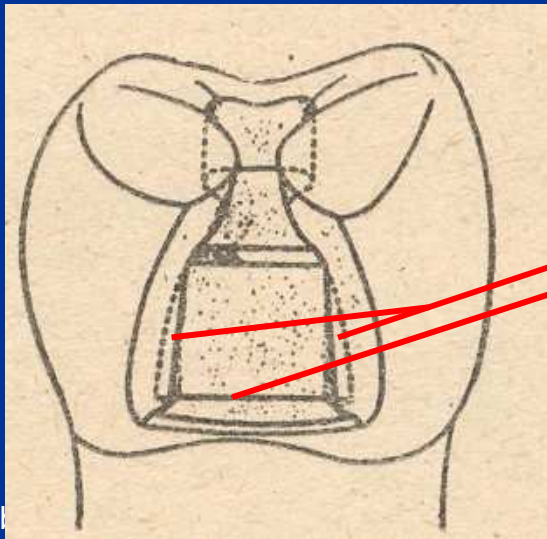
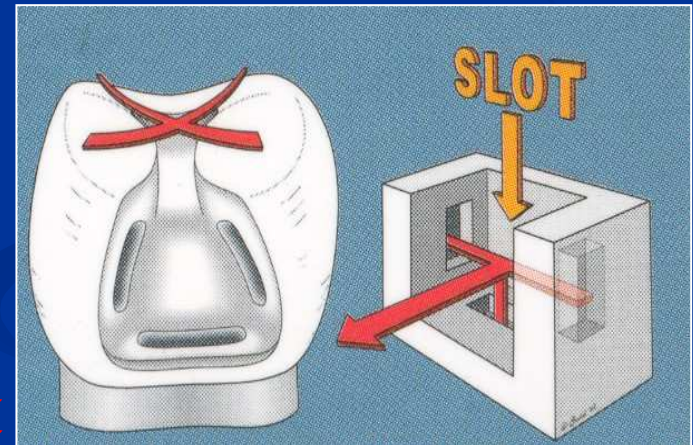


# Zásada retence

- Kotvení pomocnou kavitou na žvýkací ploše – kotvení na rybinu
- Obráceně divergentní preparací kavity aproximální
- Preparace rýh a zářezů



Autoretention



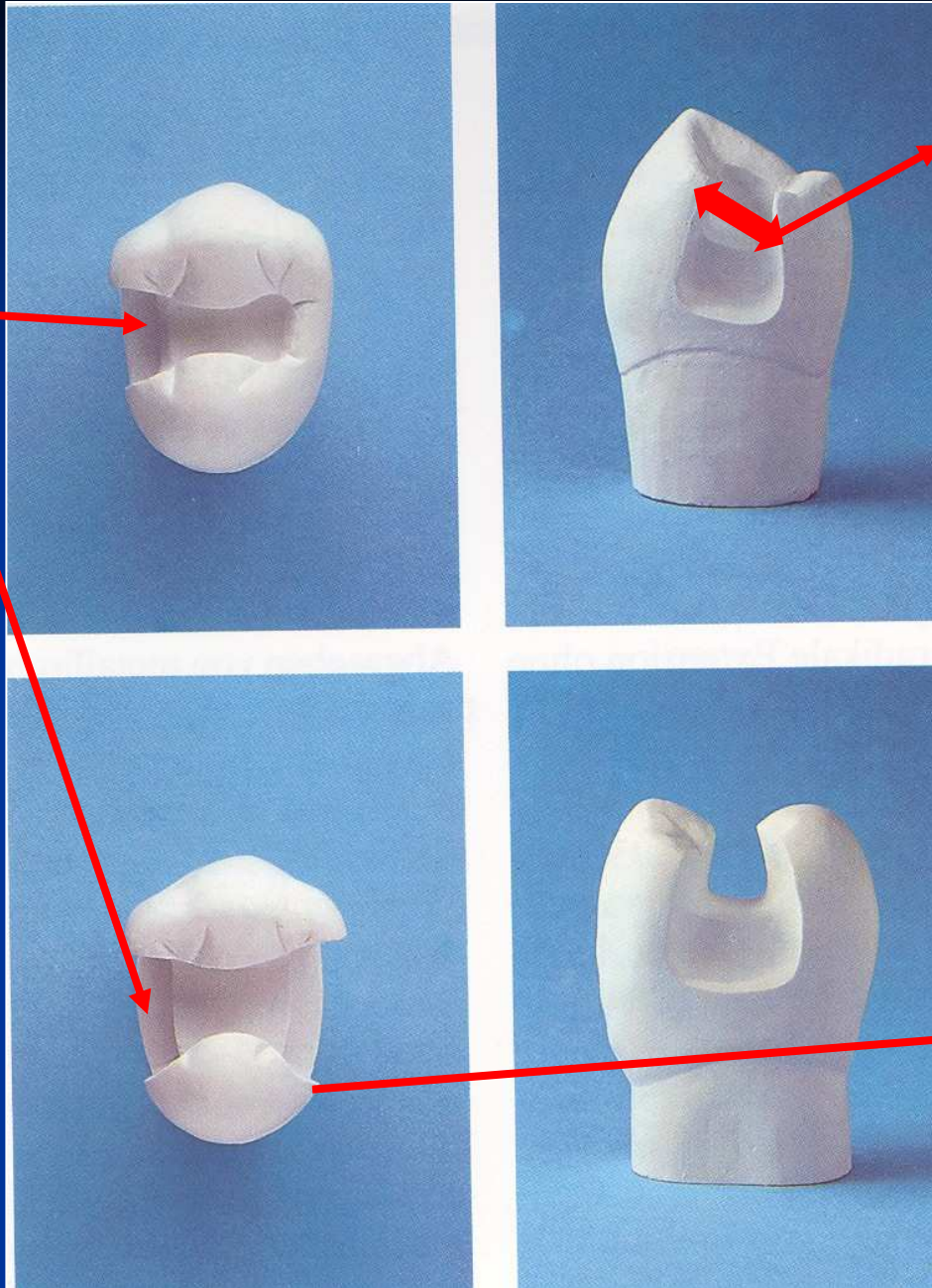
Grooves



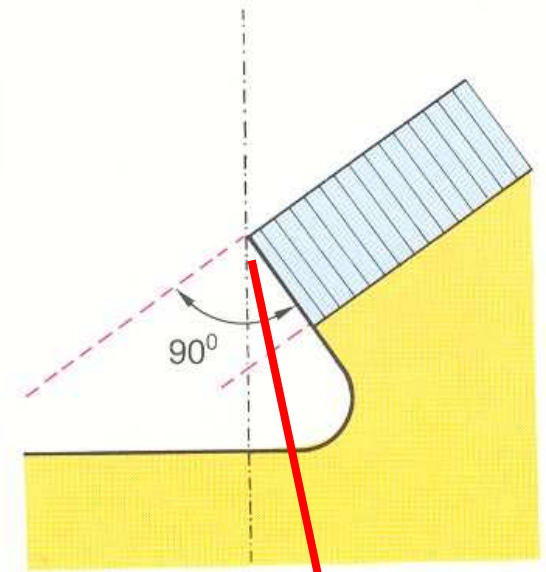
# Resistance

- No undermined enamel
- No sharp wedges
- Isthmus is  $1/3 - 1/4$  intercuspidal distance
- Angle between axial and gingival wall:  $90^\circ$ , or  $85^\circ$
- Width of gingival wall is 1 mm at least
- Thickness of the filling 2 – 4 mm (4mm cusp replacing)

G. wall



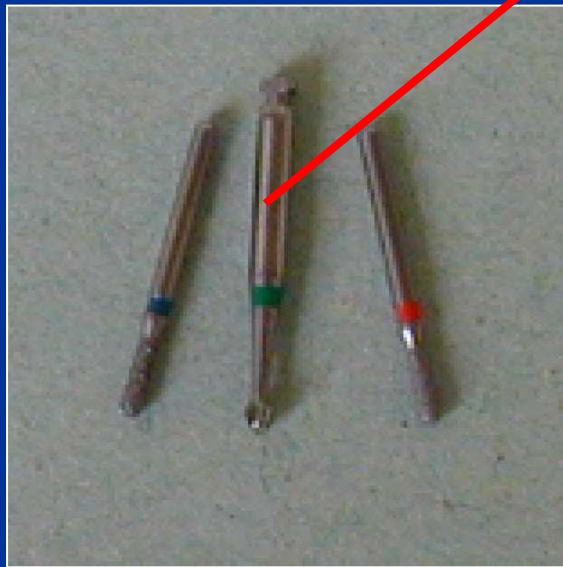
Isthmus



Cavosurface angle

# Excavation of carious dentin

## Rounded bur

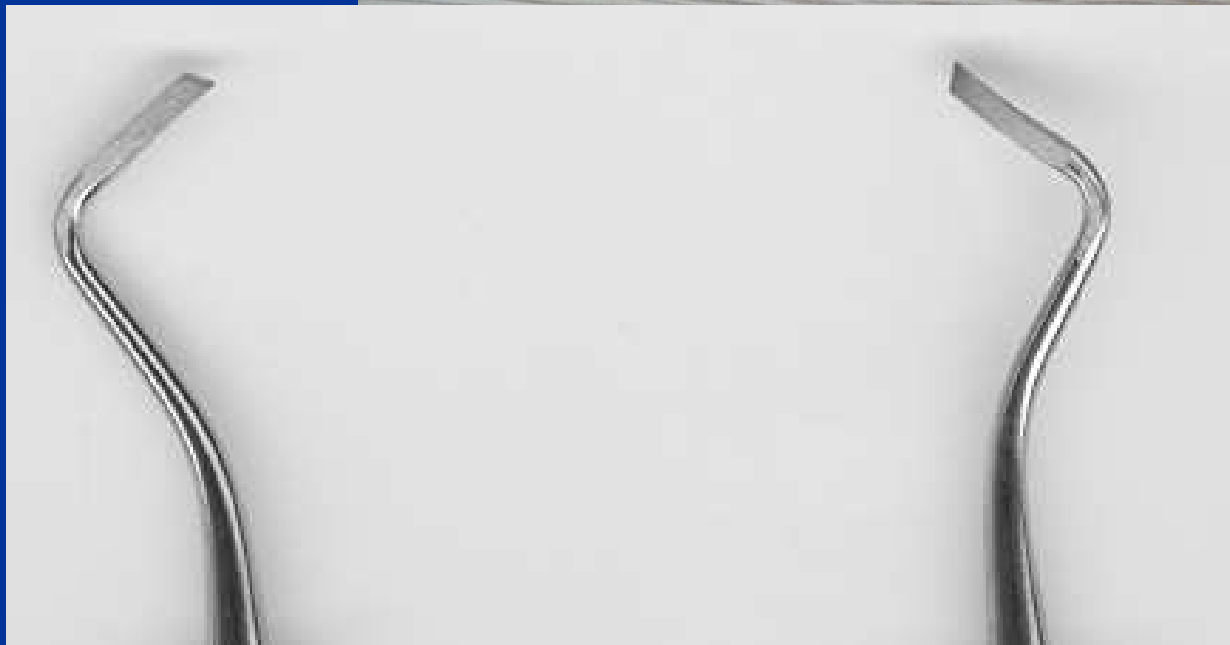
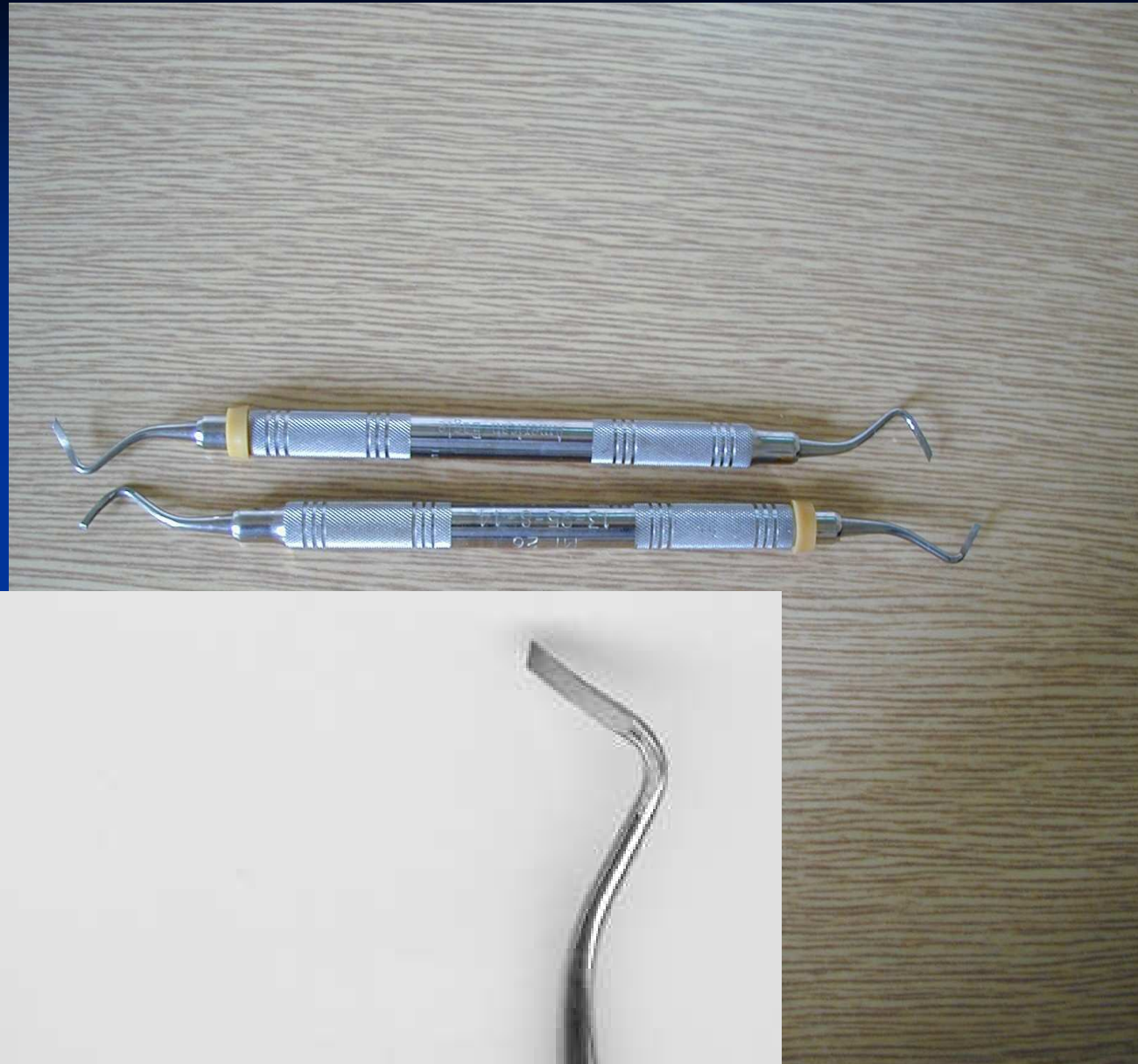


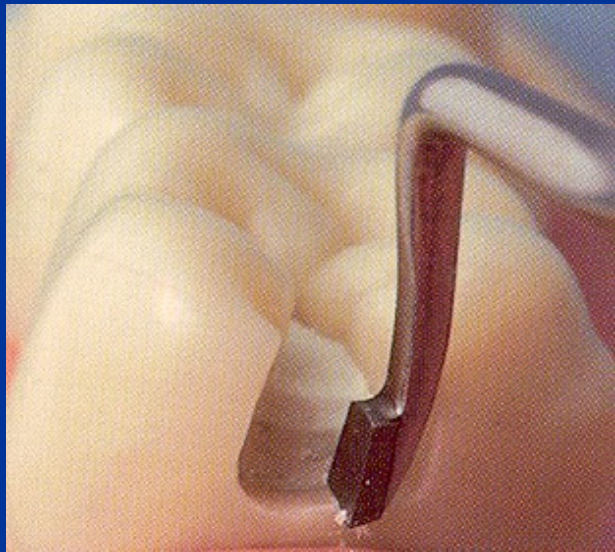
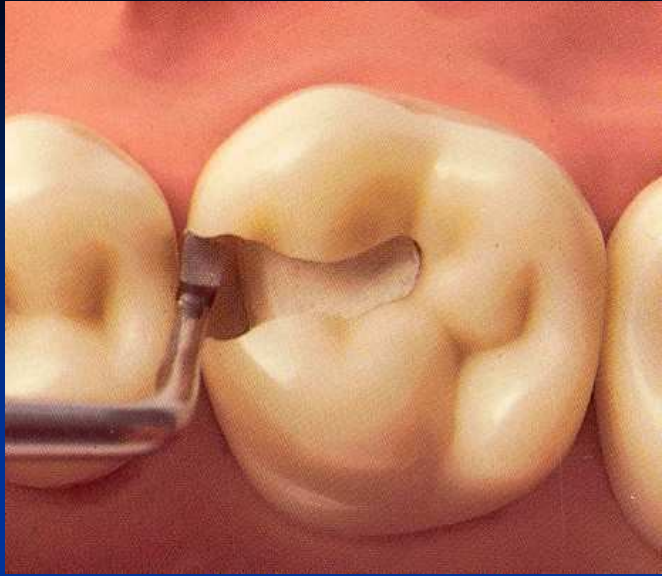
*(Caries Detector, Kuraray, Japonsko; Caries Marker, VOCO, Německo)*

# Finishing of cavity walls

- Red coded diamond bur
- Chisel on the gingival wall (if in enamel)

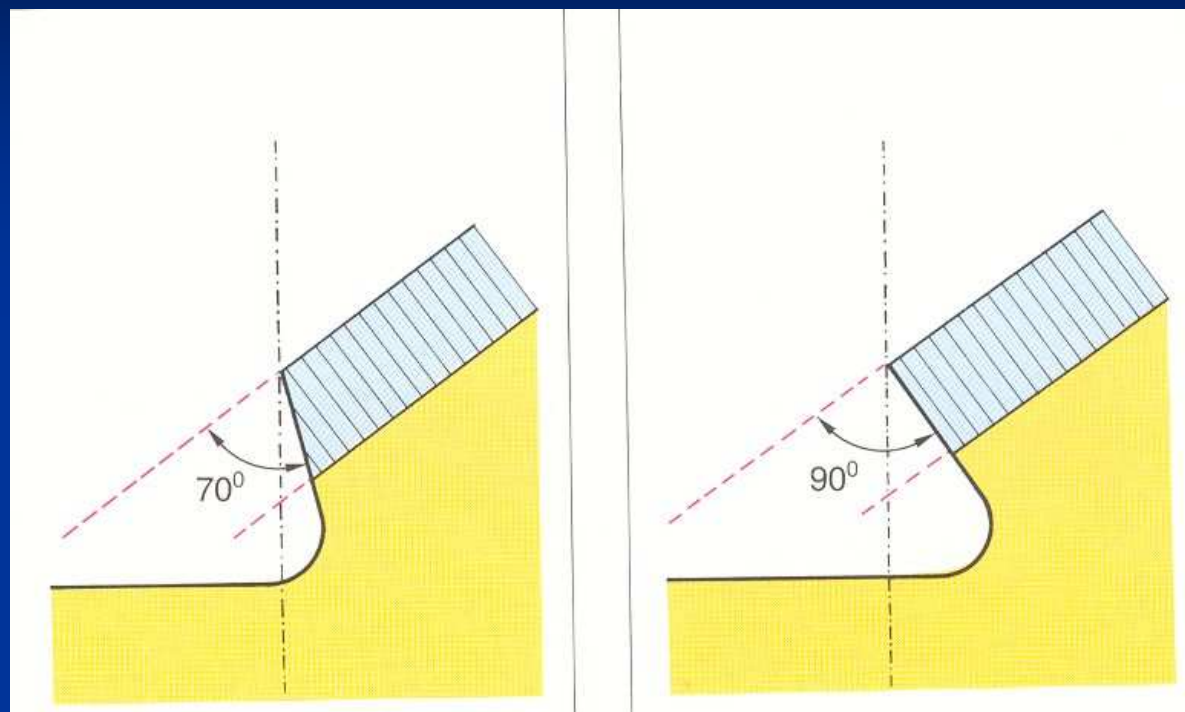










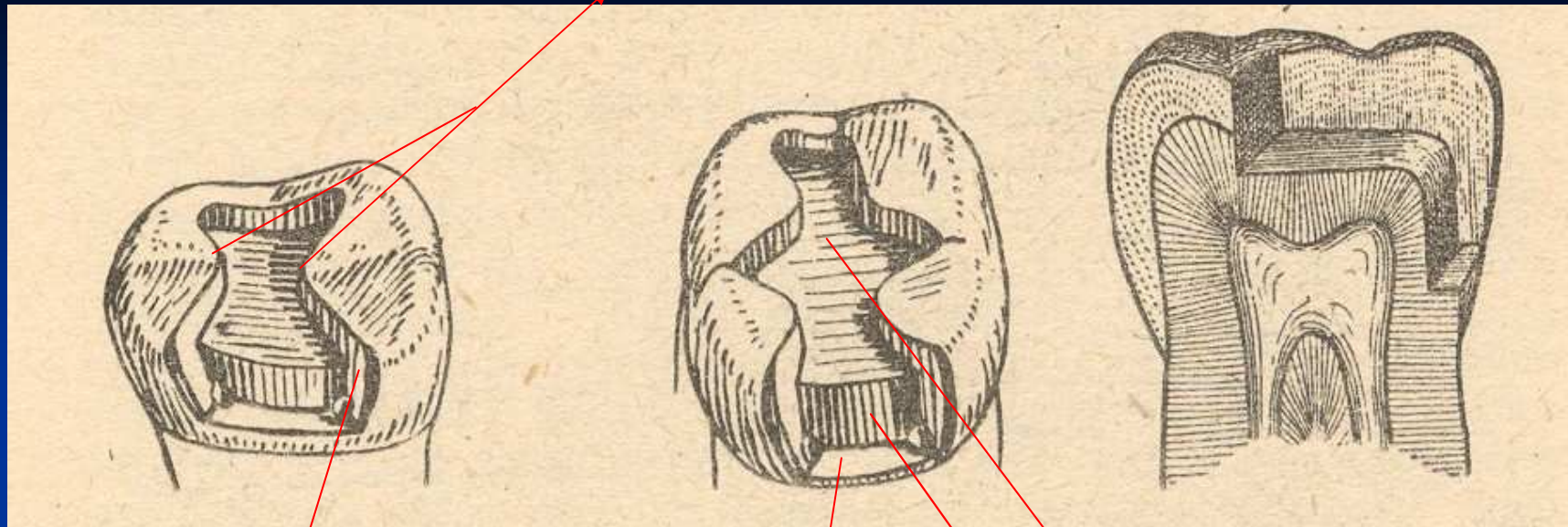




# Cavity control

➤ Goog light, miror

Isthmus



Axial wall

Gingival wall

Pulpal wall

# Matrix placement

- Matrix primarily is used when a proximal surface is to be restored

The objectives:

- Provide proper contact
- Provide proper contour
- Confine the restorative material
- Reduce the amount of excess material

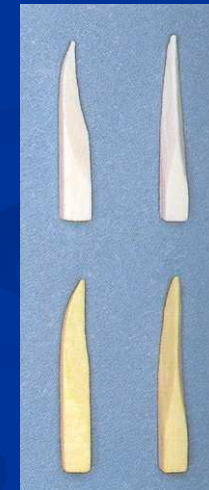
# Matrices

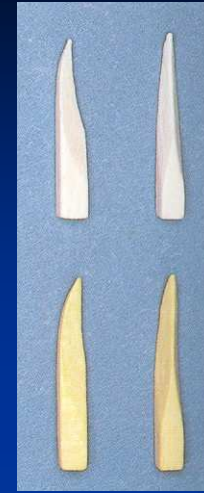
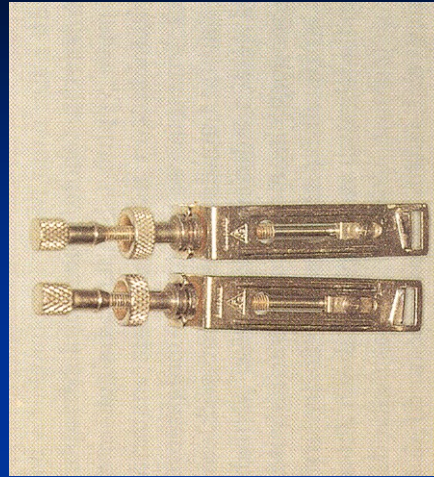
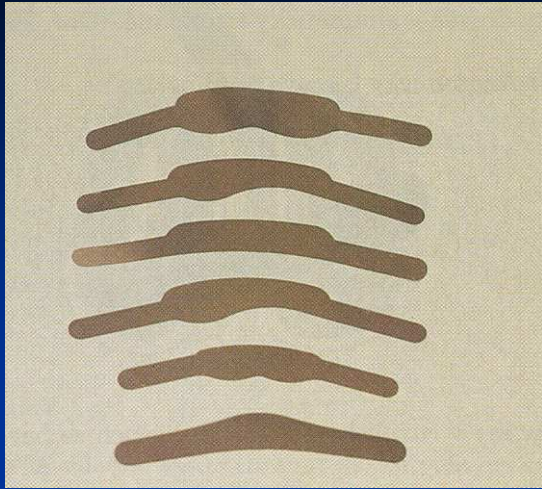
- Ivory I retainer Ivory 1
- Hawe Neos retainer Ivory 8
- Tofelmire matix and retainer



# Wedges

- Wooden wedges
  - tighten the matrix band
  - compress the gingiva
  - separat the teeth

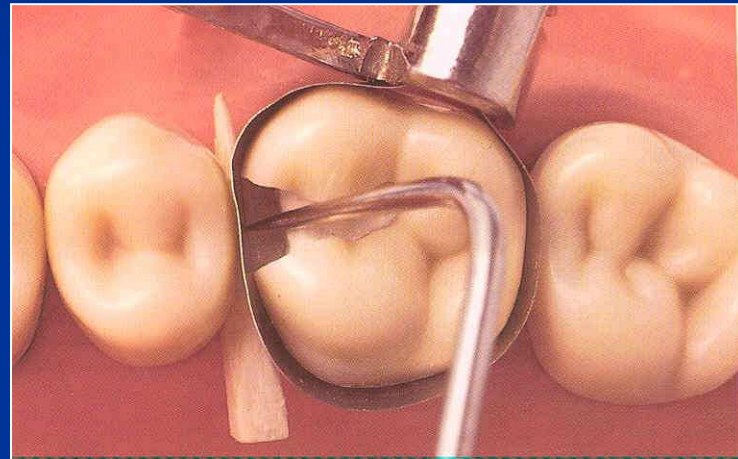
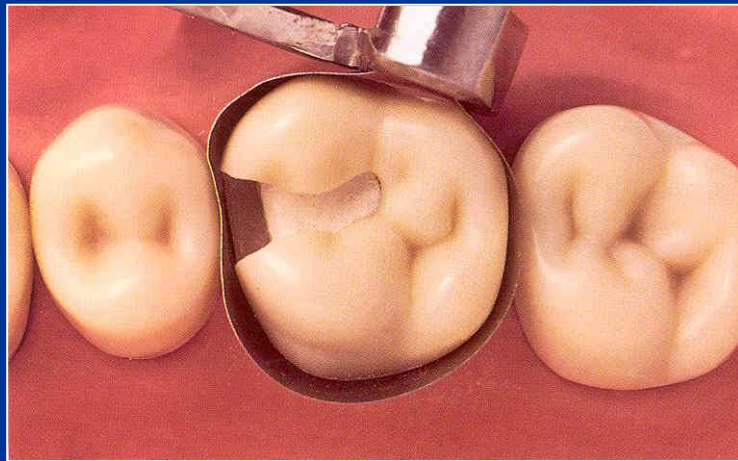
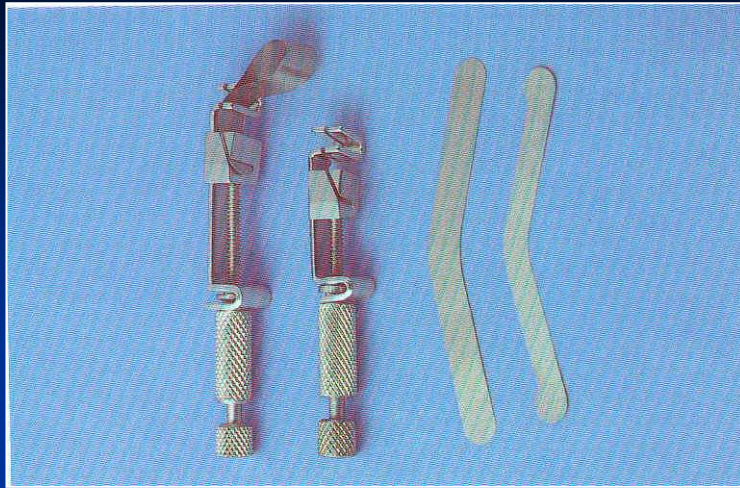




# Wedging

- Slip the matrix band over the tooth (apical to the gingiva margin – 0,5, - 1 mm)
- Tighten the matrix, check it with probe
- Place a wedge
- Turn the retainer  $\frac{1}{4}$  counterclockwise
- Contour the band









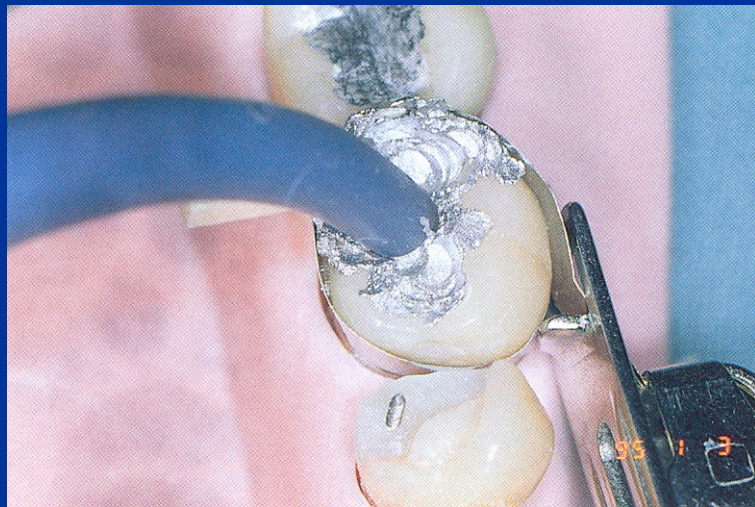
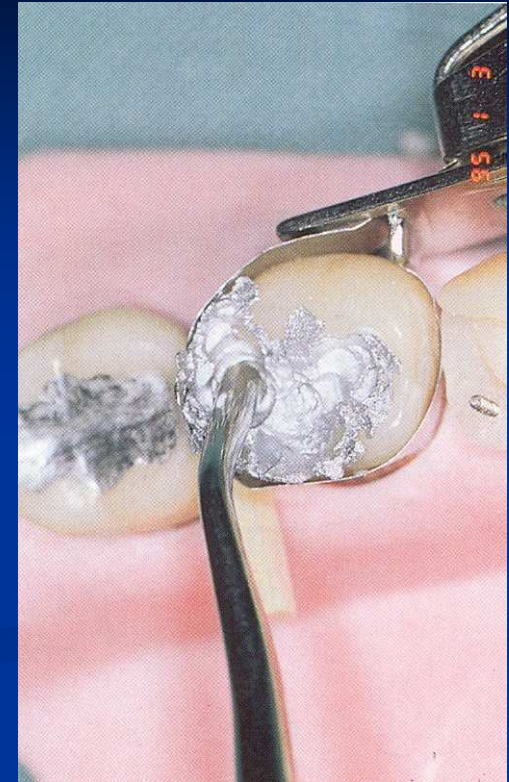
Trituration!

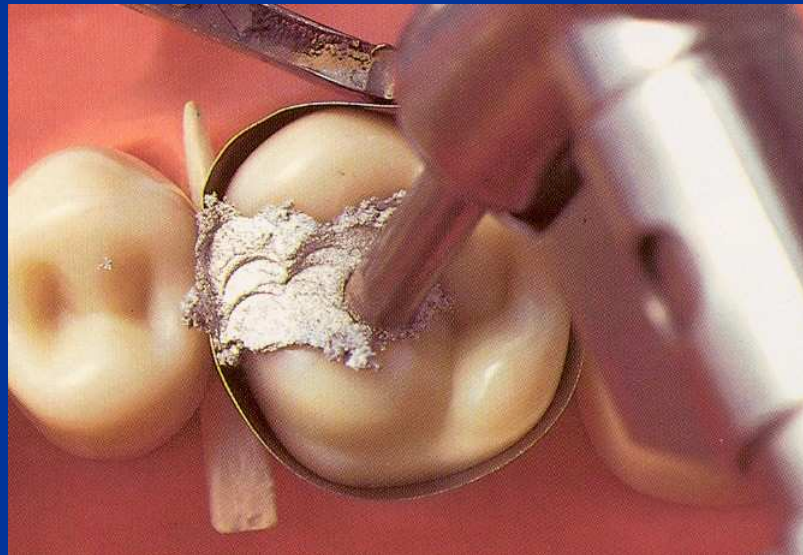
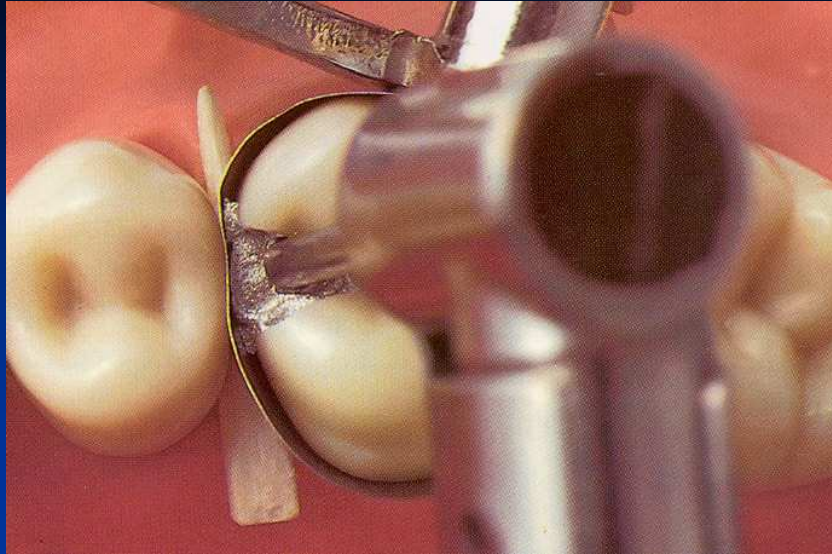
# Condensation of amalgam

- Condensor – stamen is the best one
- Power driven condensation

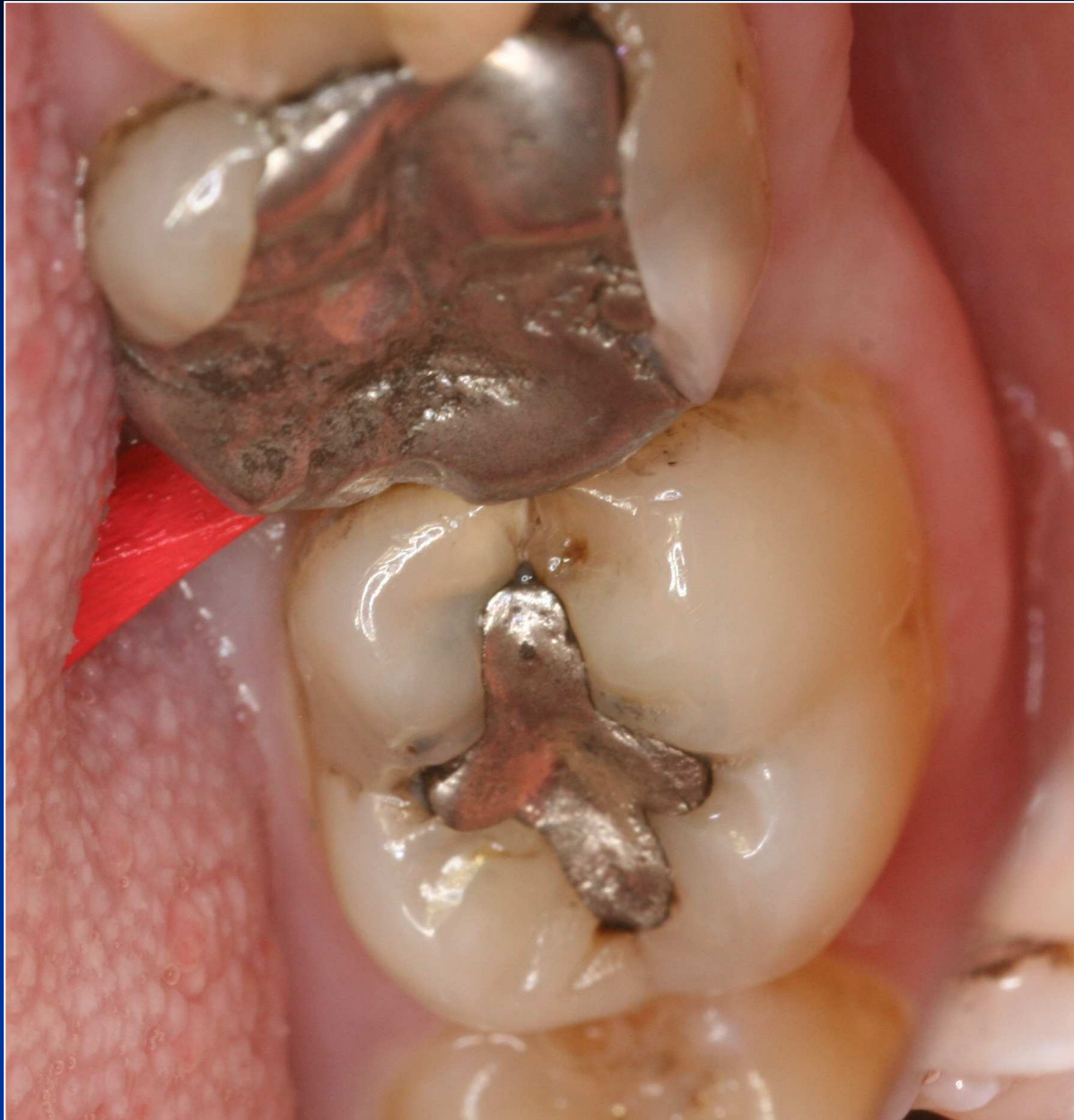
How big the stamen should be??



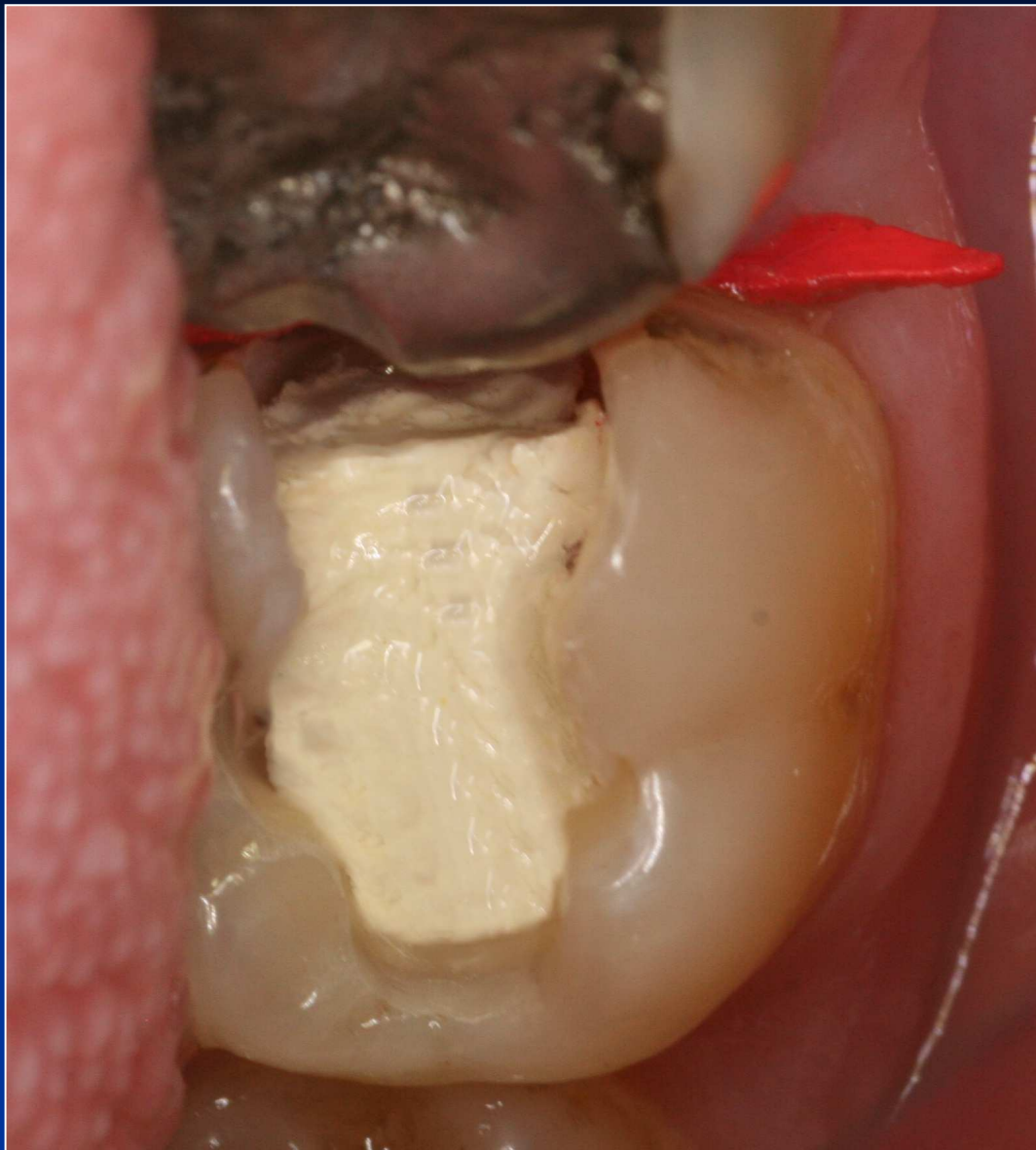










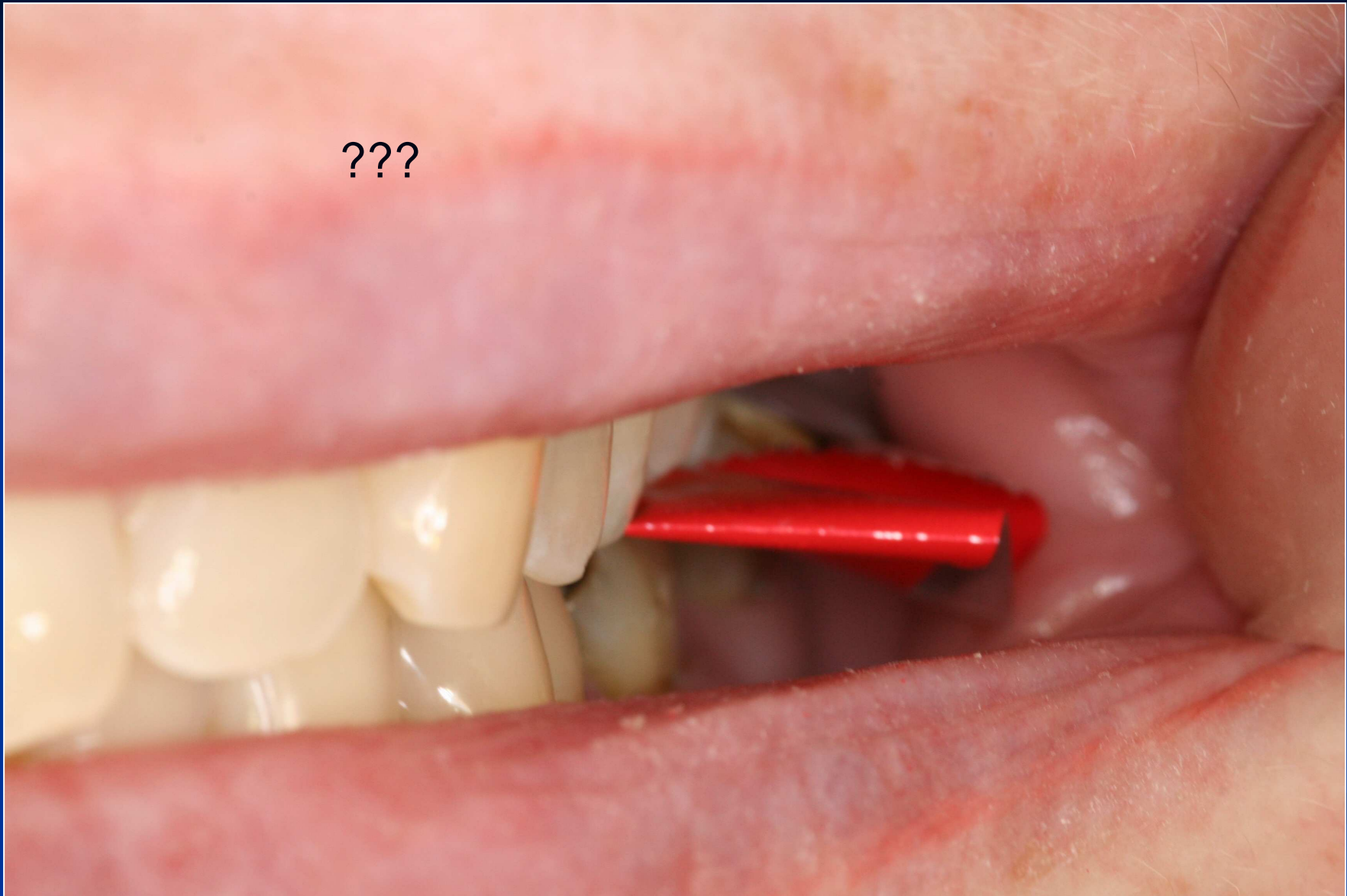














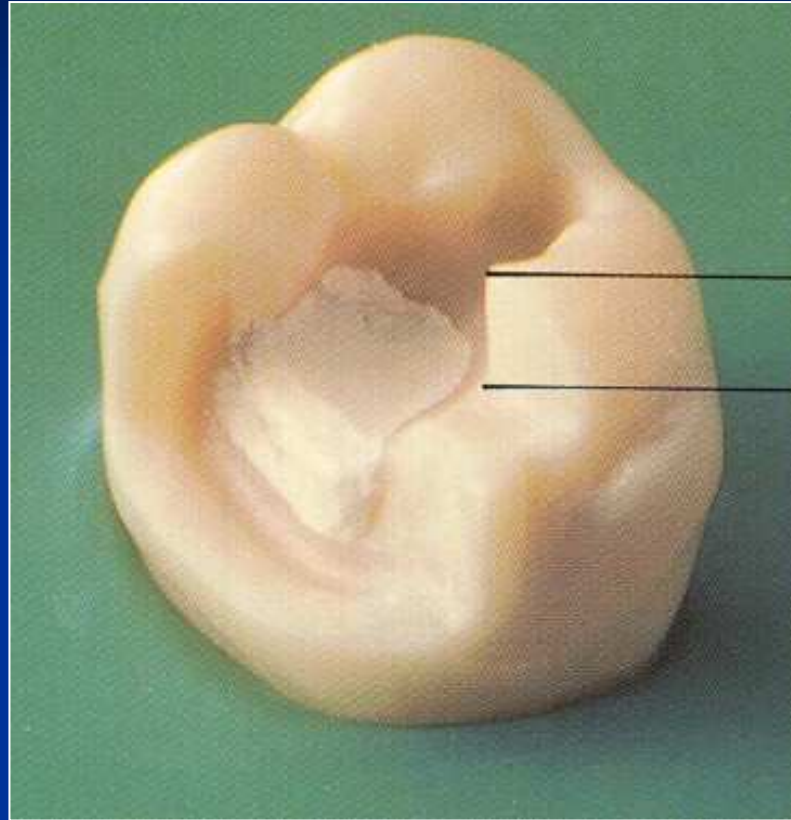


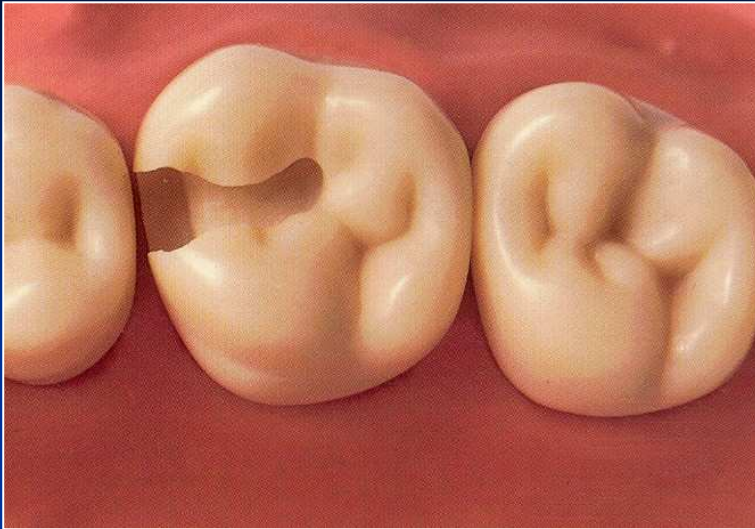
# Base

- Zinkoxidphosphate cement
- Zinkoxidkarboxylate cement
- Glass ionomer cement
- Zinkoxideugenol

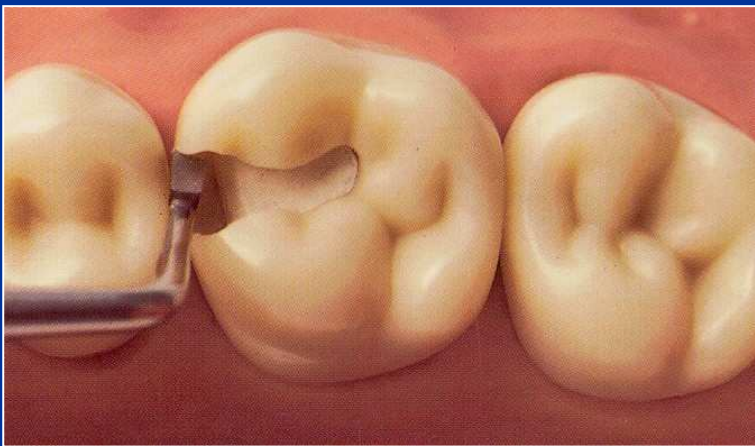
On pulpal walls only!





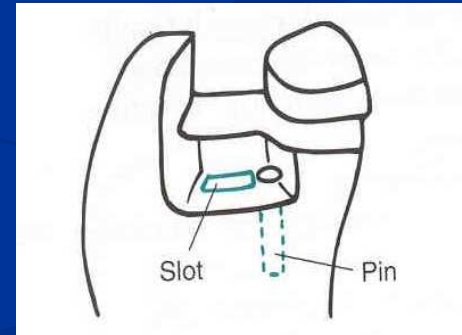
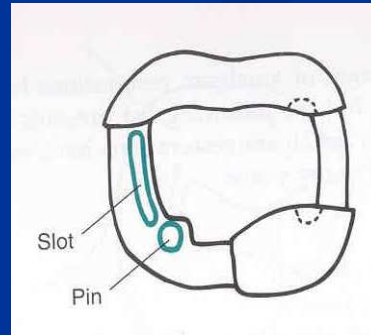
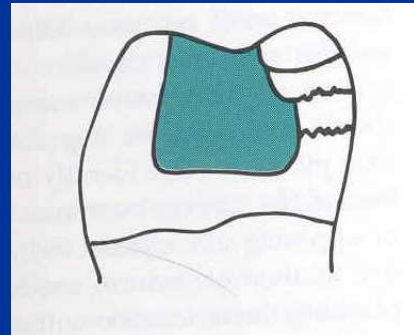
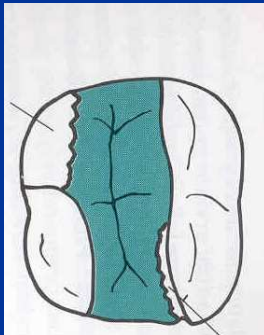


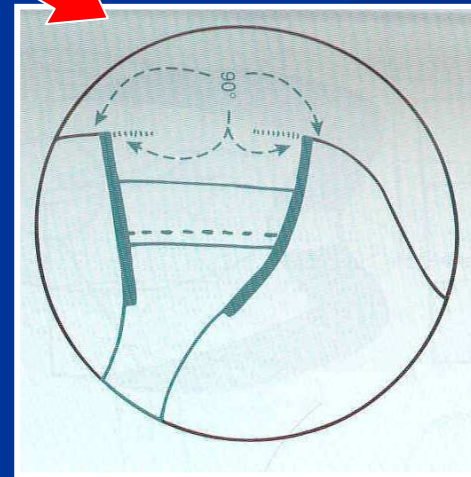
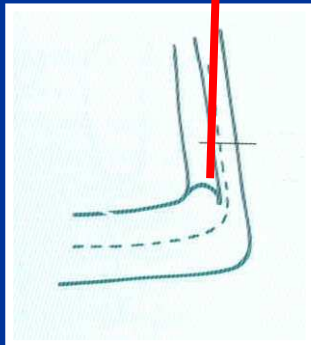
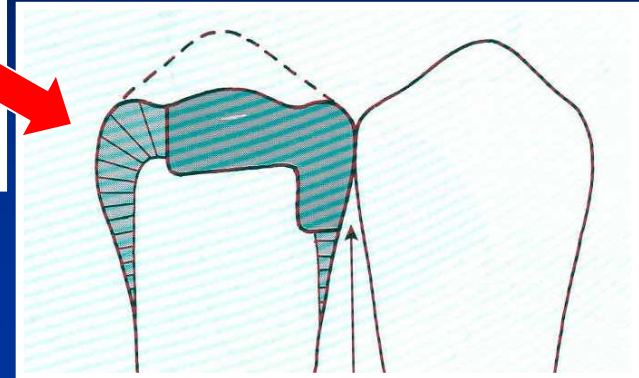
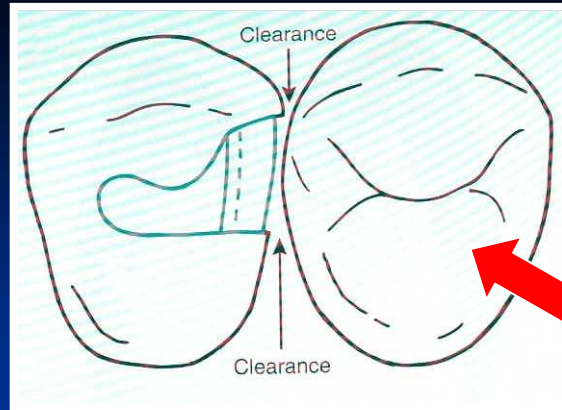
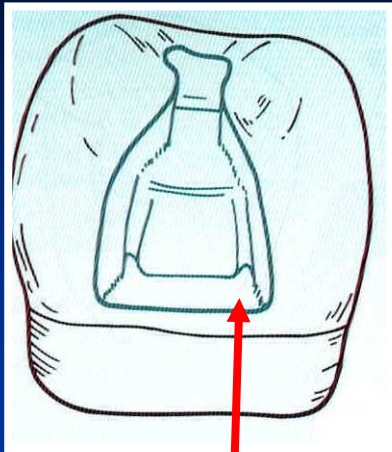
The base must be hardened



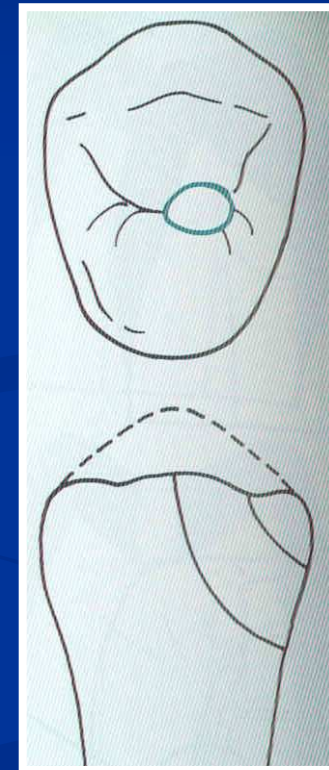
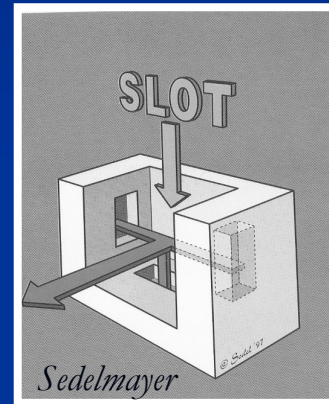
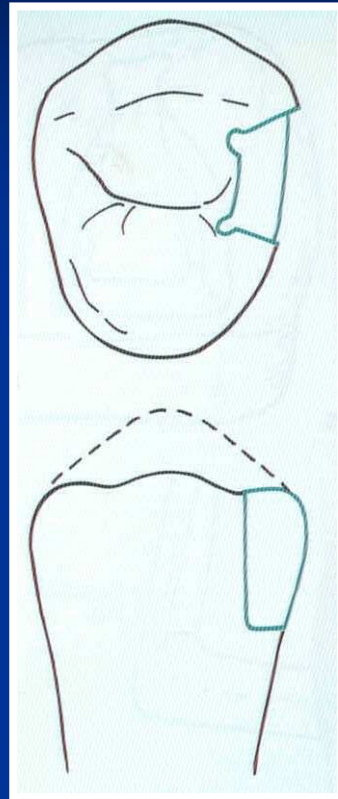
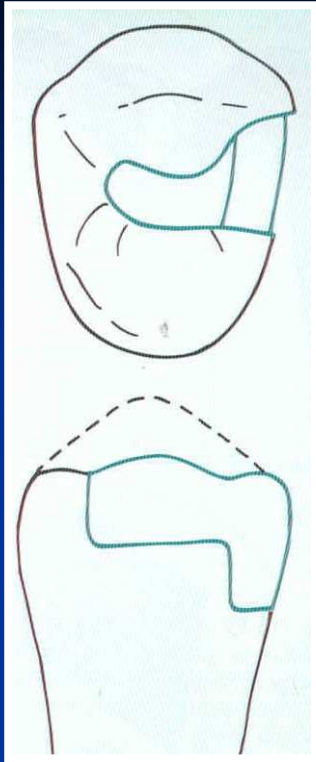
# Amalgam

## Retention





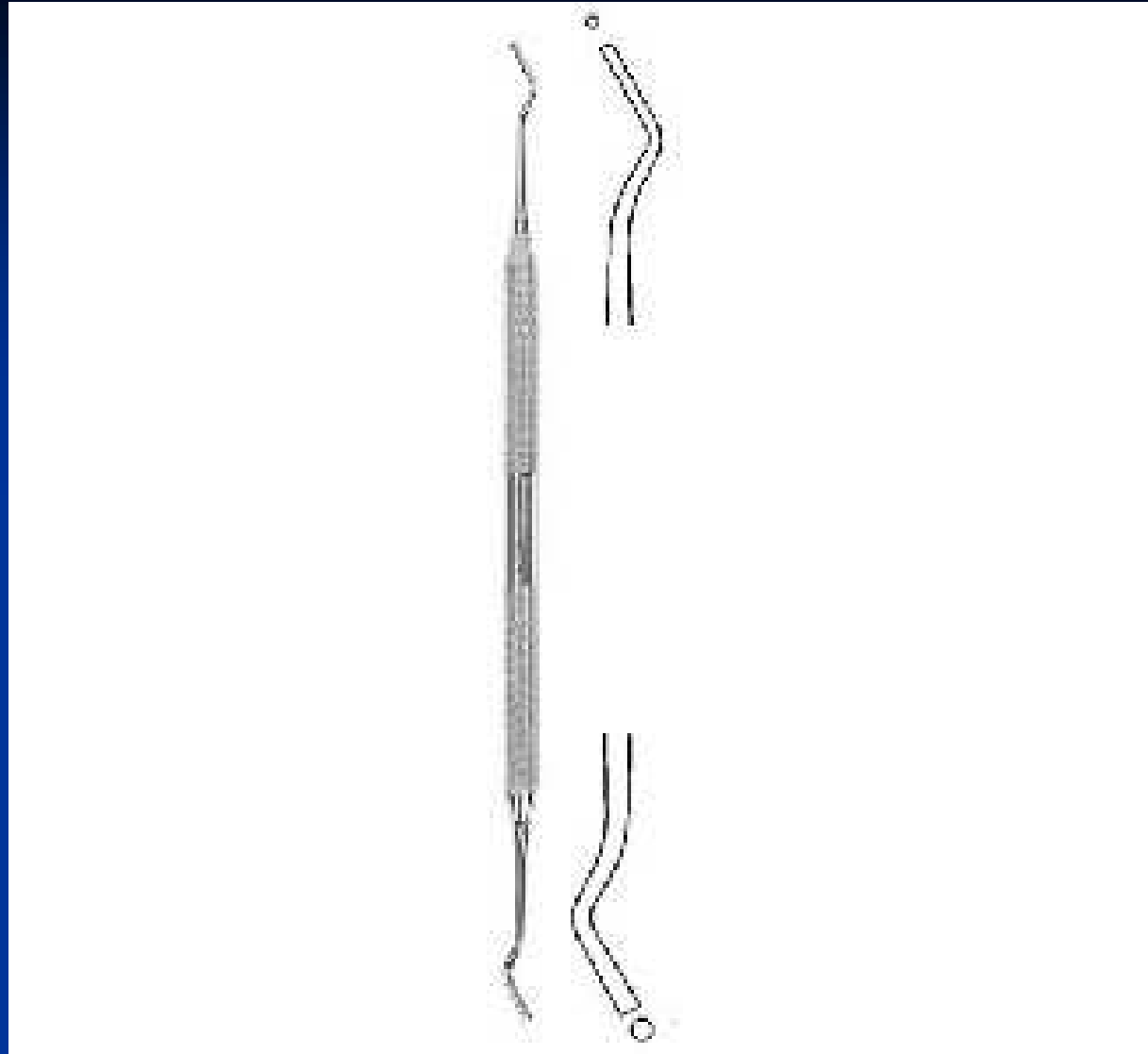




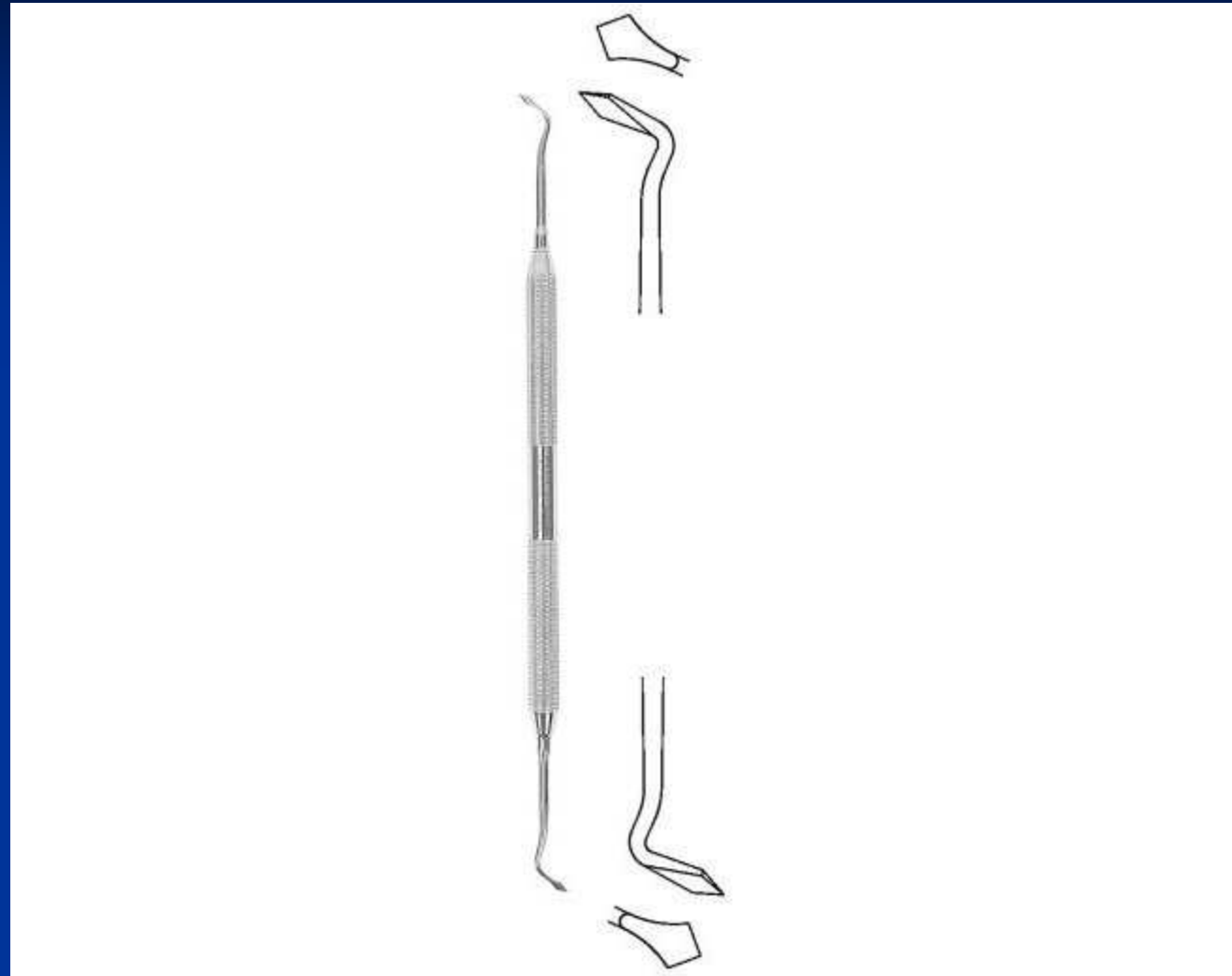
# Instruments

- Preparation
- Filling
- Finishing and polishing

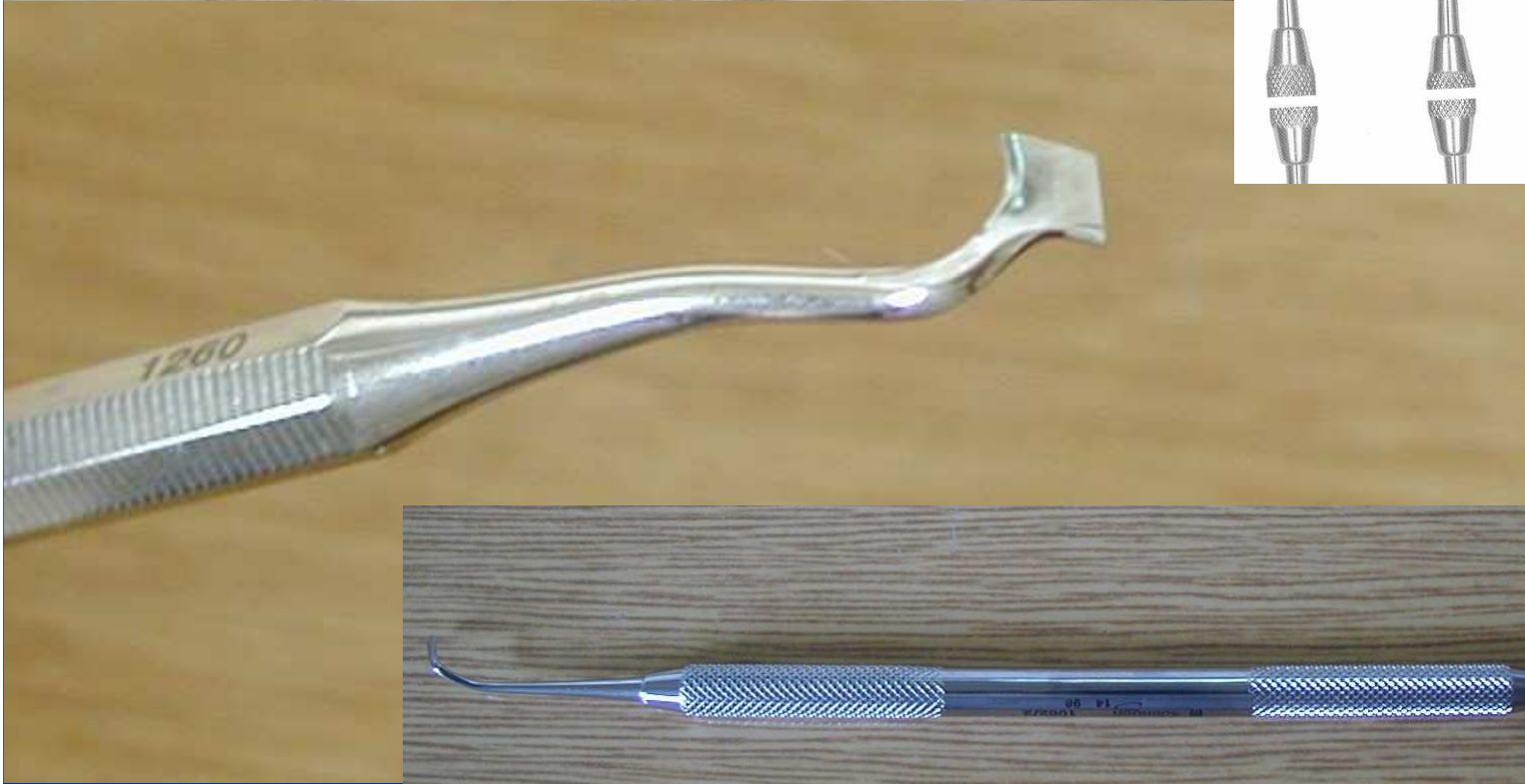
## Cpátko tyčinkové



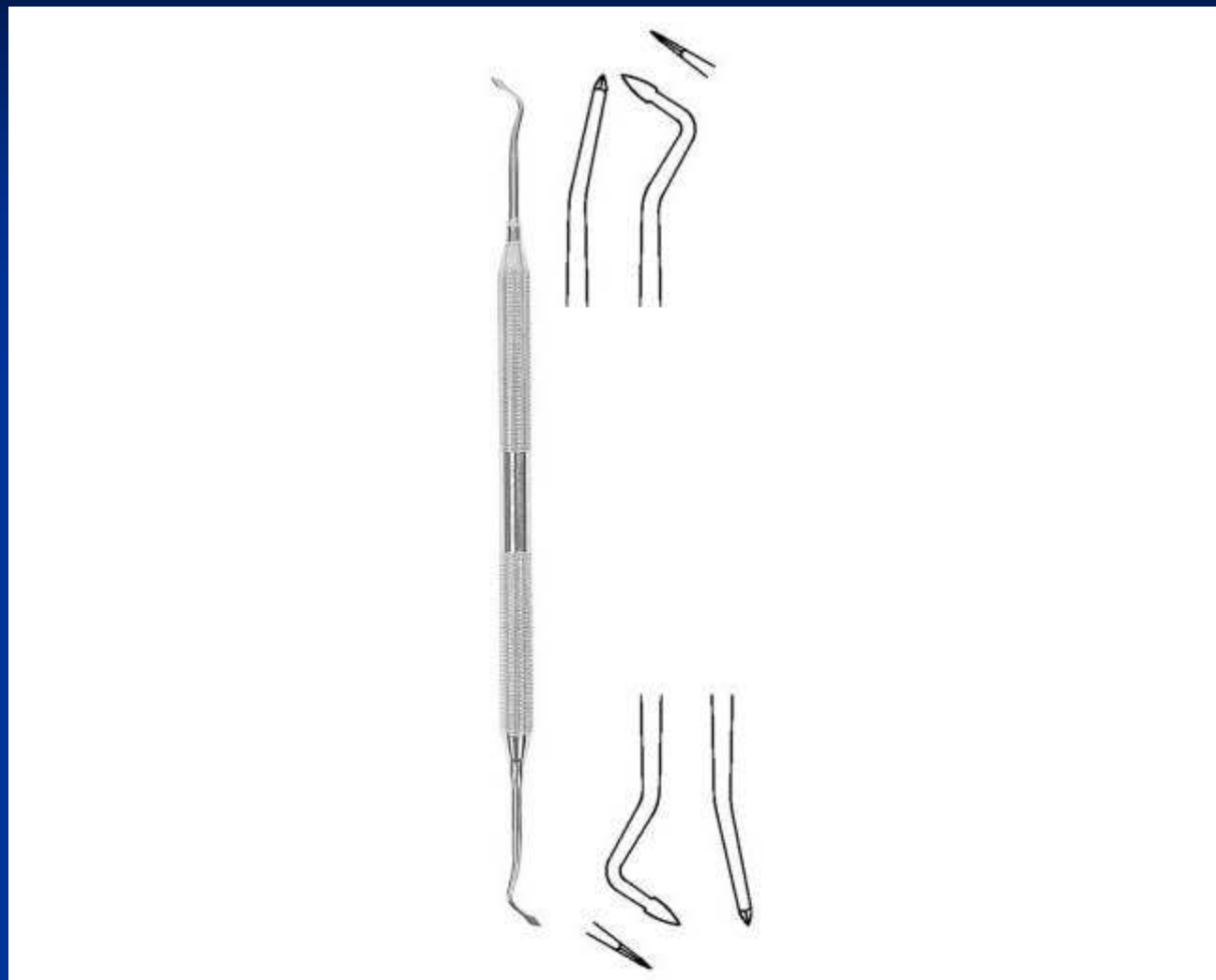
## Ořezávač -Frahm



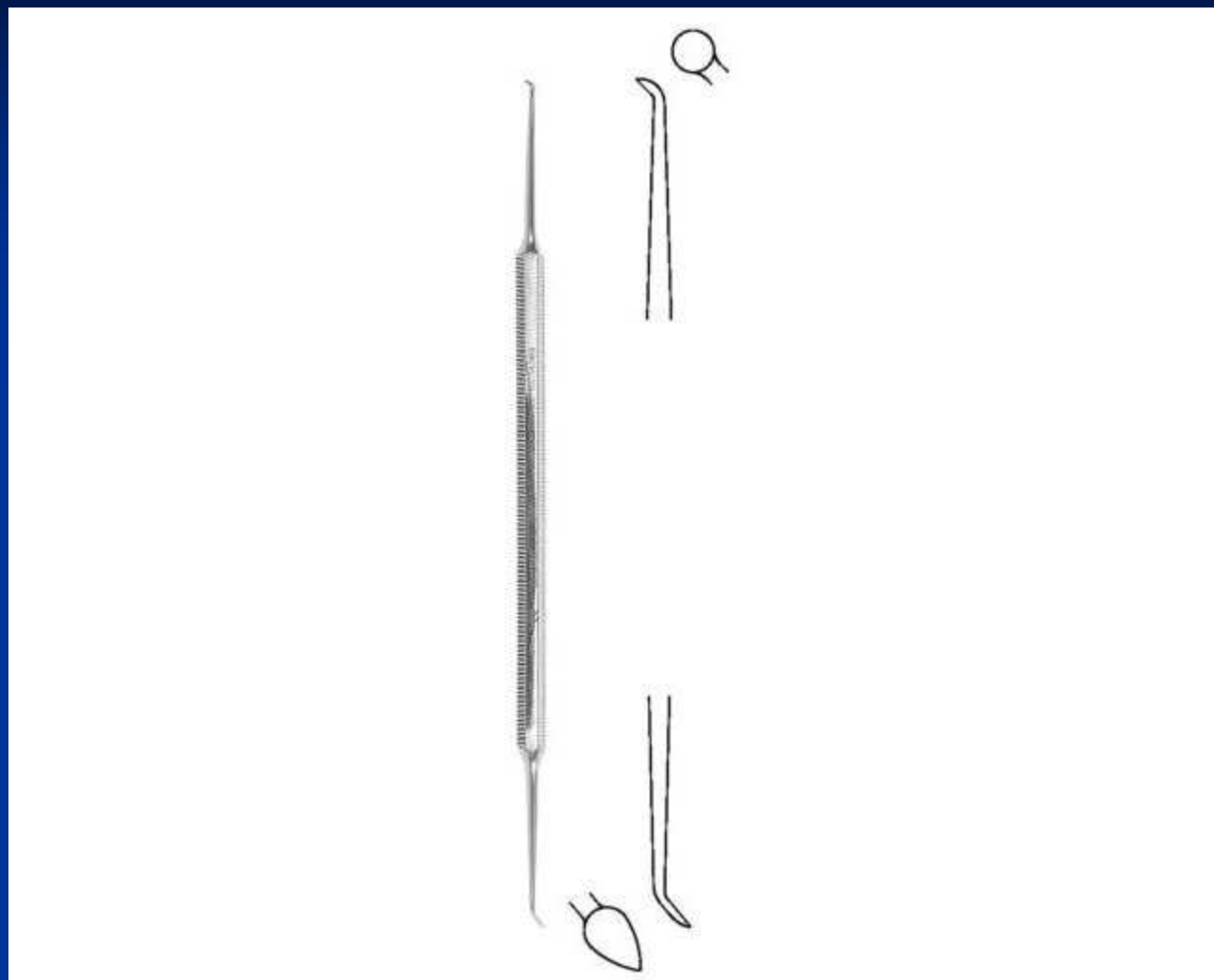




# Carver Sapin



# Carver discoid-cleoid



# Amalgam carrier





