

# Class II. cavity preparation

Defects affecting one or both proximal surfaces of posterior teeth.

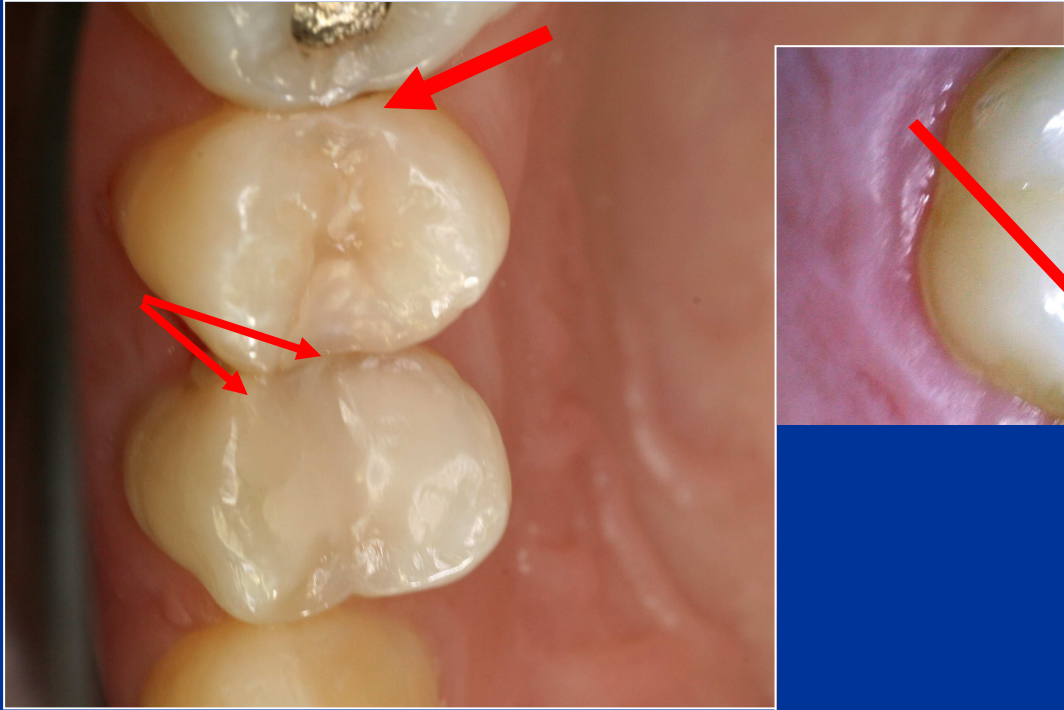


# Symptoms

- 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

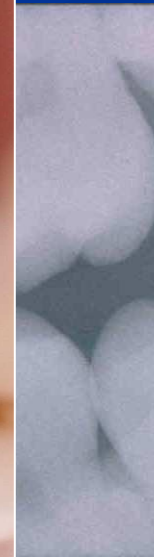
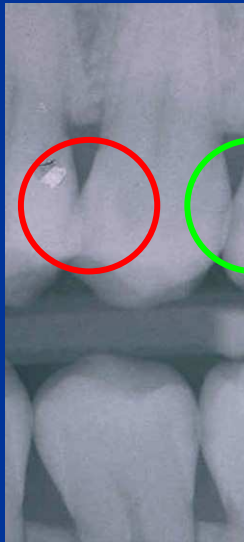
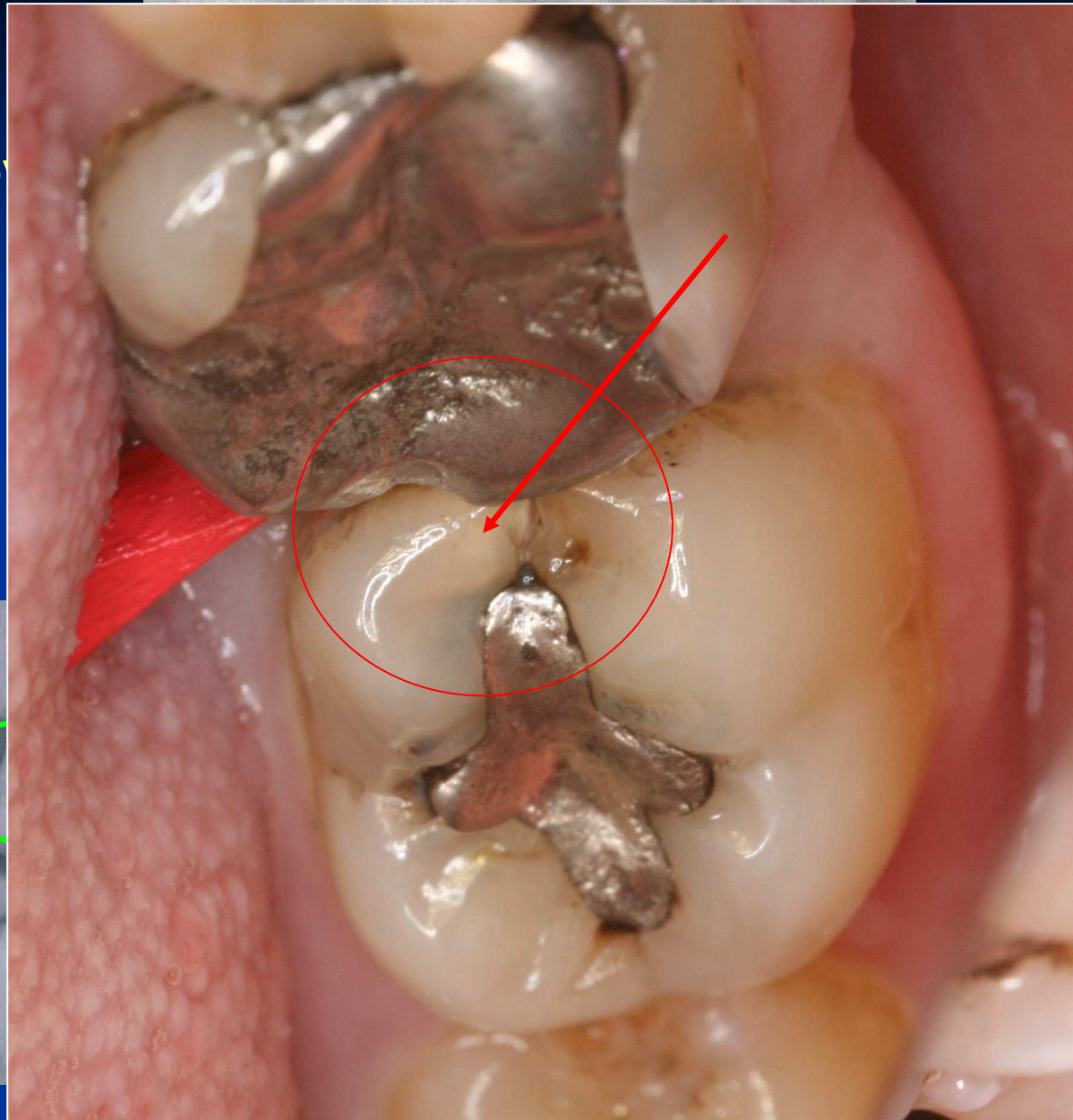
- Visual changes of tooth structure
- Transillumination
- Radiography







4 stupňo  
grading



KTG vyšetření = Bite wing

# Preparation - amalgam

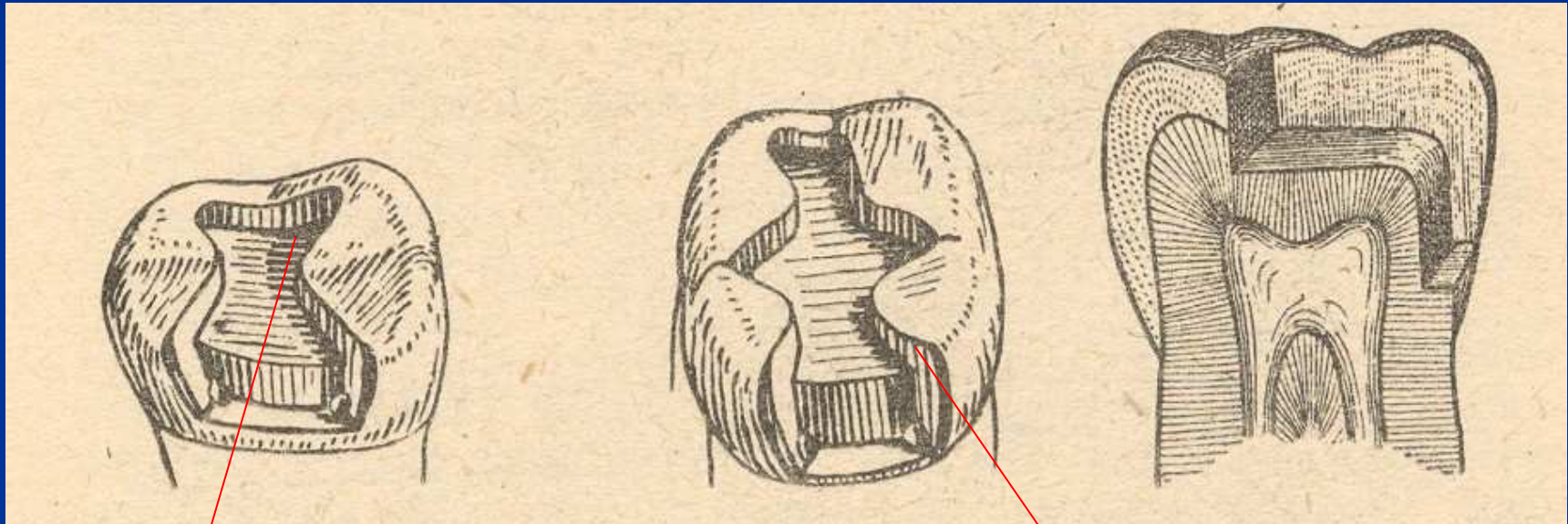
- Conventional preparation acc. to the Black's rules
- Slot preparation
- Large preparation – cusp(s) involved



# Preparation - adhesive materials

- Conventional preparation for composites
- Adhesive slot
- Tunnel preparation

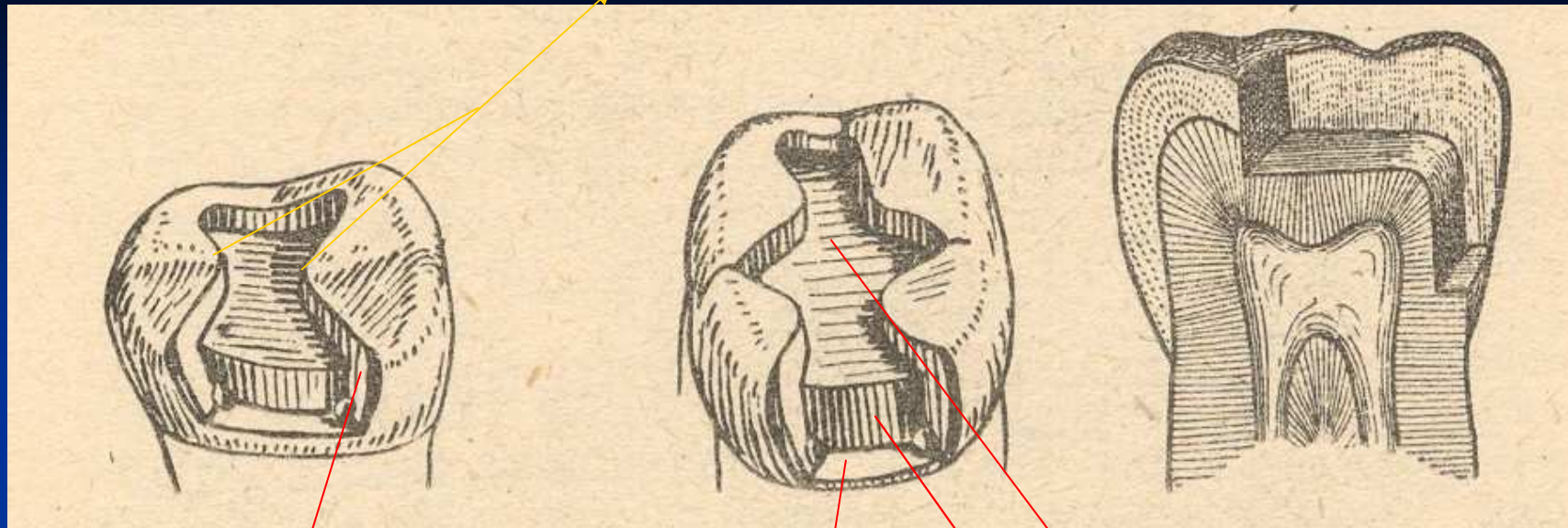
# Conventional preparation



Occlusal cavity

Proximal cavity - box

Isthmus



Axial wall

Gingival wall

Pulpal walls

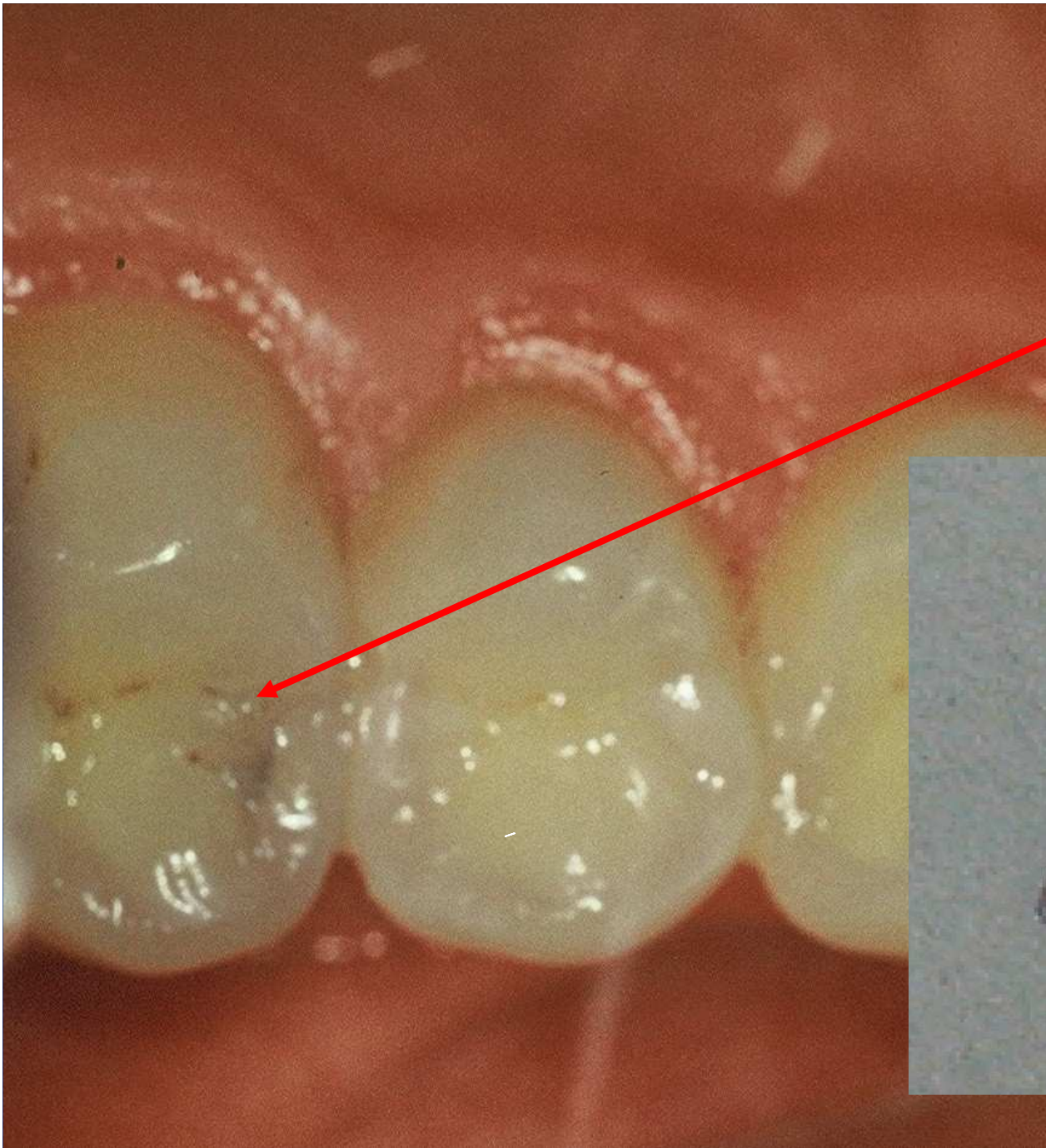
# Access to the cavity

From the occlusal surface

Through the undermined enamel

Separation using wooden wedges is useful

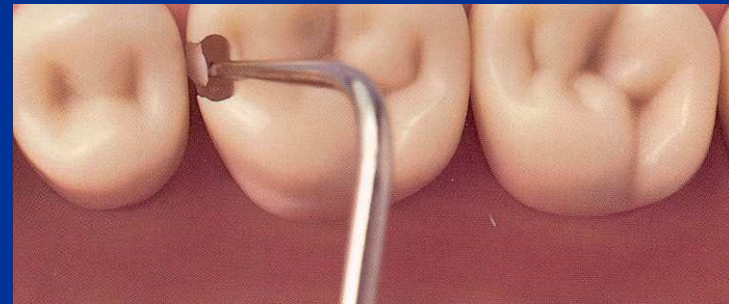
Pre op





## Access to the cavity

[lroubal@med.muni.cz](mailto:lroubal@med.muni.cz)



# Cavity border and extension for prevention

## Proximal box:

Axial wedges

Under the free gingiva

## Occlusal

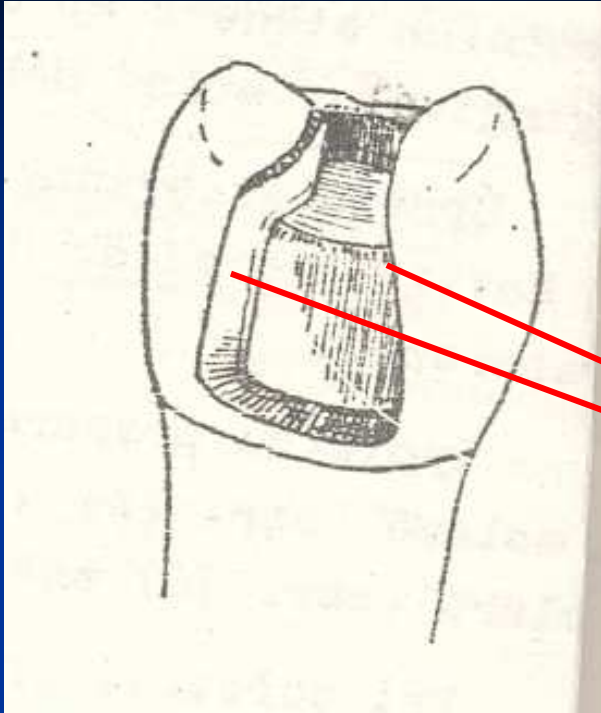
Class I. cavity preparation



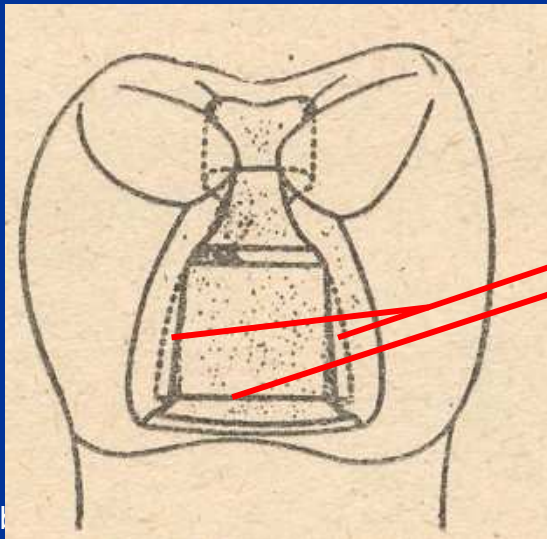
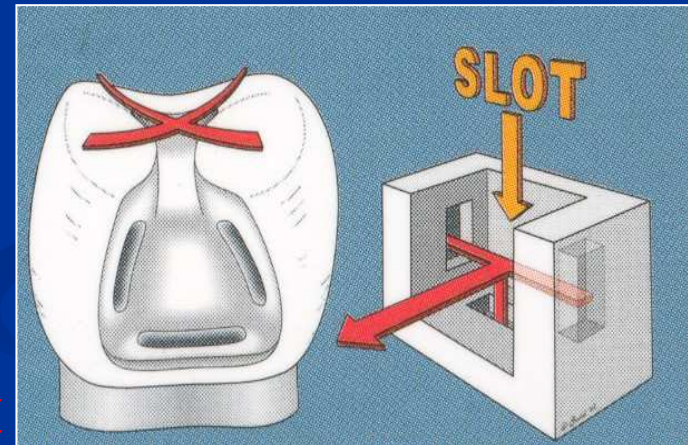


# Retention

- Occlusal cavity
- Grooves and slots



Autoretention

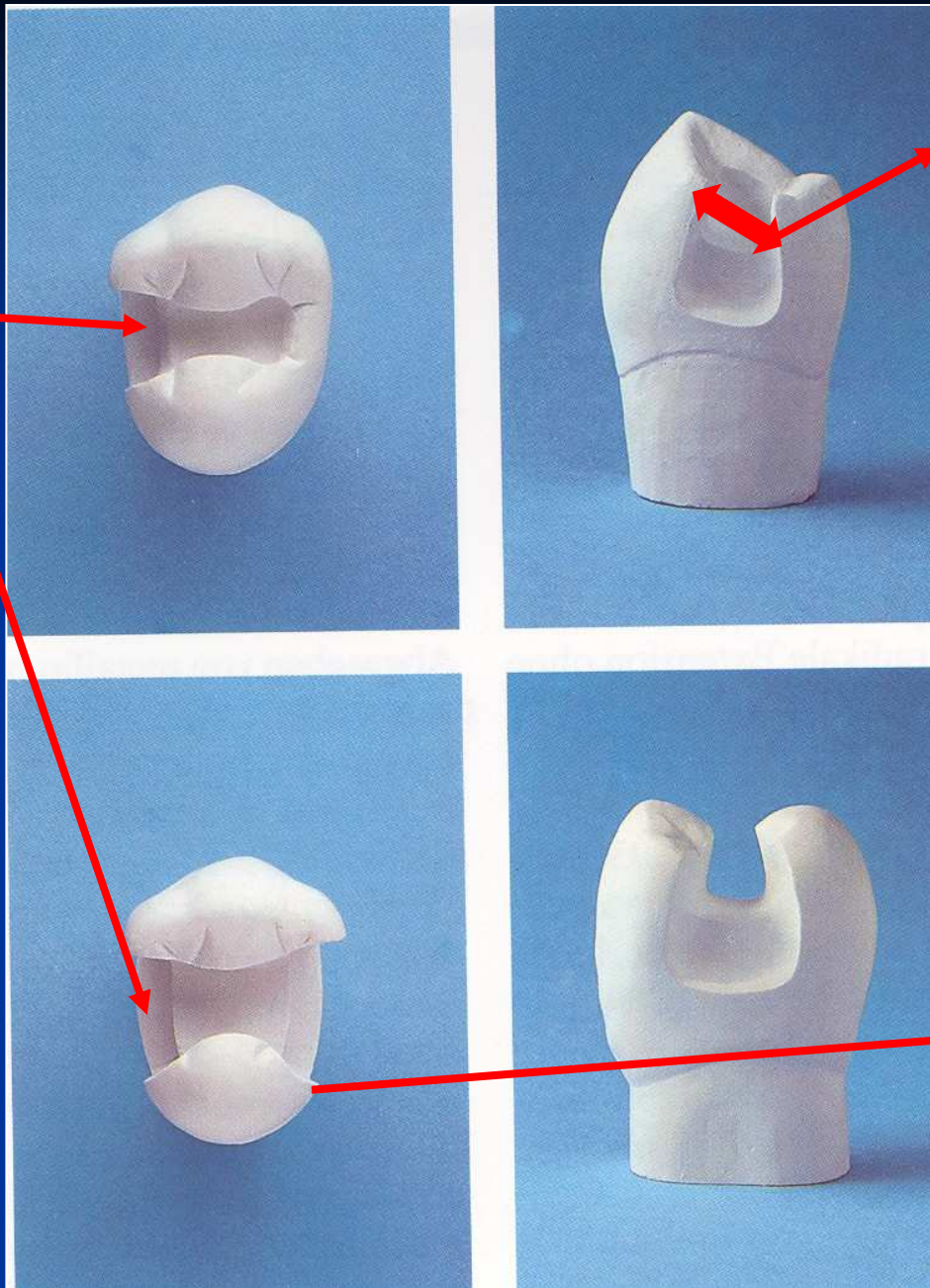


Grooves

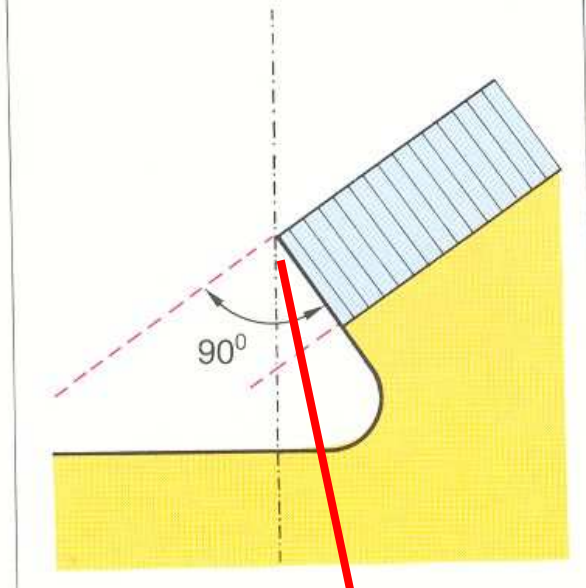
# Resistance

- 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



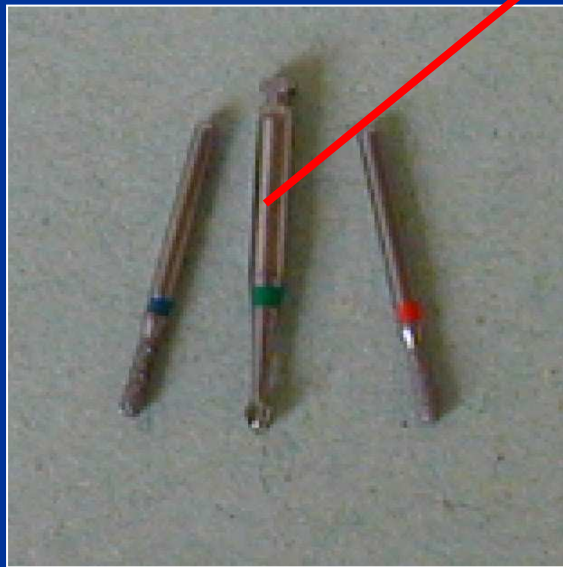
Isthmus



Cavosurface angle

# Excavation of carious dentin

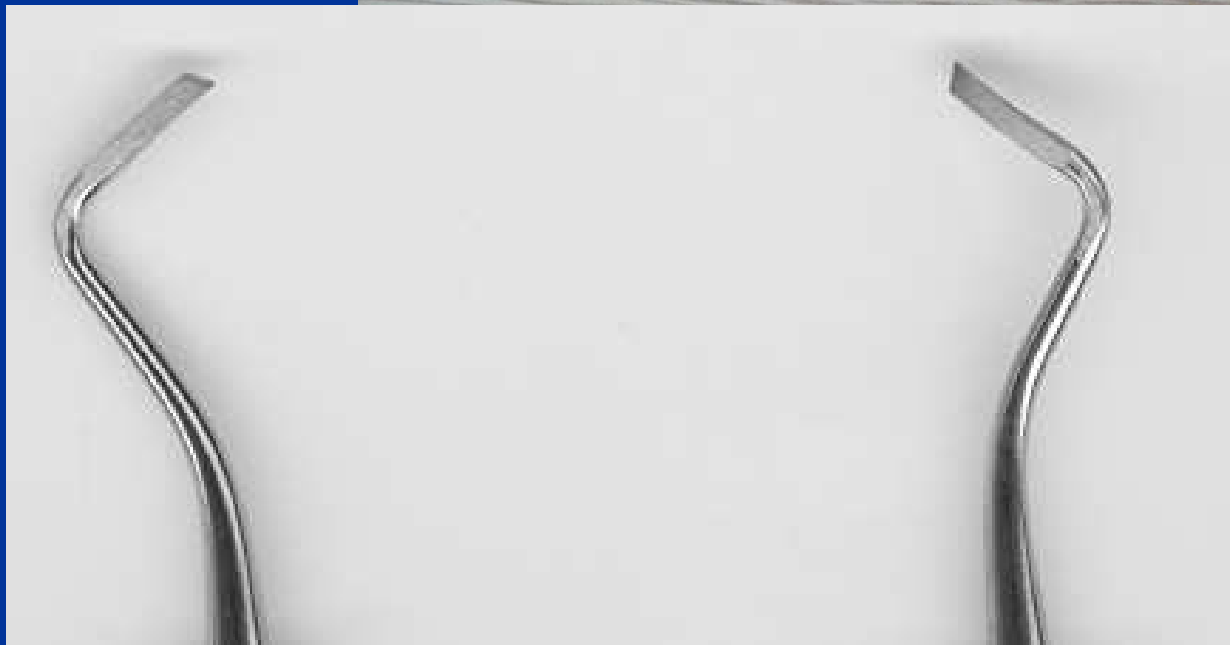
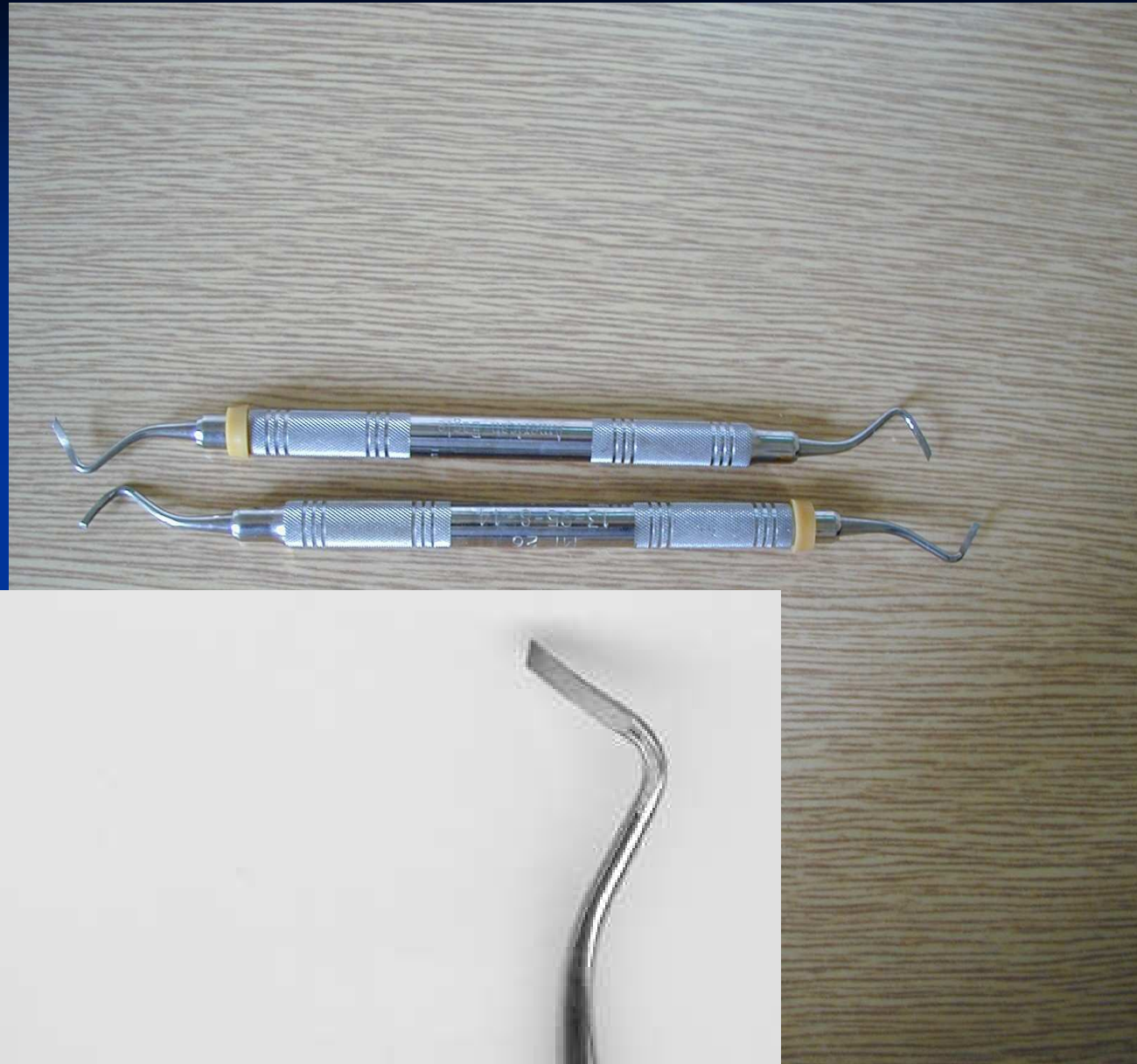
## Rounded bur



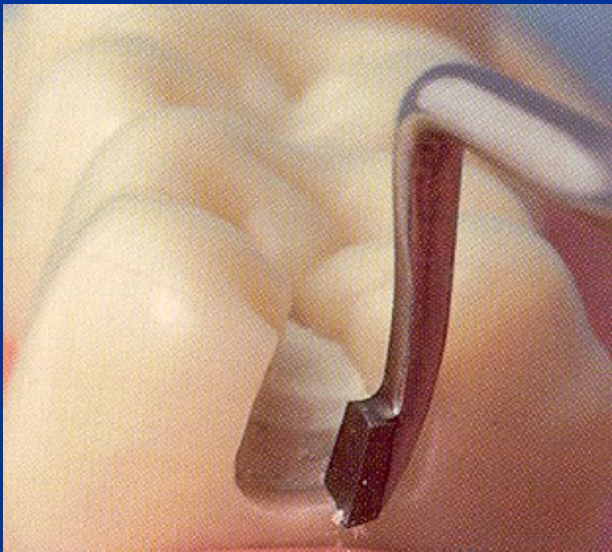
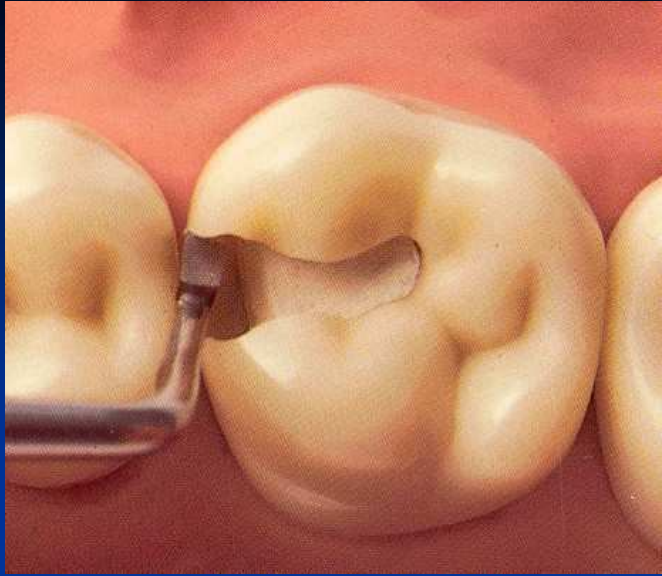
*(Caries Detector, Kuraray,  
Japonsko; Caries Marker,  
VOCO, Německo)*

# Finishing of cavity walls

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





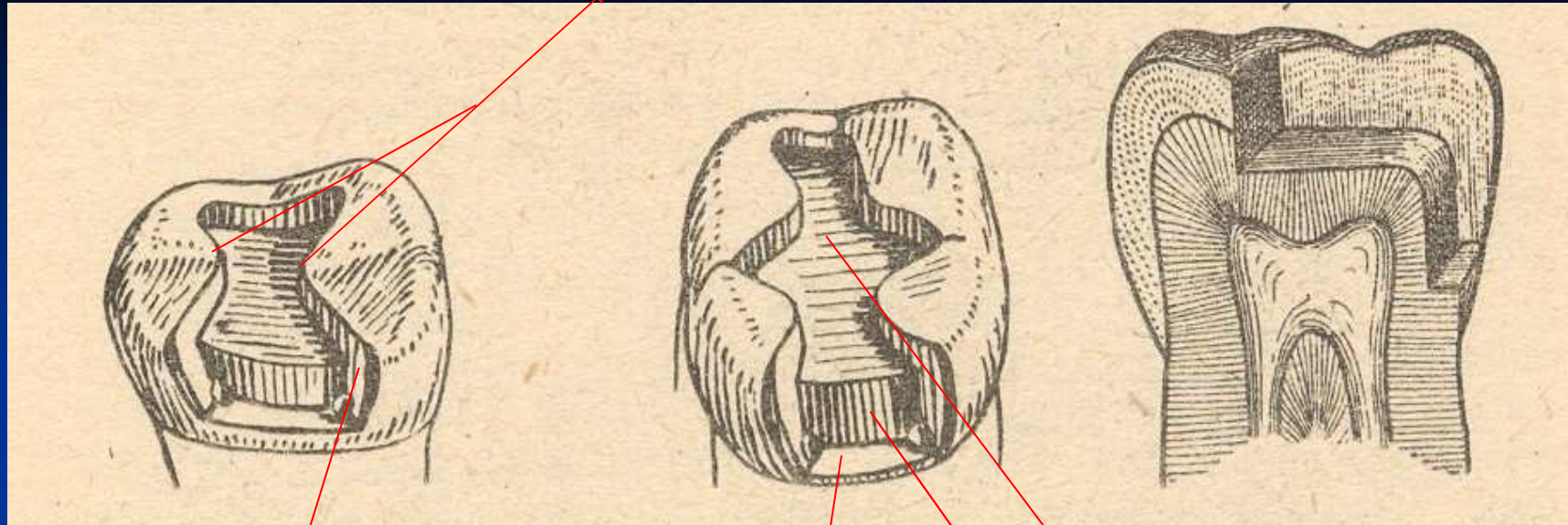




# Cavity control

➤ Goog light, mirror

Isthmus



Axial wall

Gingival wall

Pulpal wall

# Matrix placement

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

The objectives:

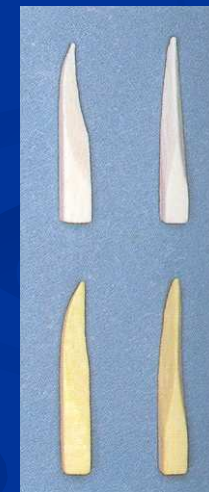
- Provide proper contact
- Provide proper contour
- Confine the restorative material
- Reduce the amount of excess material

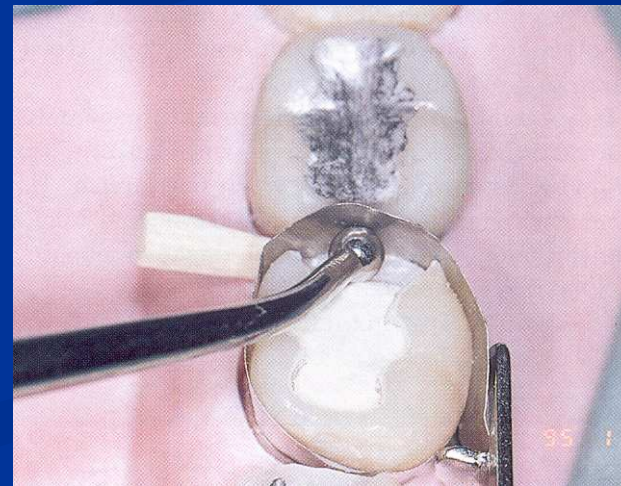
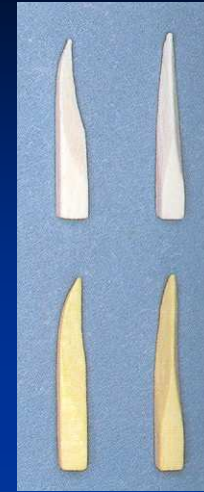
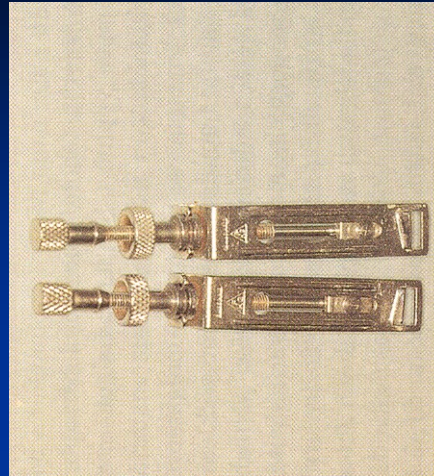
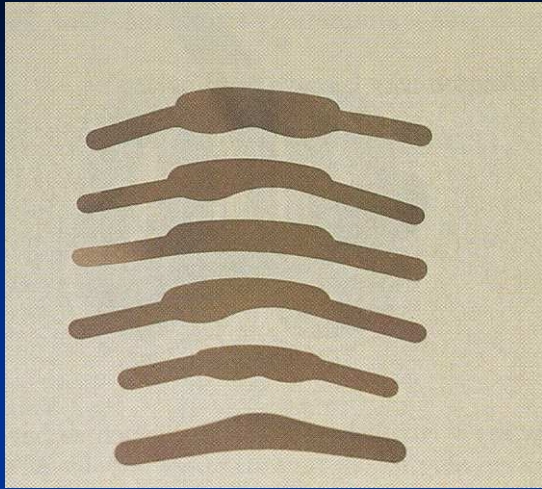
# Matrices

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

# Wedges

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

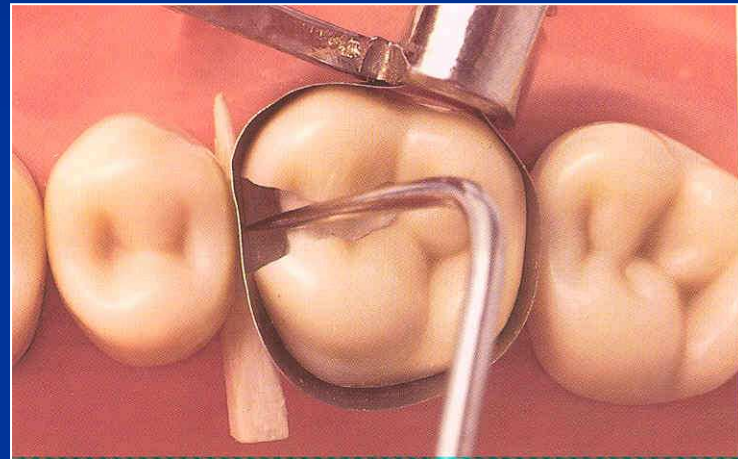
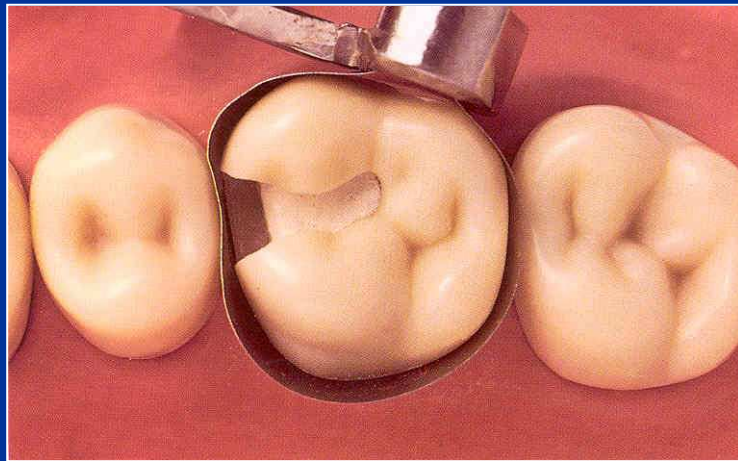
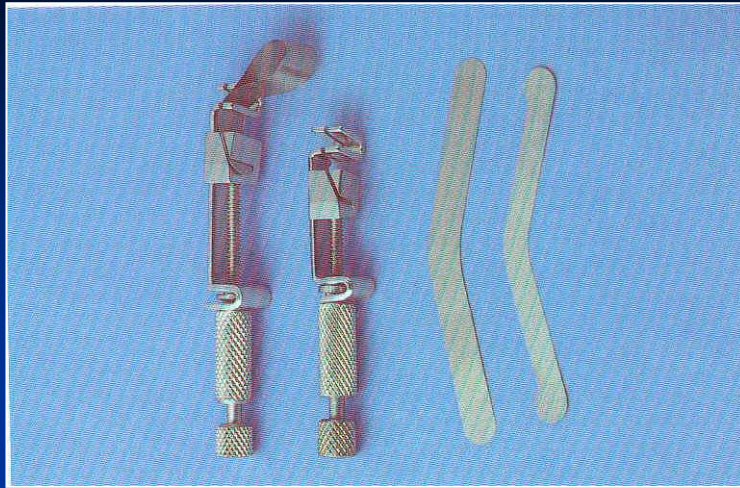






# Wedging

- 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



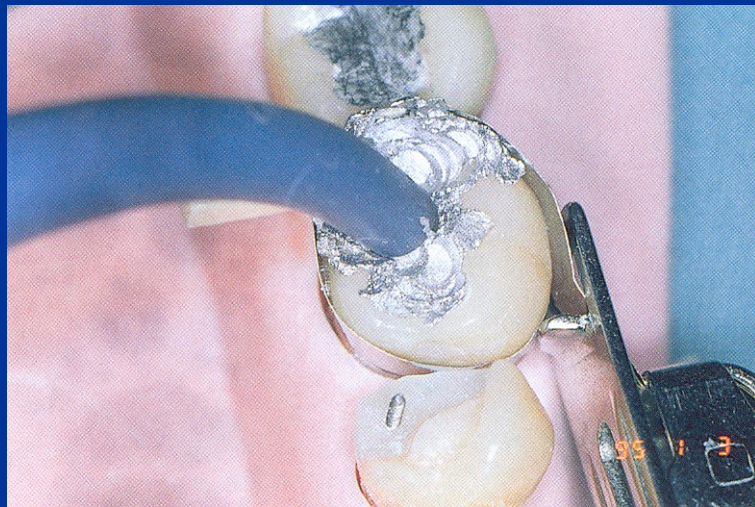
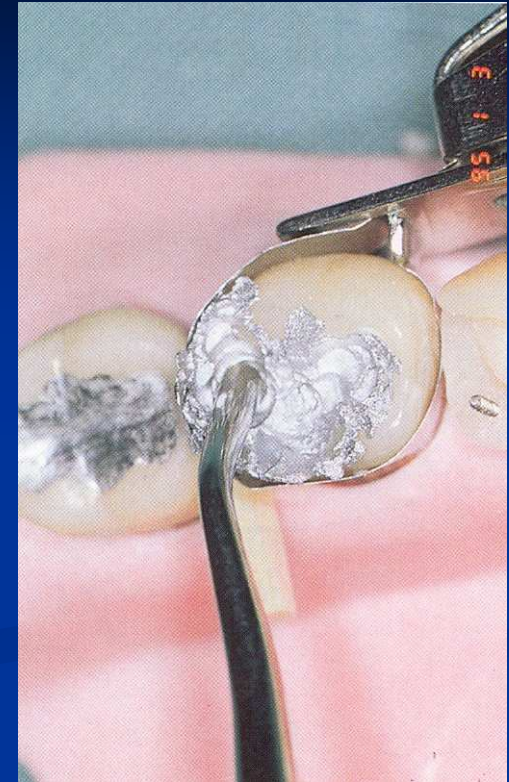


Trituration!

# Condensation of amalgam

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

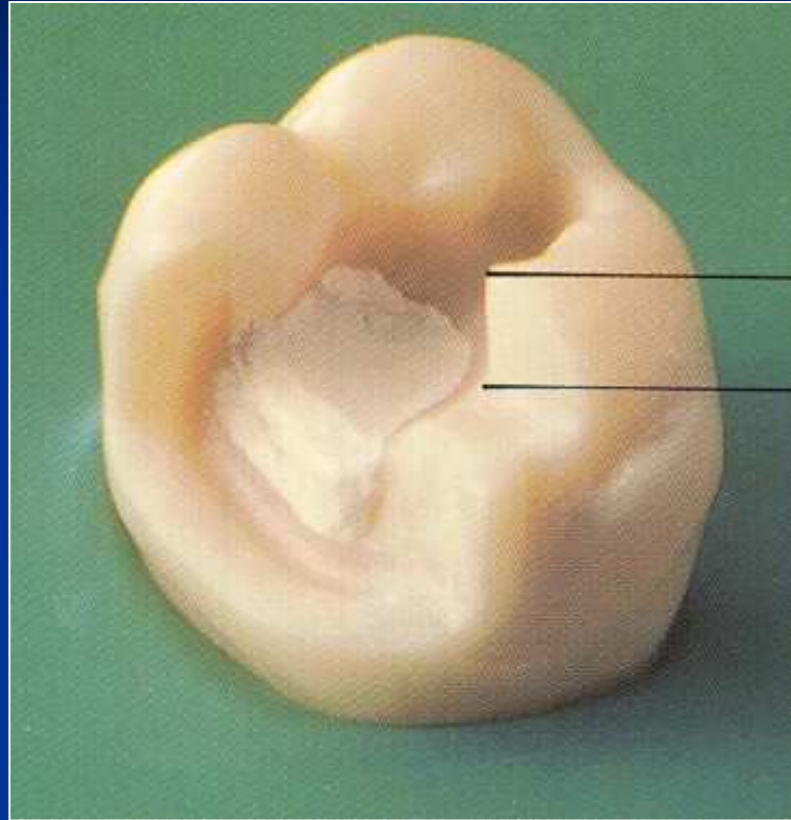
How big the stamen should be??

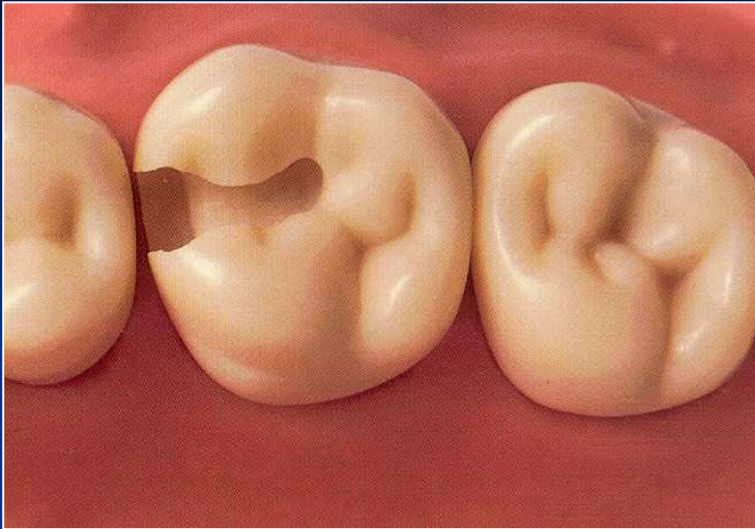


# Base

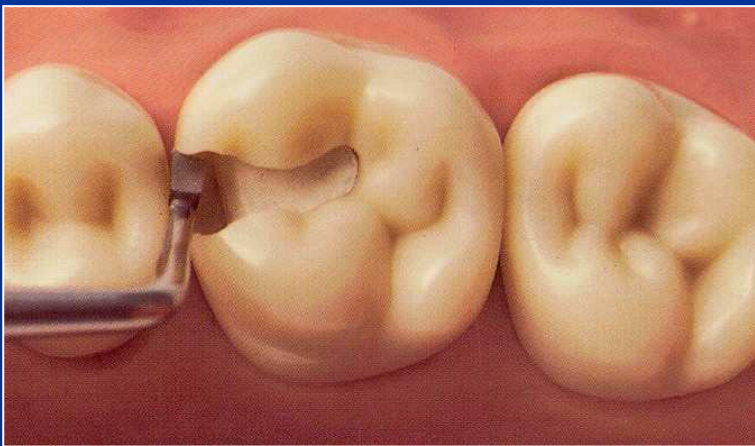
- Zinkoxidphosphate cement
- Zinkoxidkarboxylate cement
- Glass ionomer cement
- Zinkoxideugenol

On pulpal walls only!





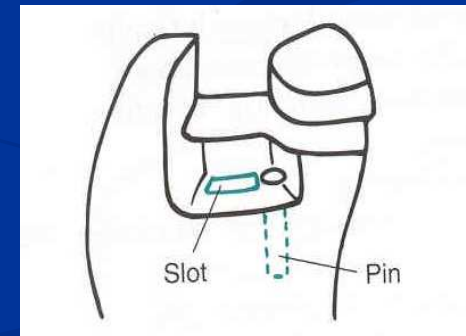
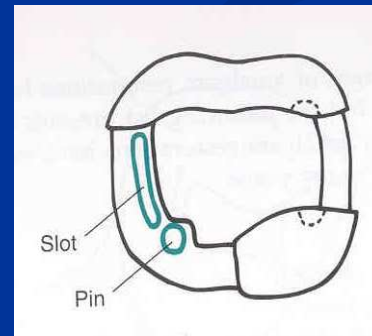
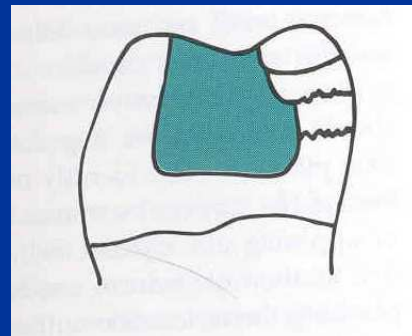
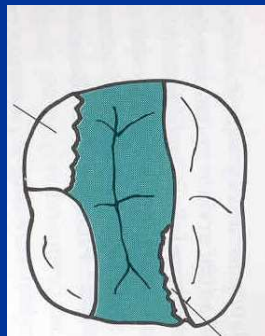
The base must be hardened

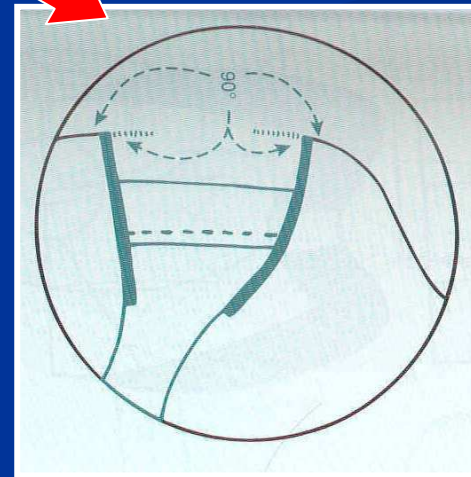
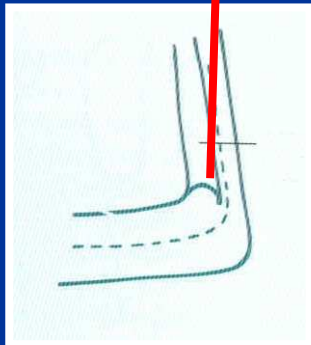
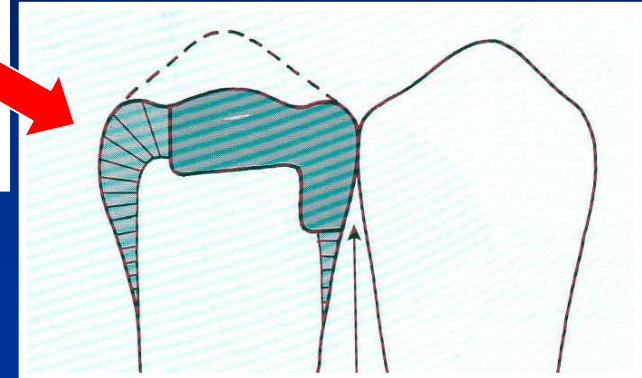
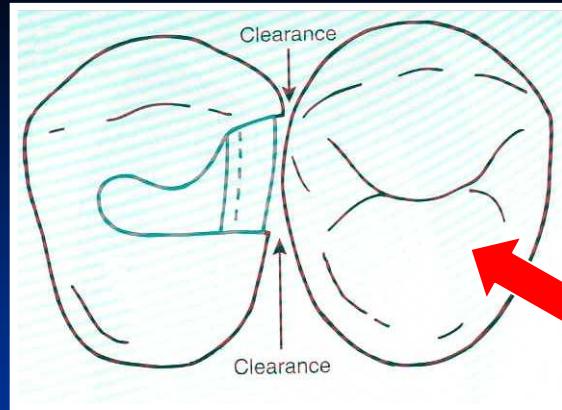
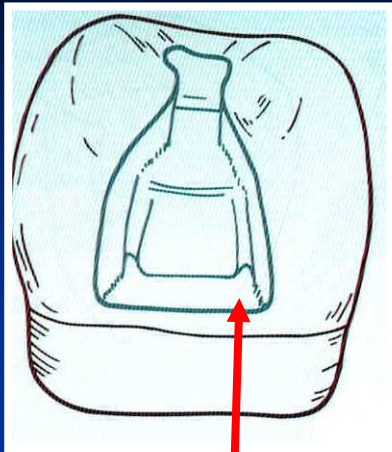


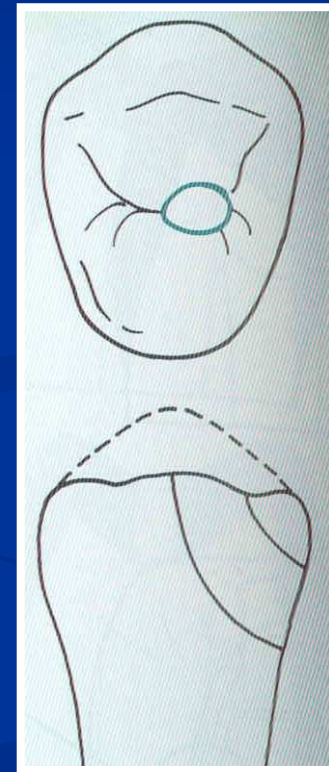
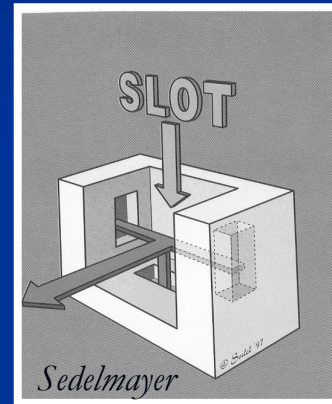
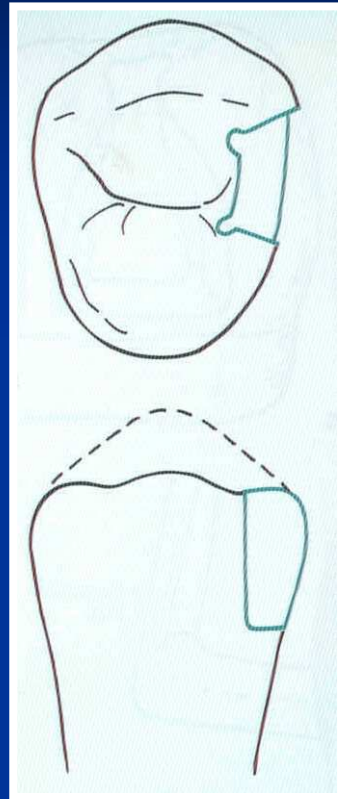
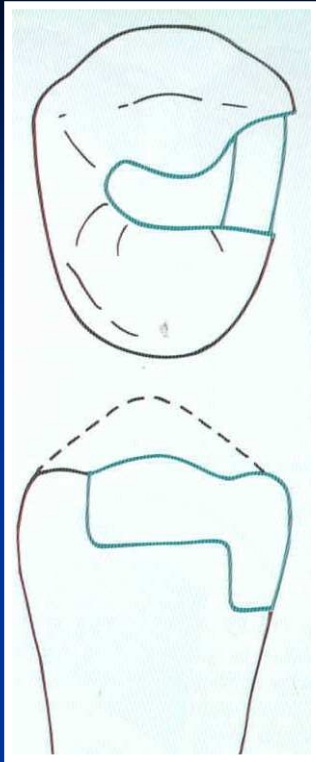


# Amalgam

## Retention



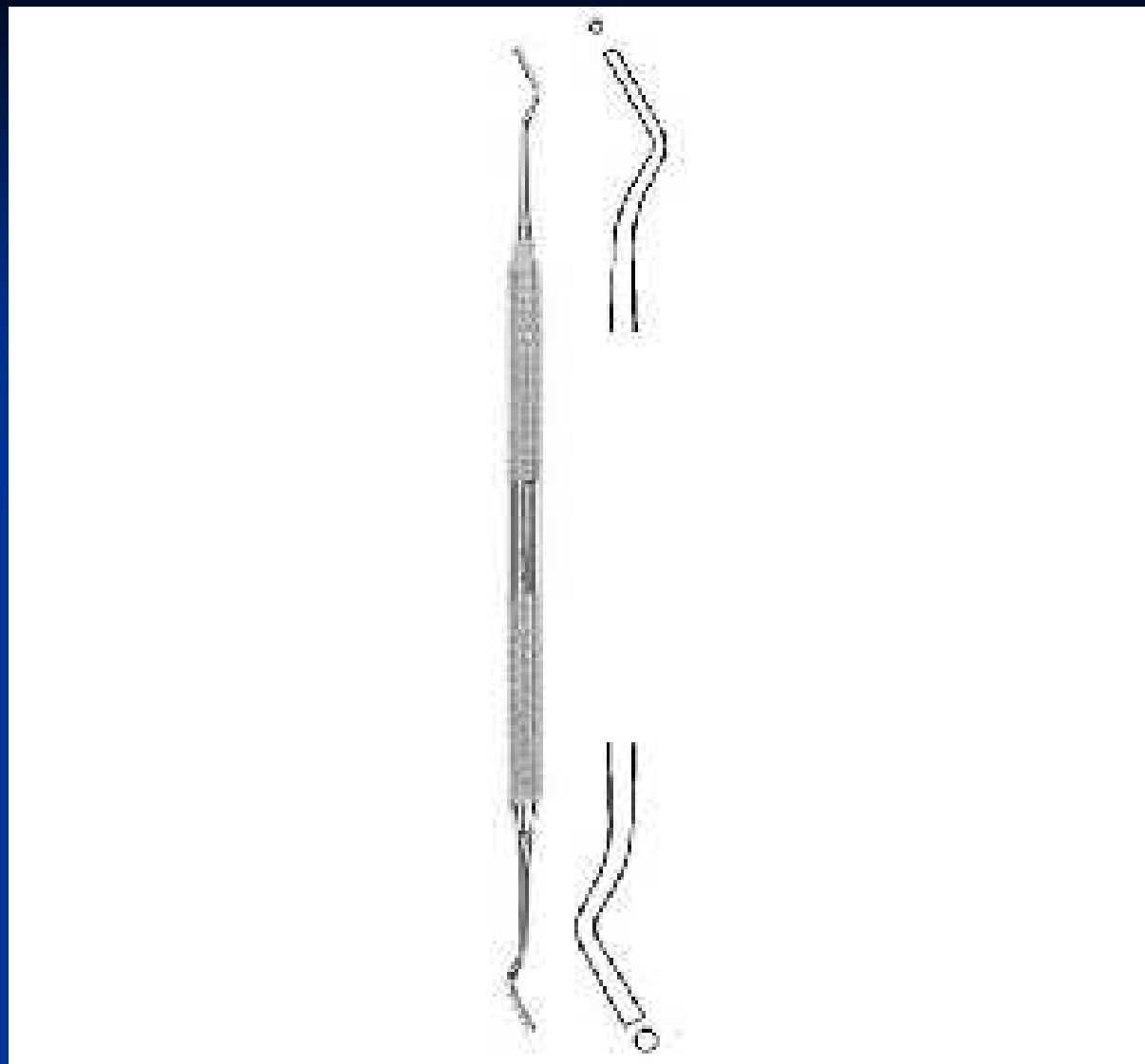




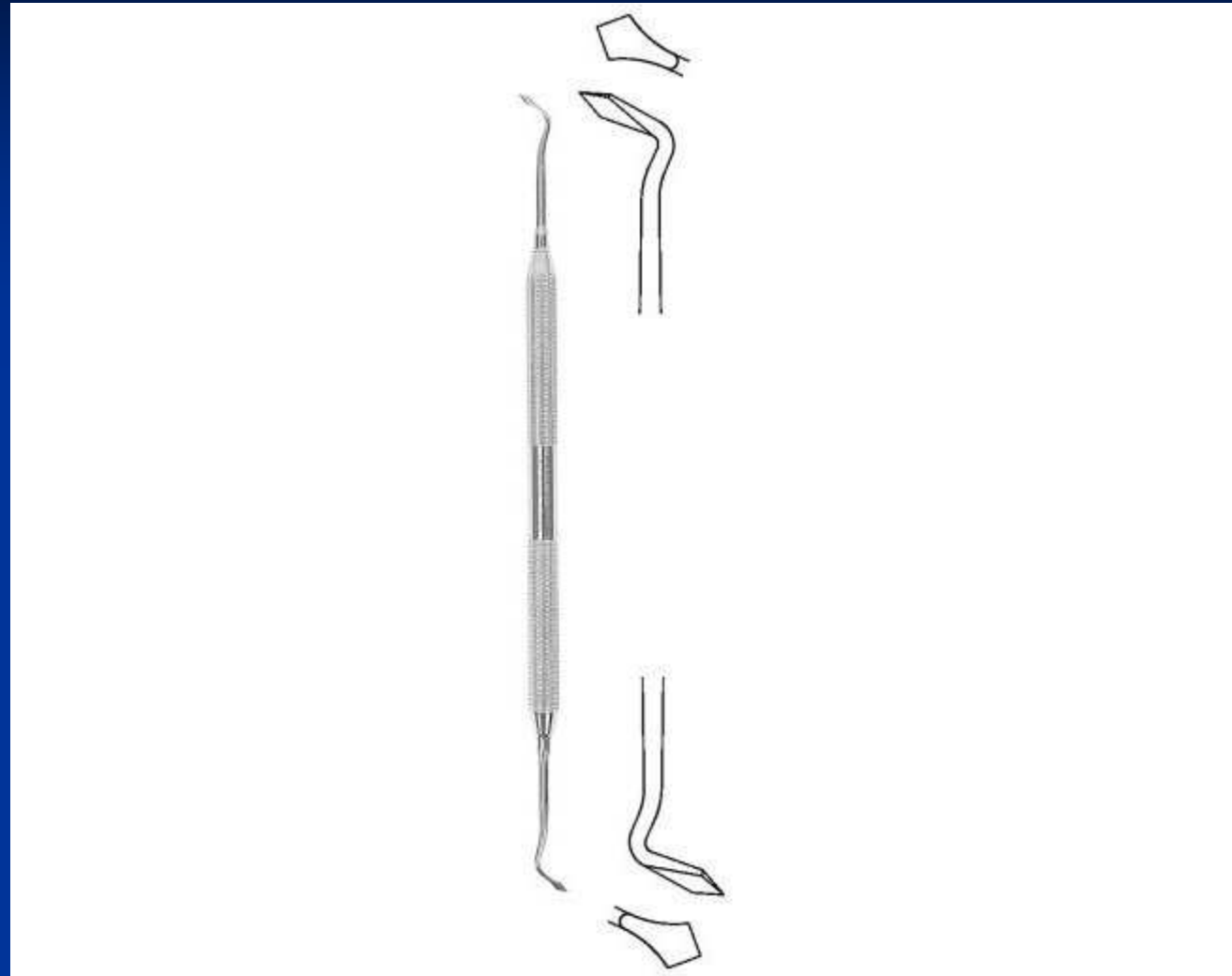
# Instruments

- Preparation
- Filling
- Finishing and polishing

## Cpátko tyčinkové



## Ořezávač -Frahm



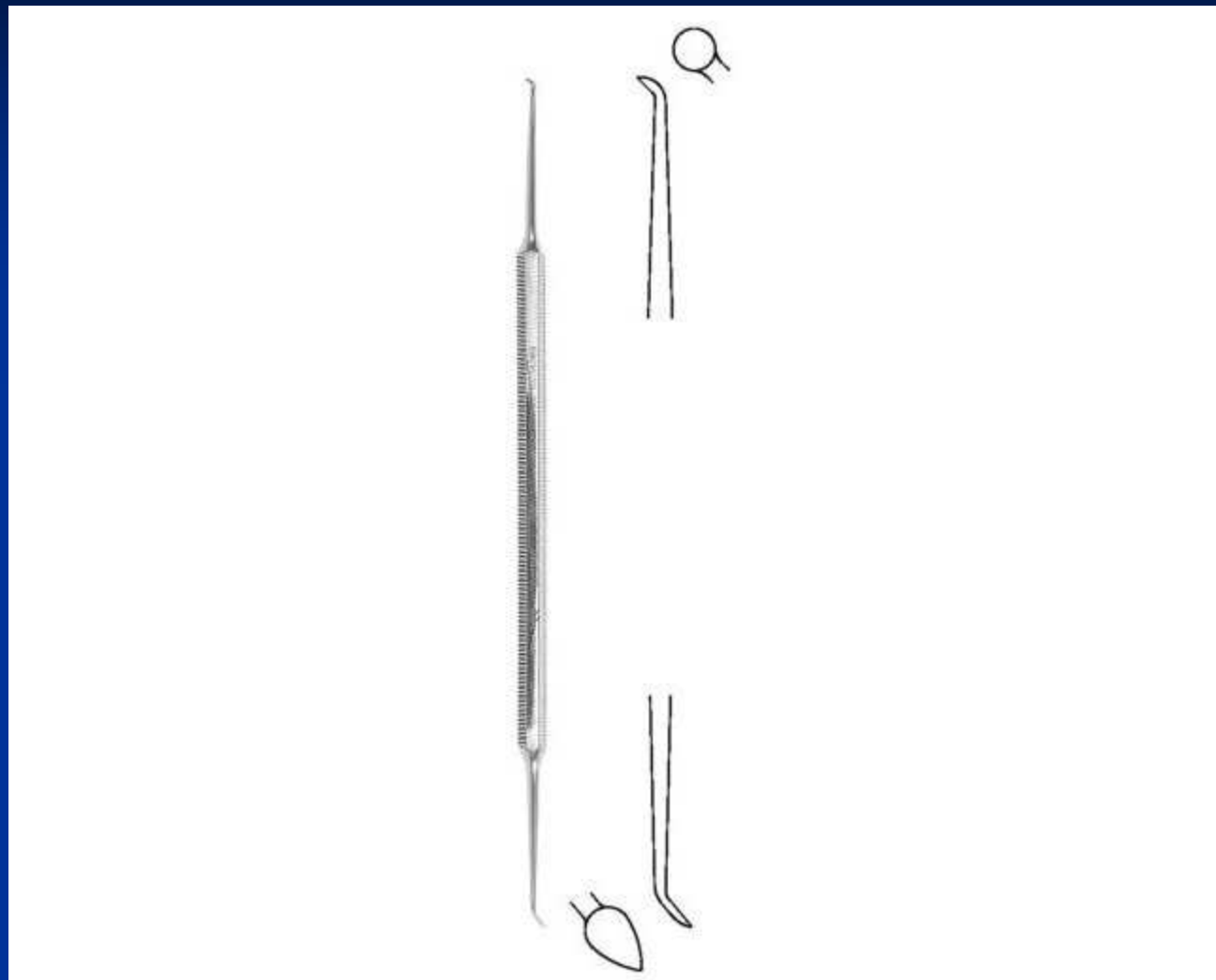


# Ořezávač - Sapin





# Ořezávač discoid-cleoid



# Nosič amalgámu

