Class II. acc. to Black

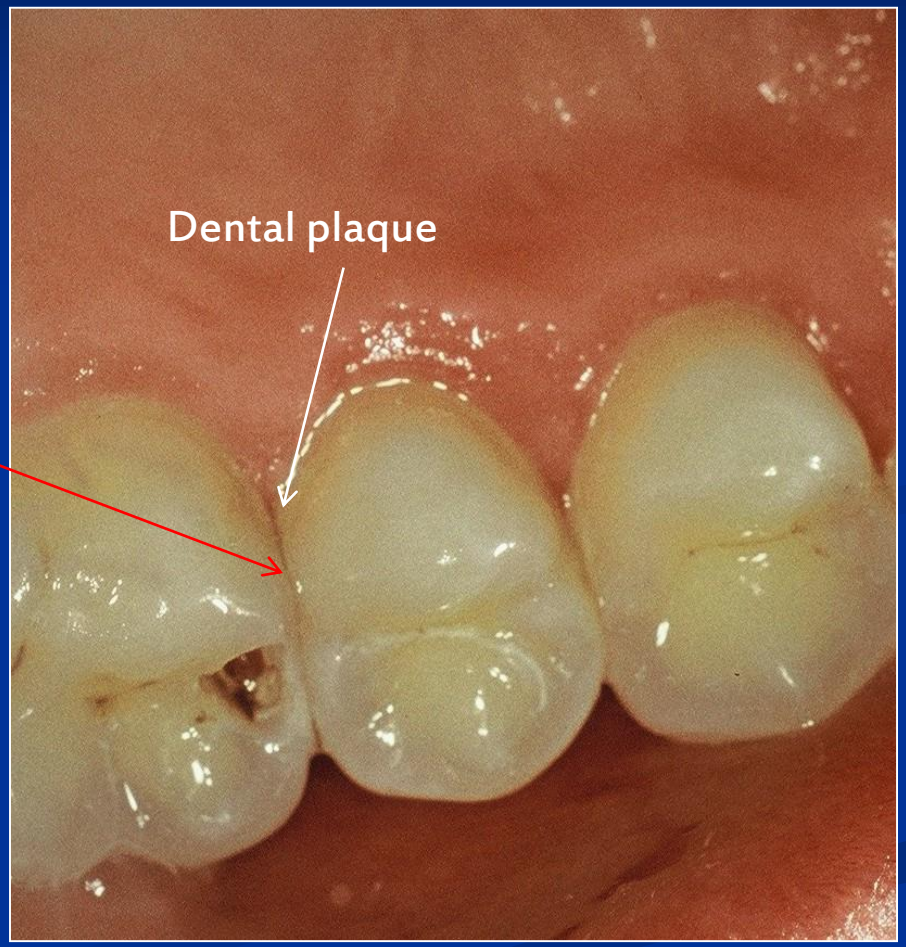
Defects affecting one or both proximal surfaces of posterior teeth.

Morphology of proximal space

Contact point – area

The space below
(filled of interdental papilla,
the level of the papilla is decreasing
during the time)

The space above (habitually clean place)



Symptoms

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

Diagnosis

- Visual changes of tooth structure

Inspection, good illumination, magnification

- Imaging methods

X ray - radiography

Transillumination (DIFOTI)

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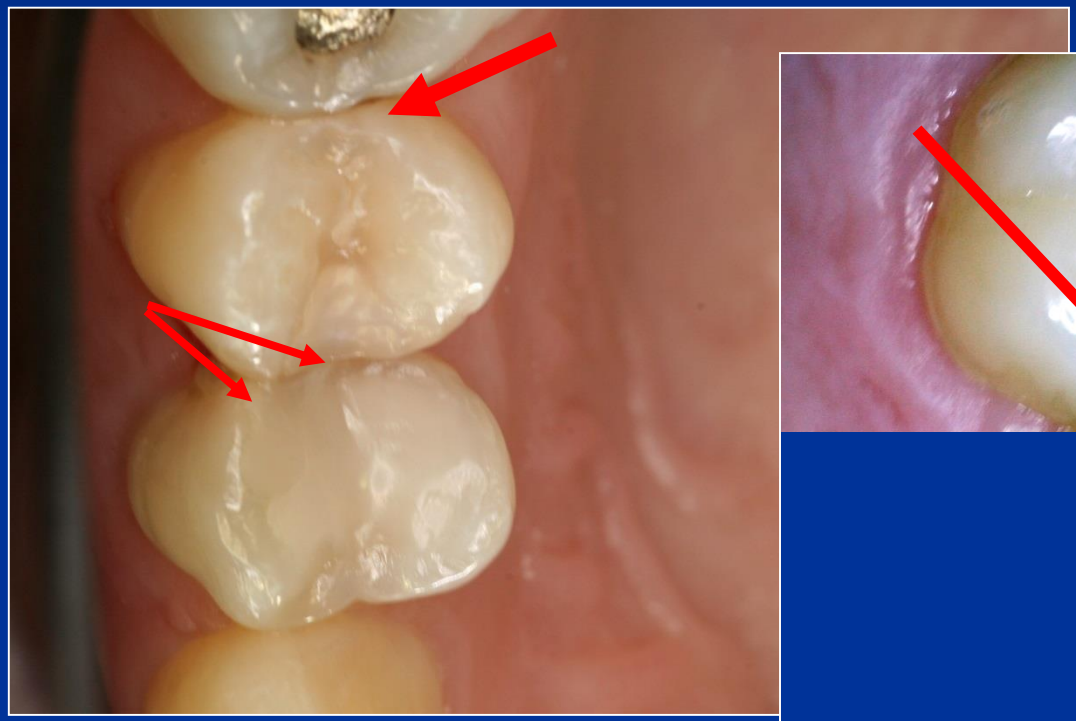
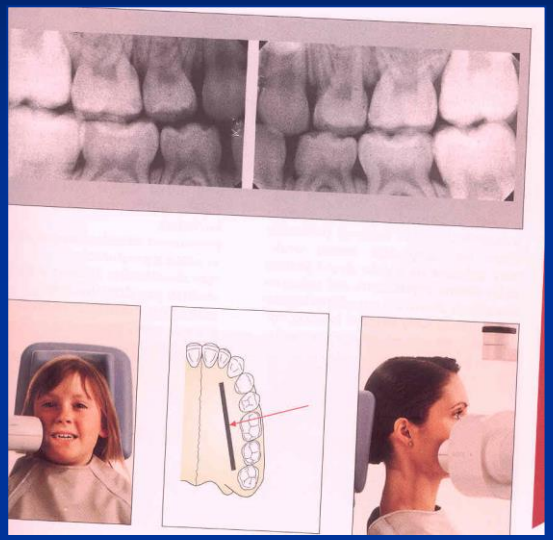
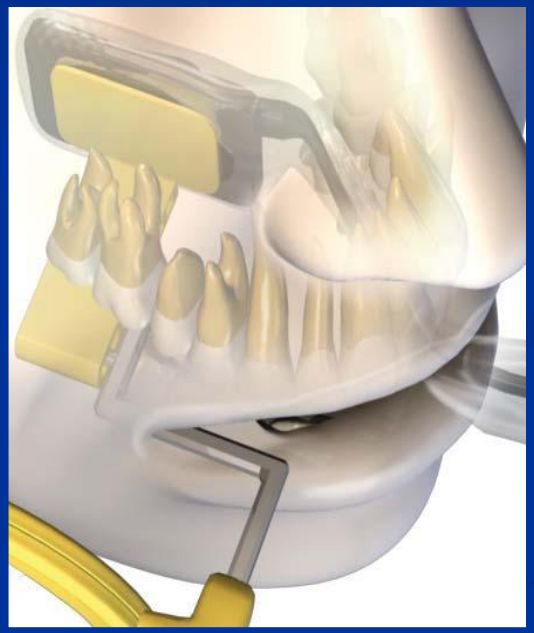
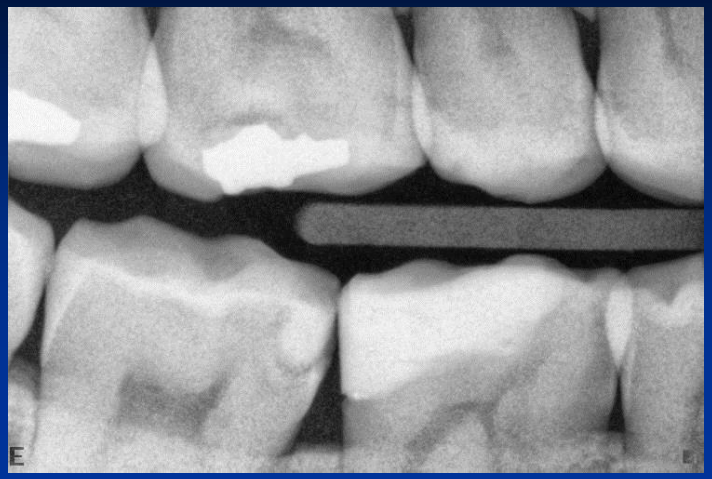
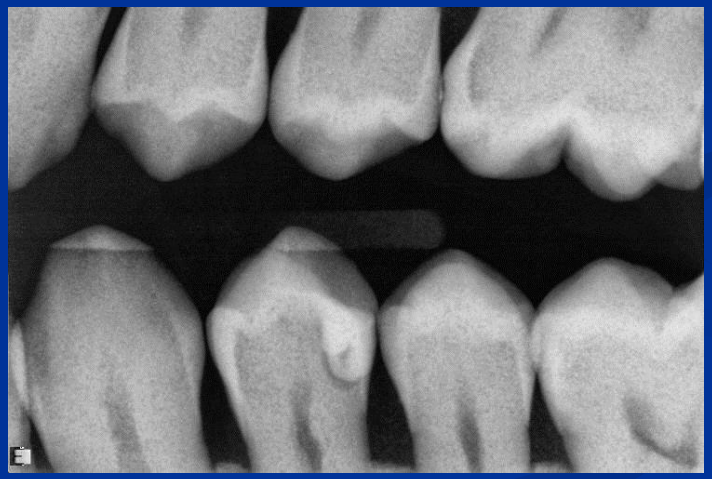


Radiography









Bite wing

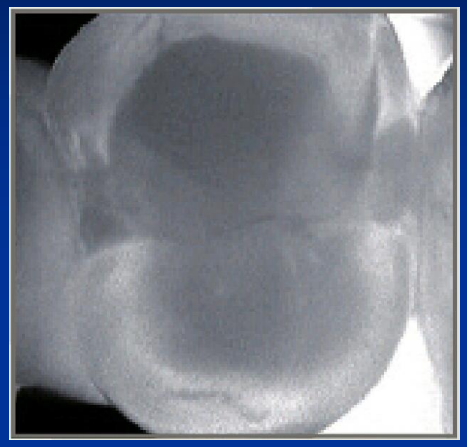
DIFOTI

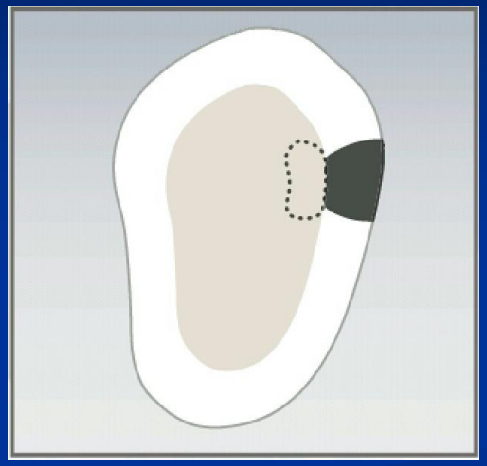
(Digital Fibre Optic Trans-Illumination)

- Digitální forma FOTI – zdroj bílého světla – kamera s CCD senzorem – počítač – zobrazení jako obrázek

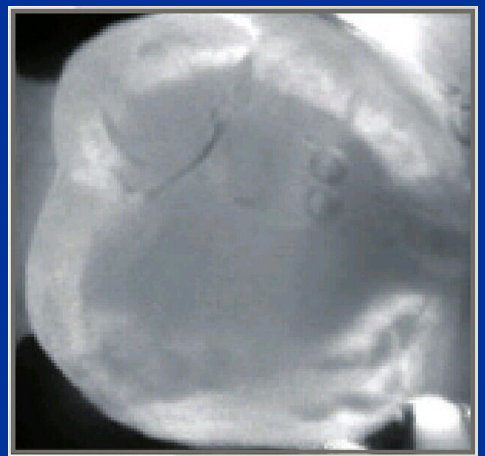
DIAGNOCam

- 4 – caries in dentin next to enamel



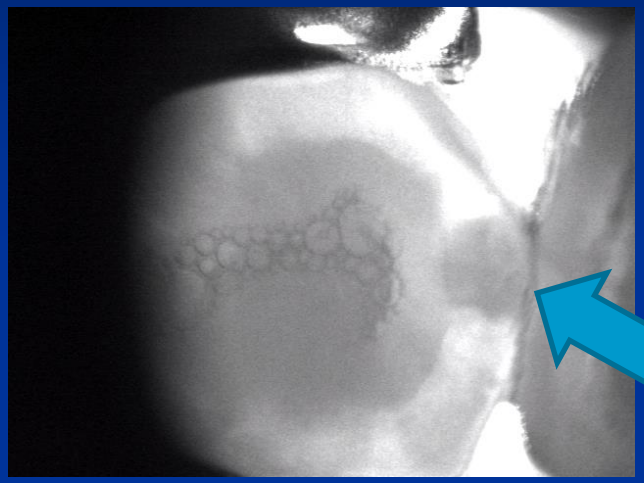


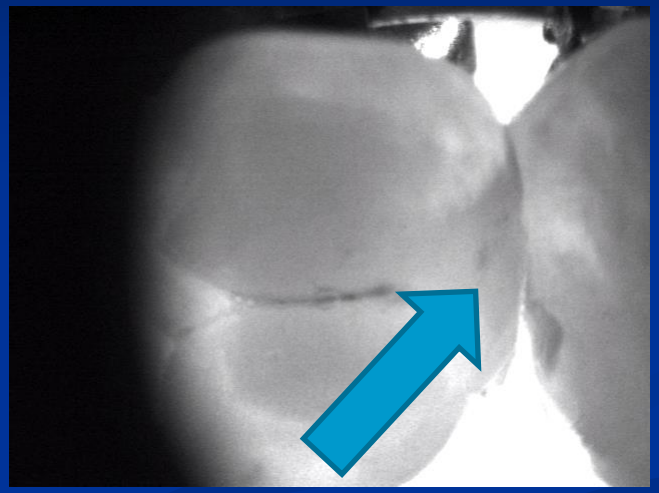
- 5 – large caries in dentin



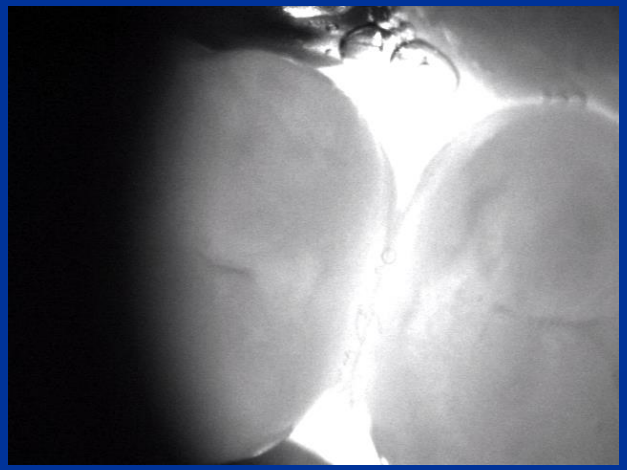
DIAGNOCam

- Nález kazu





- ???



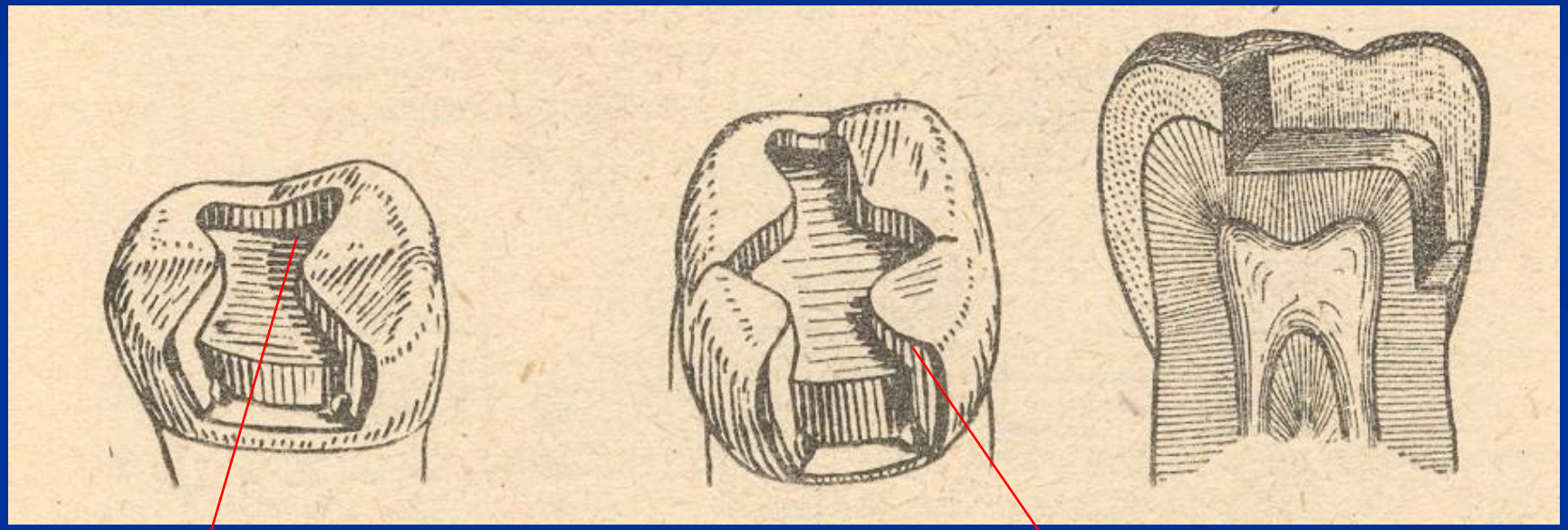
Preparation - amalgam

- 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

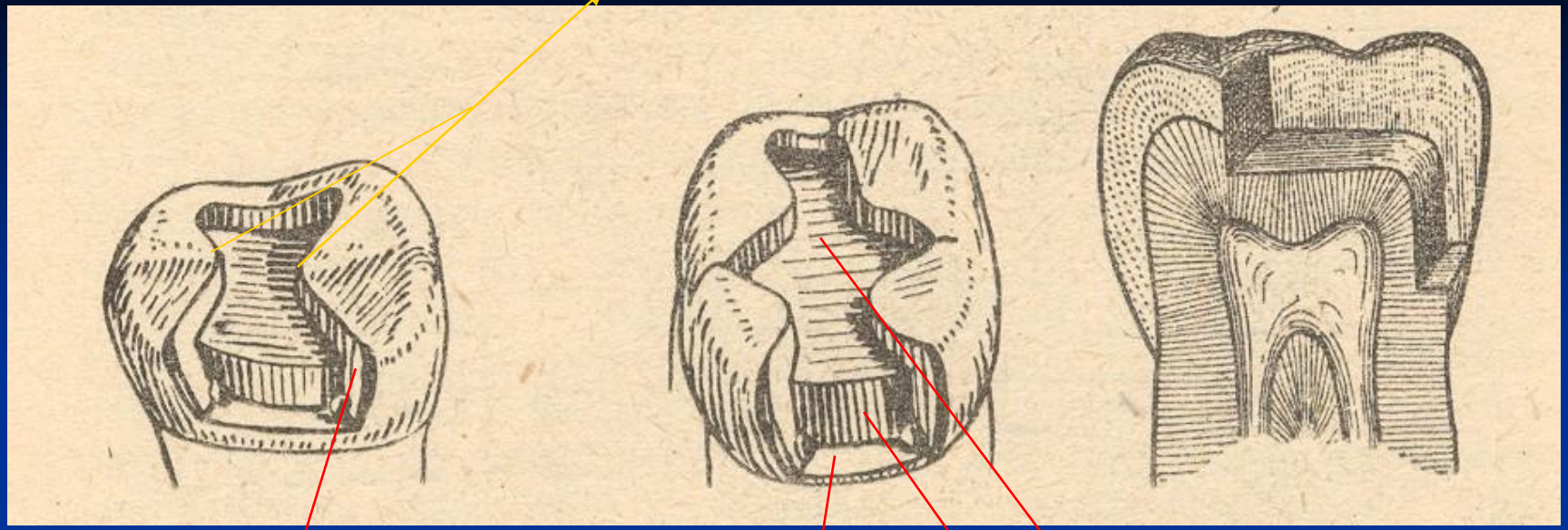
Conventional preparation



Occlusal cavity

Proximal cavity - box

Isthmus



Axial wall

Gingival wall

Pulpal walls

Access to the cavity

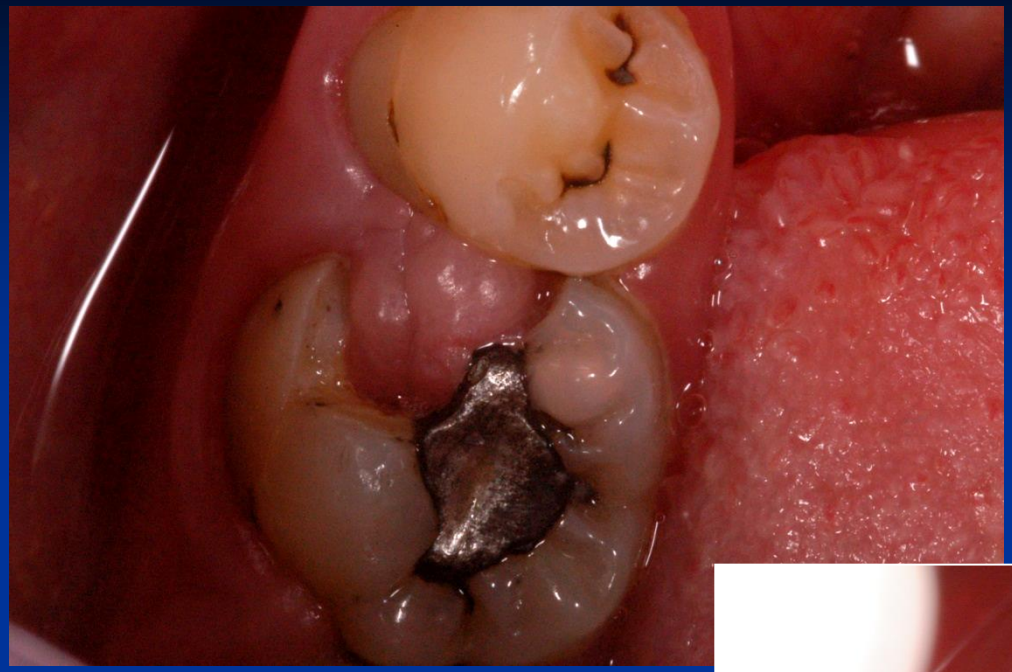
From the occlusal surface

Through the undermined enamel

Separation using wooden wedges is useful

Pre op

Access to the cavity



- Scalpel
- Cauter
- Laser
- Temporary filling

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Cavosurface margin and extention for prevention

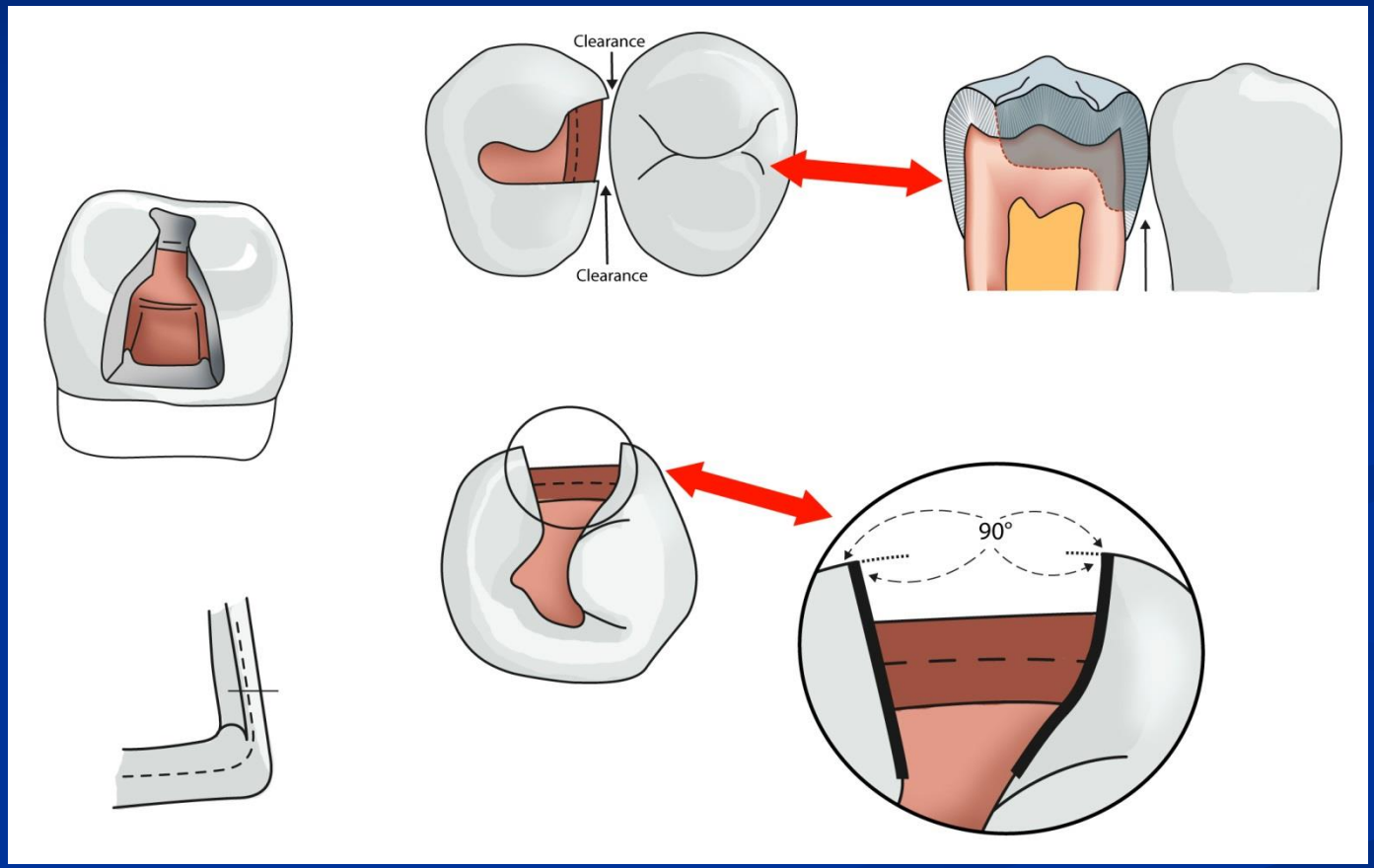
Proximal box:

Axial walls

Gingival wall

Occlusally

Class I.

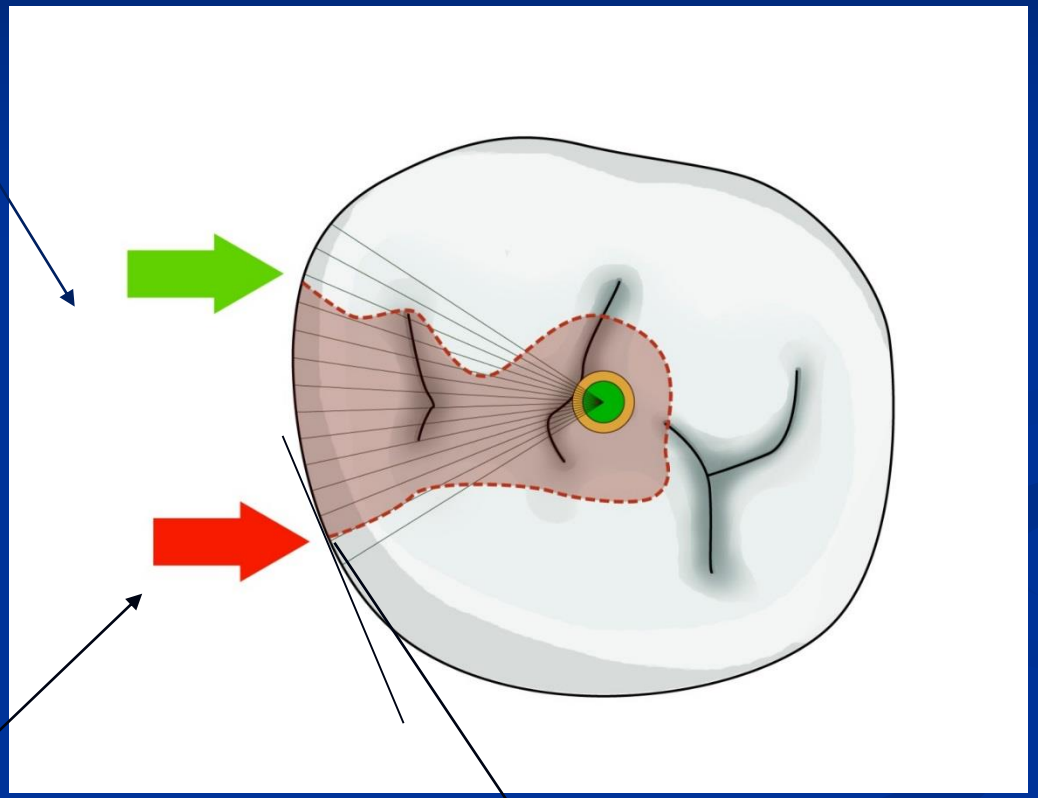

Clearance
Clearance
90°

American rule is for orientation only

The contact area is crucial. The filling goes appr.0,5 over it

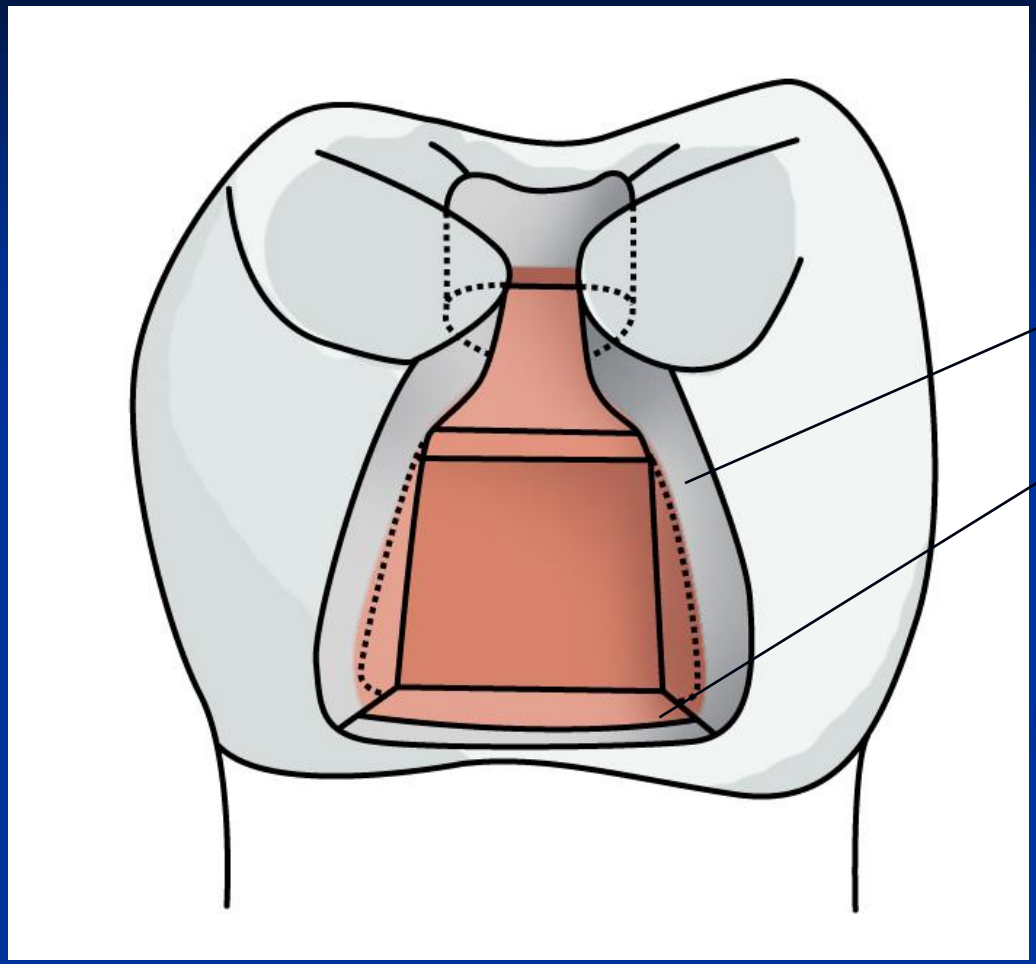
Keep the rule of reverse angle

Cavosurface angle composit



Cavosurface angle - amalgam

Angle 90°



Stěny v aproximální kavitě jsou :
axial, gingival walls

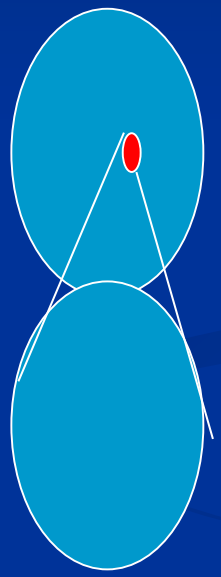
Divergent

Gingival wall

1. Is 1 – 1,5mm wide
2. The angle between pulpal wall and gingival wall is 90°
3. It goes parallel to cementoenamel junction

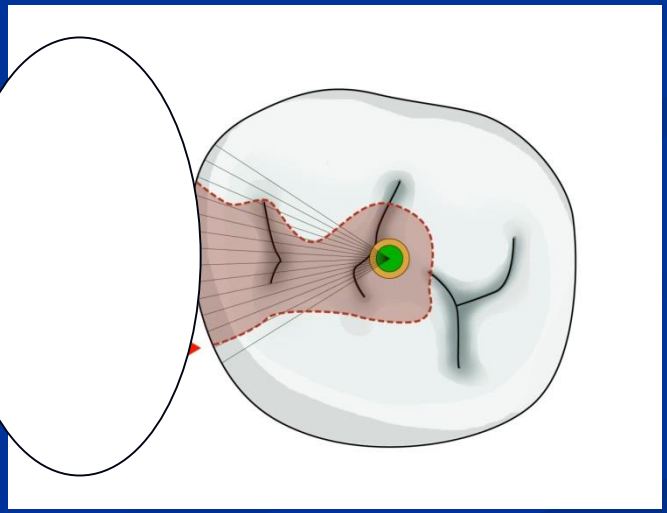
Cavosurface margin – axial walls

American rule obsolete



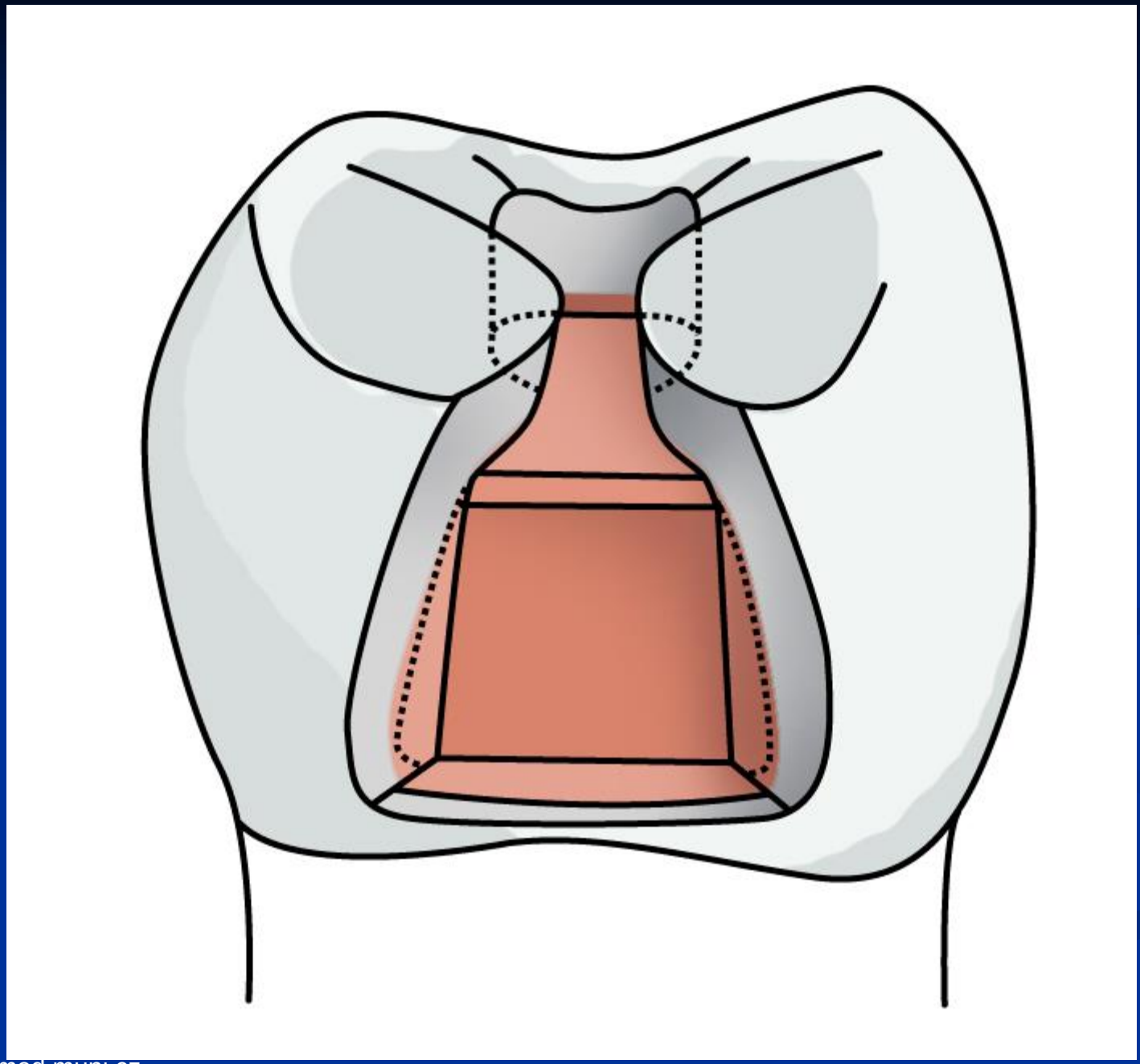
Cavosurface margin – axial walls

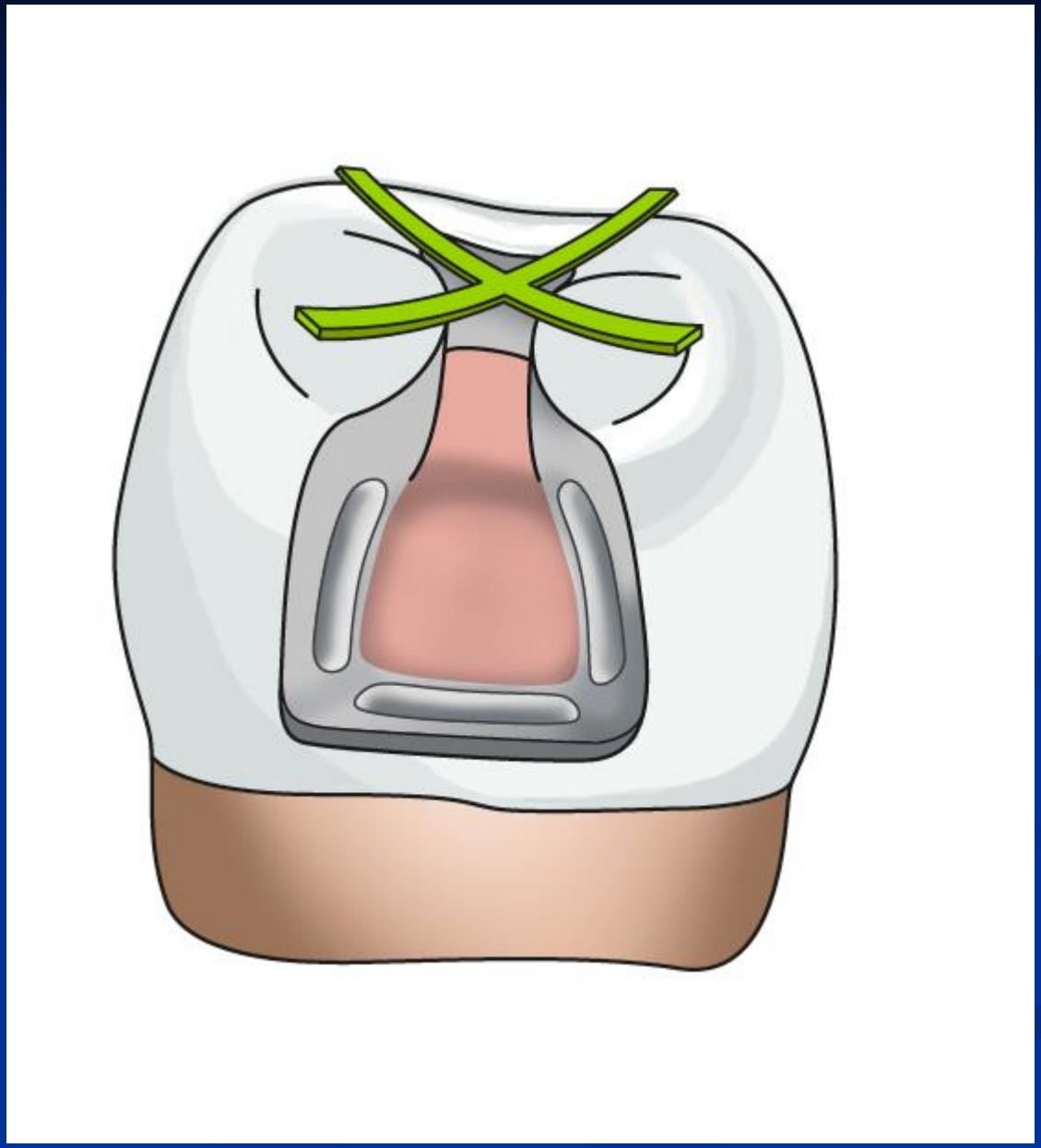
- Check the contact area – the filling must reconstruct the contact area –and be appr. 0,5 mm over

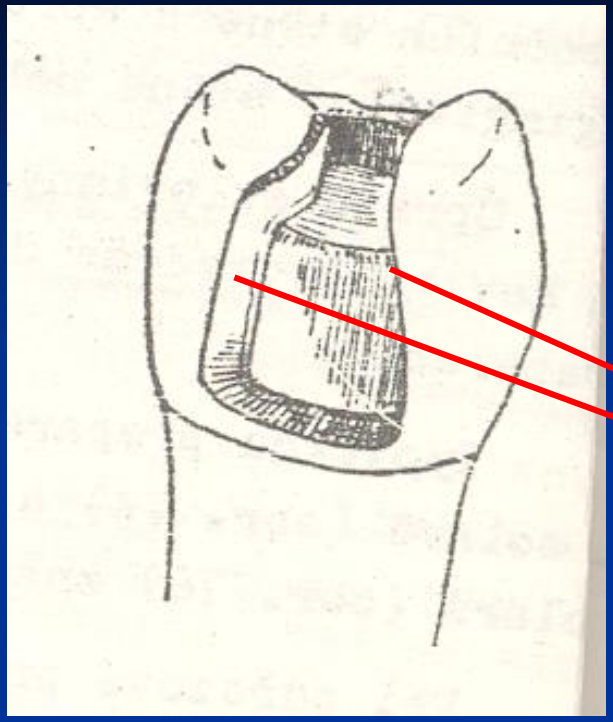


Retention

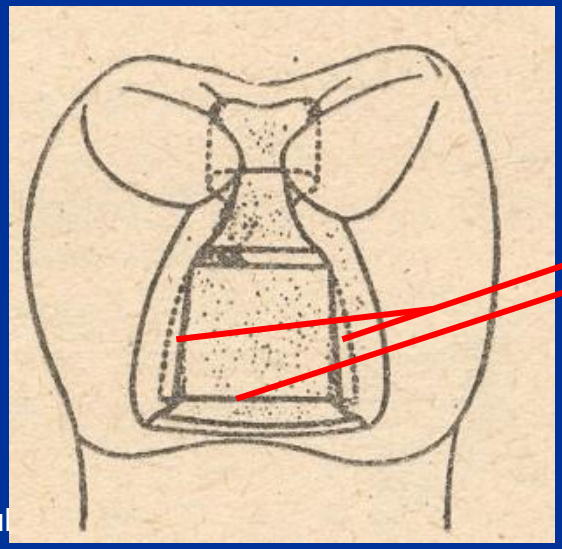
- Occlusal cavity with undercuts
- Divergency of axial walls
- Grooves







Divergency of axial walls

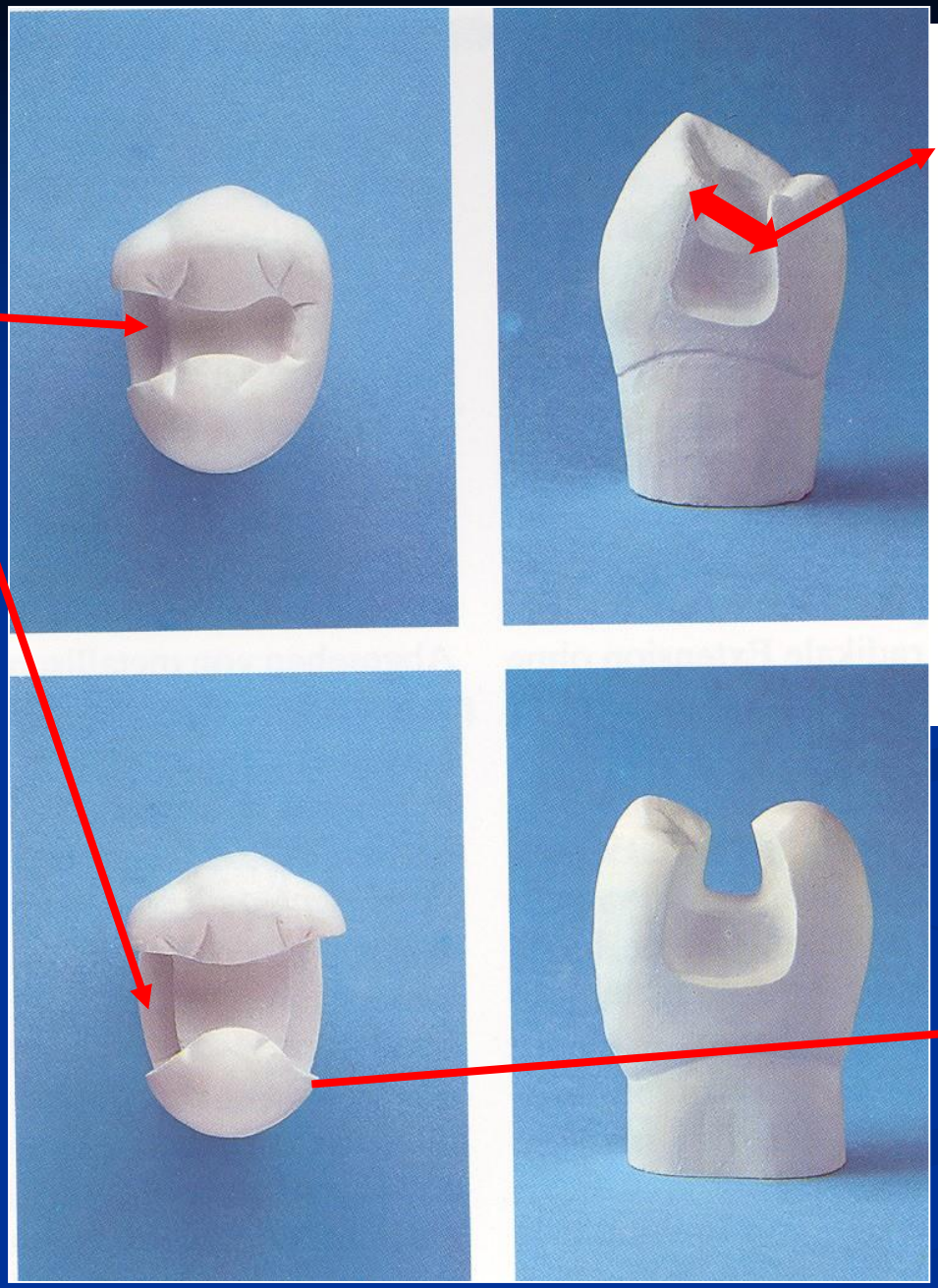


Grooves

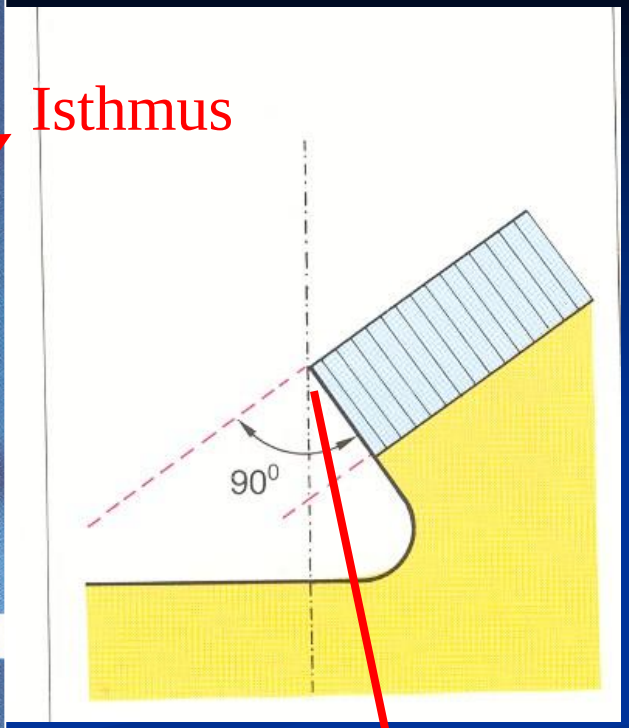
Resistancy

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

G. wall



Isthmus



Cavosurface angle

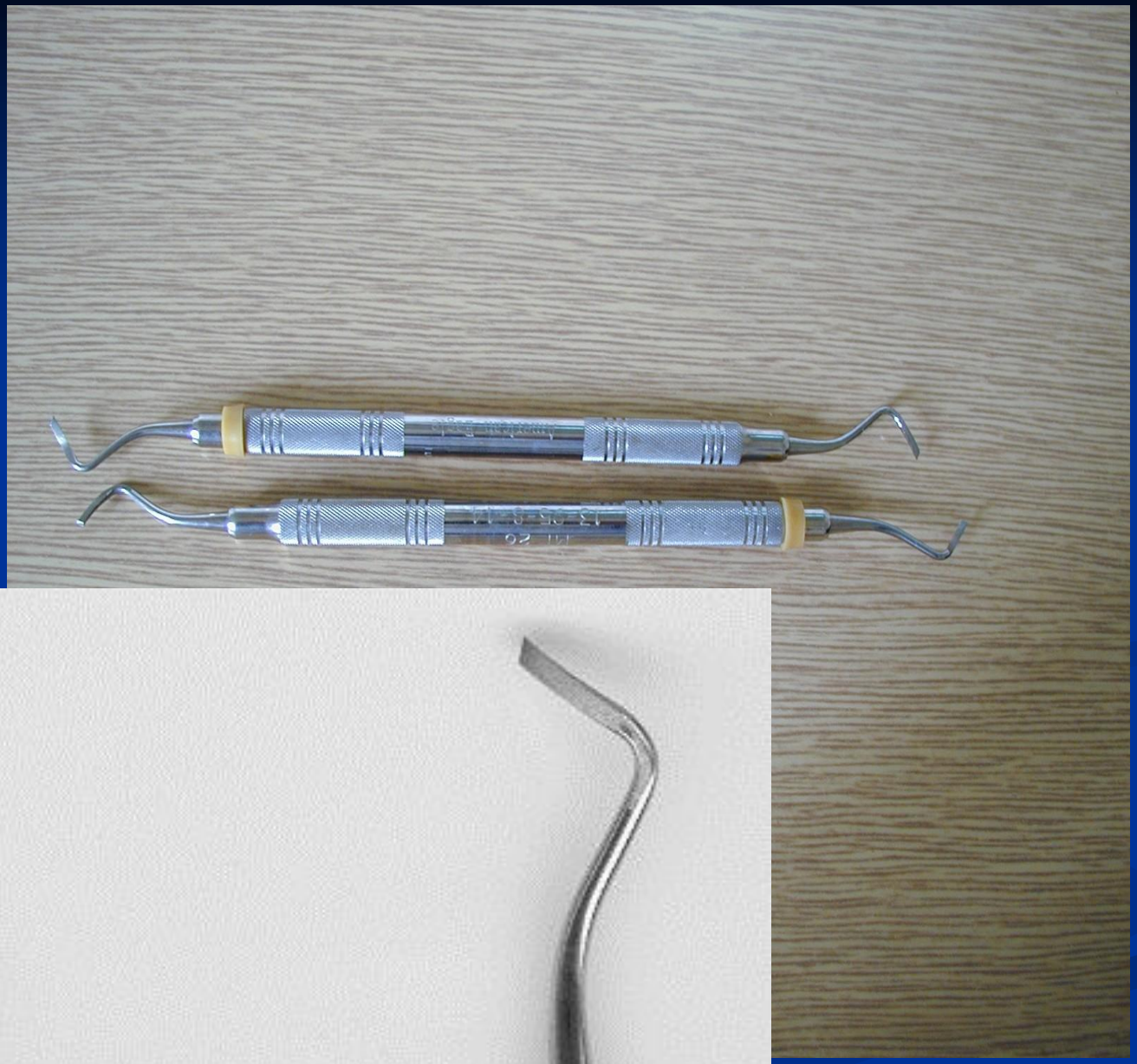
Excavation of carious dentin

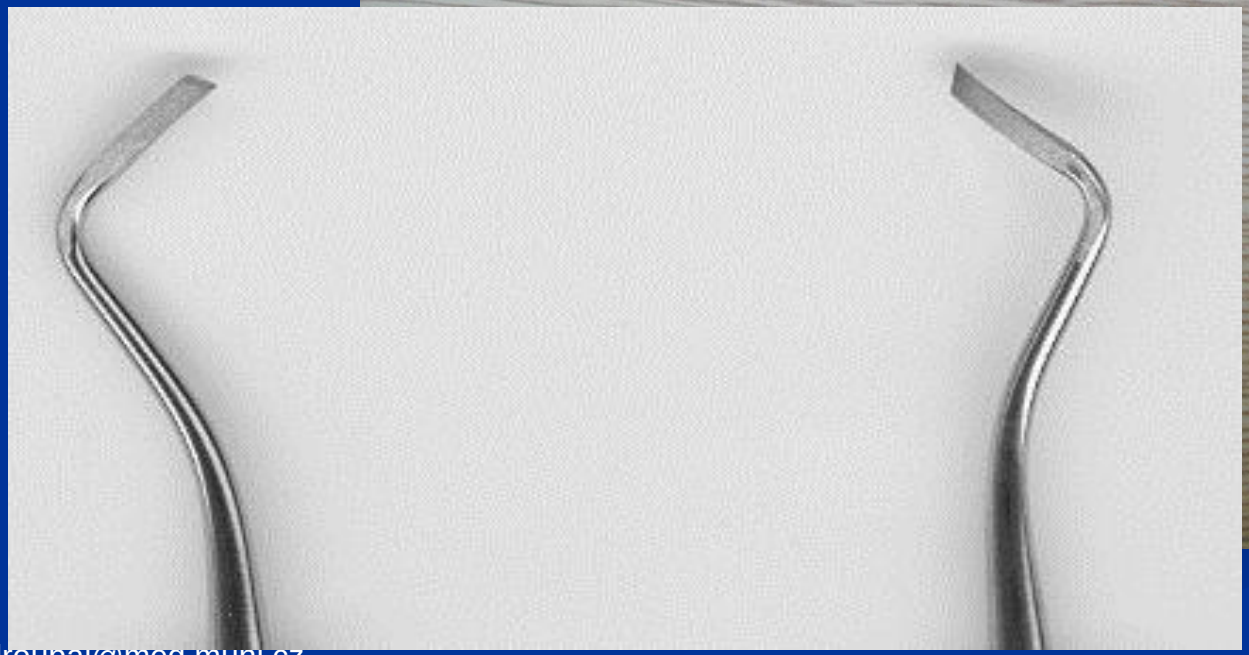
Rounded bur

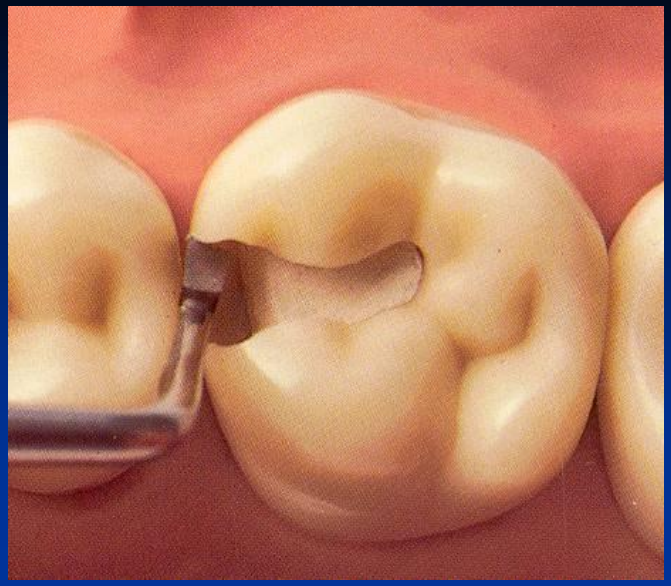
(Caries Detector, Kuraray, Japonsko; Caries Marker, VOCO,Německo)

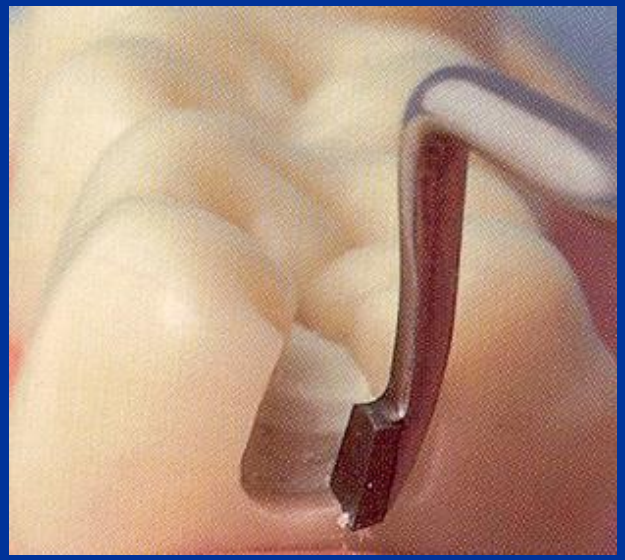
Finishing of cavity walls

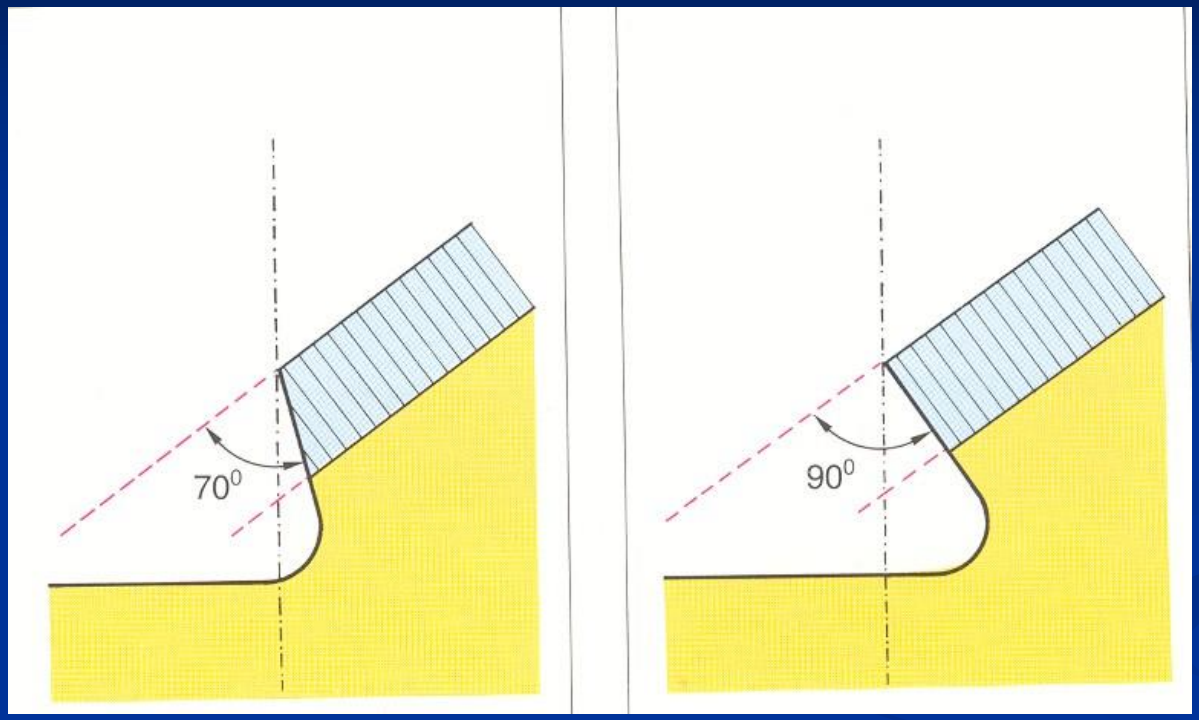
- Red coded diamond bur
- Chisel on the giongival wall (if in enamel)







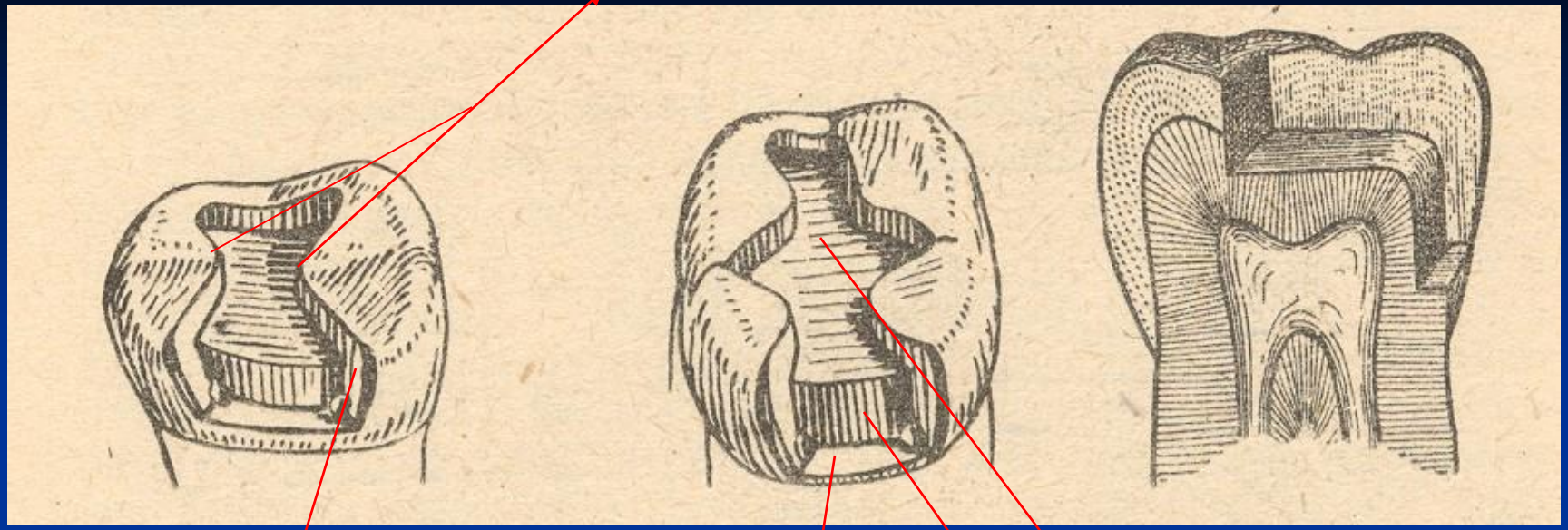



70⁰
90⁰

Final check

- 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

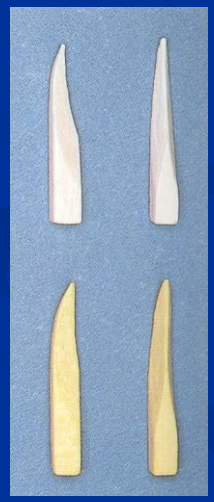
Matrices

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

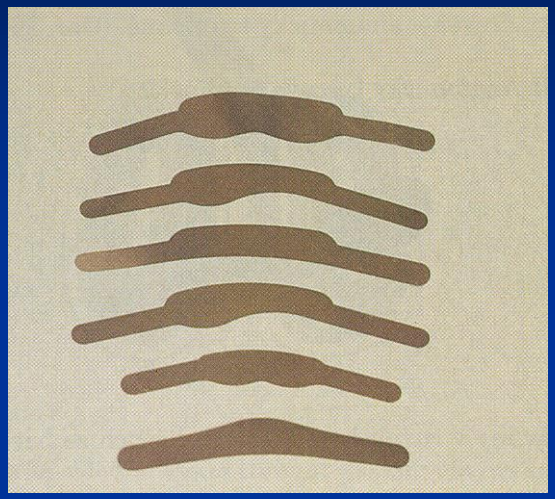
Wedges

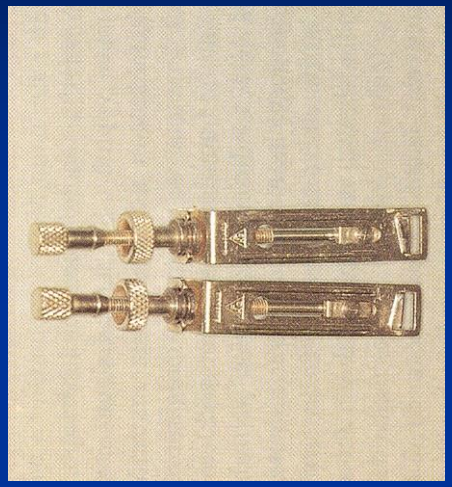
- Wooden wedges

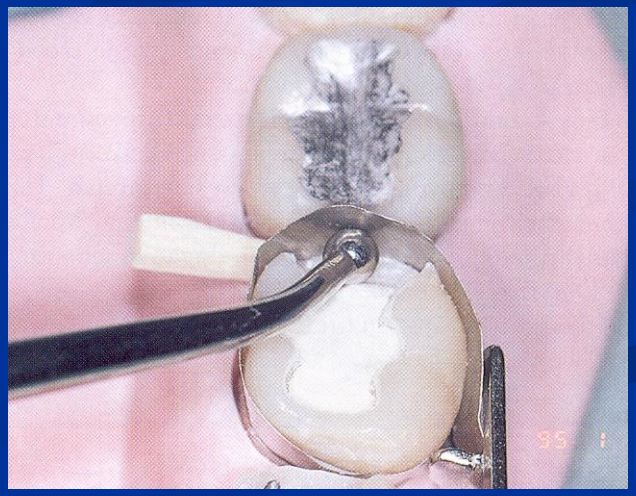
  - tighten the matrix band
  - compress the gingiva
  - separate the teeth



Matrix retainers and matrix bands, wooden wedges

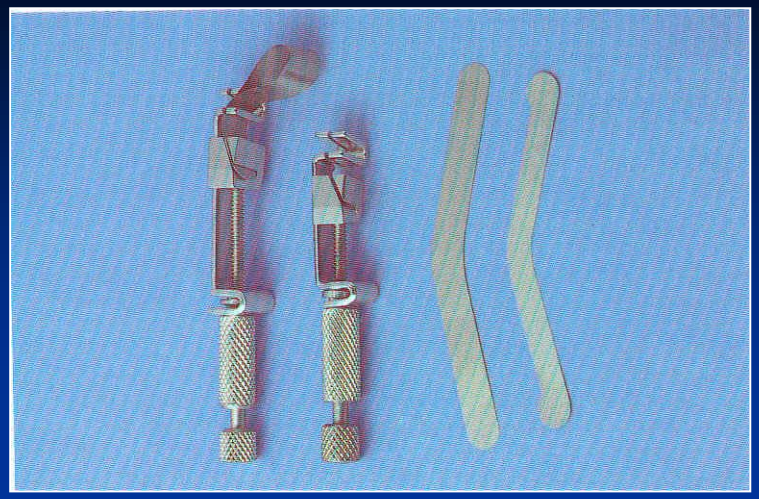


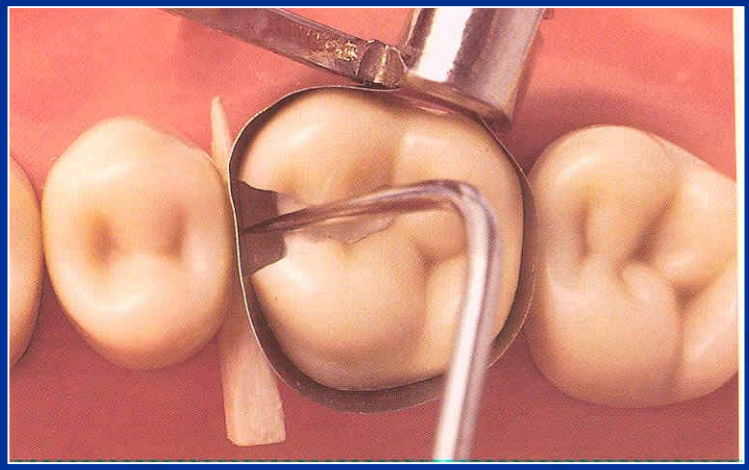


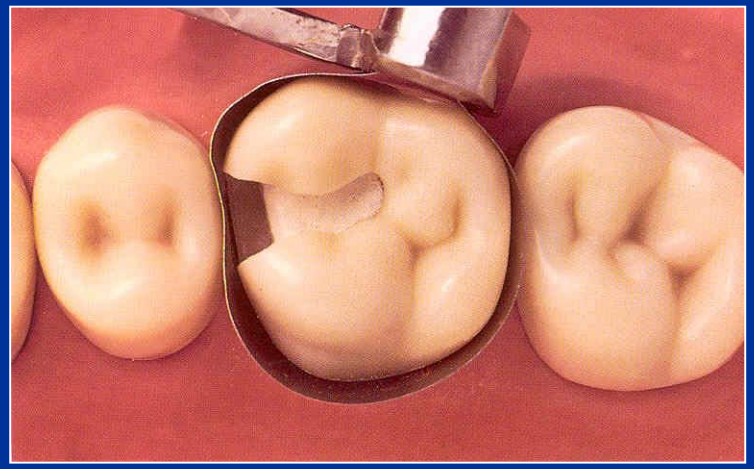


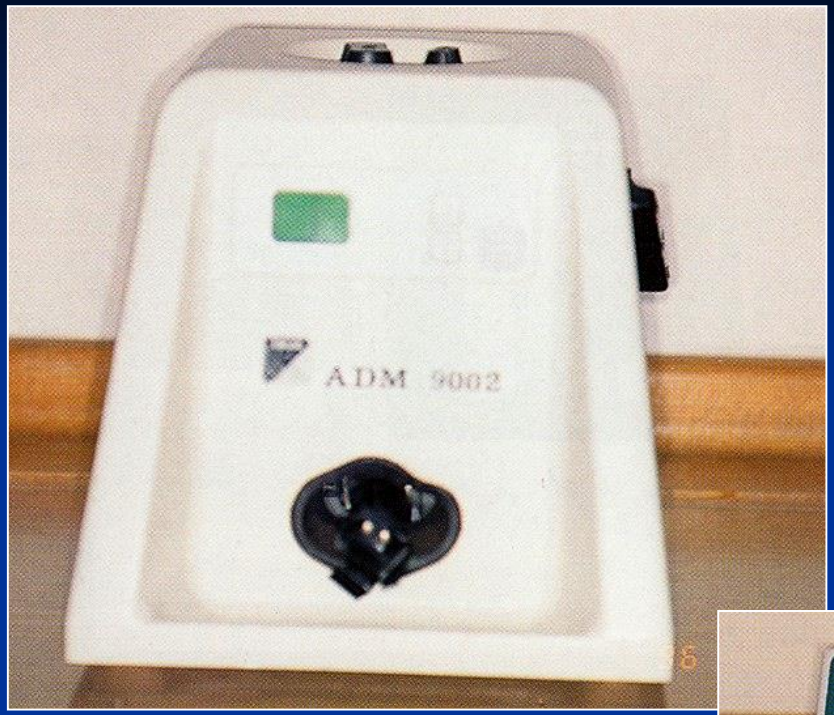
Wedging

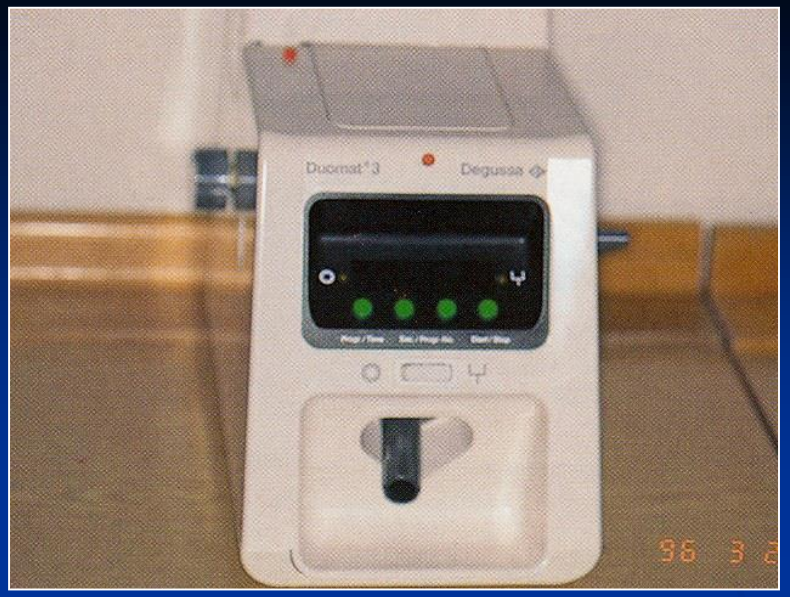
- Slip the matrix band over the tooth)apical to the gingiva margin – 0,5, - 1 mm)
- Tighten the matrix, check it with probe
- Place a wedge
- Turn the retainer ¼ counterclockwise
- Contour the band









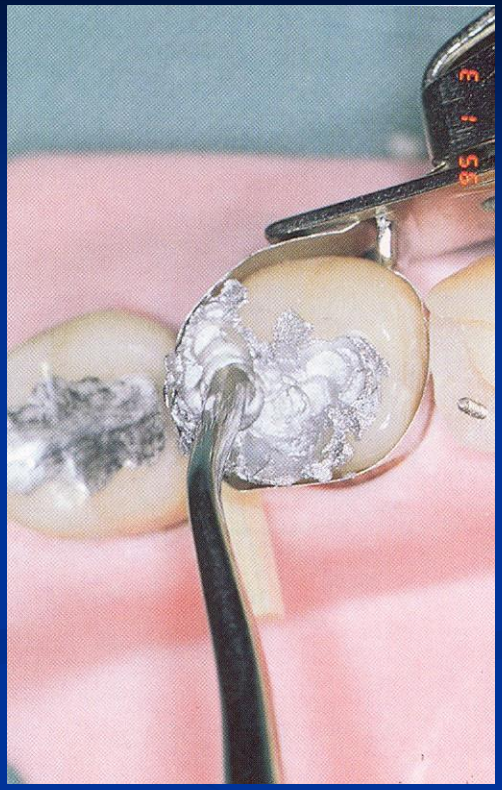


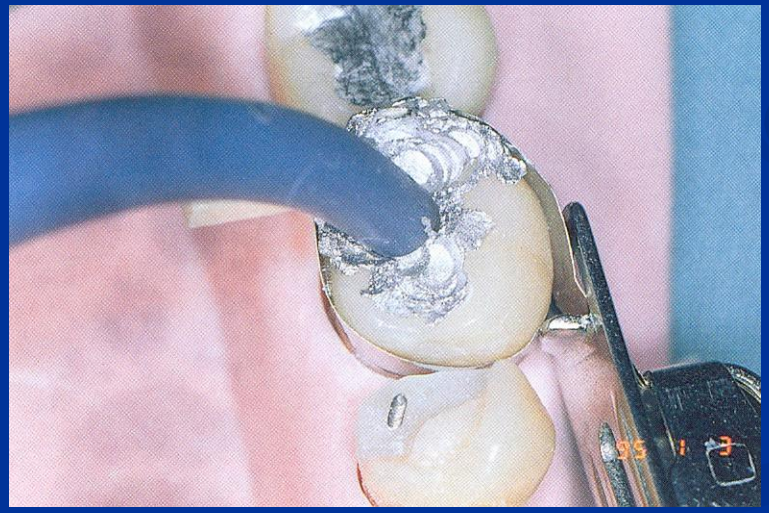
Trituration!

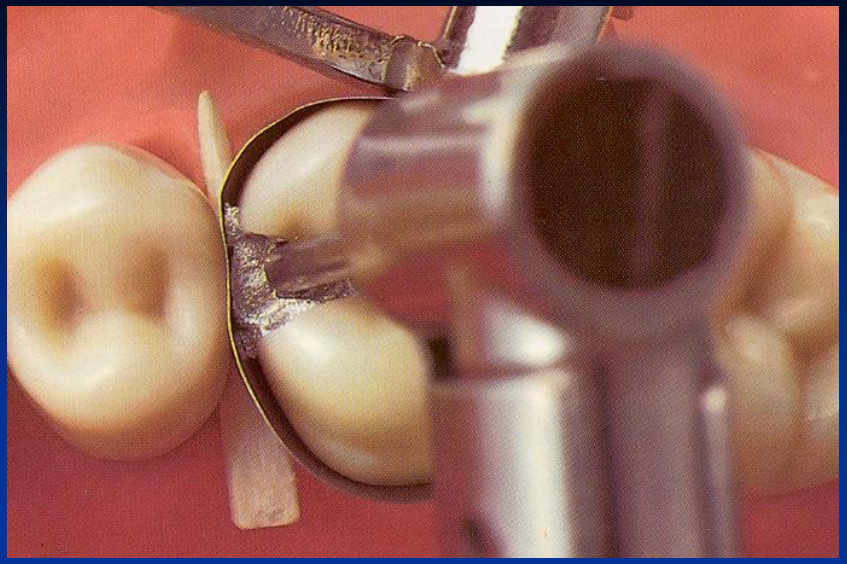
Condensation of amalgam

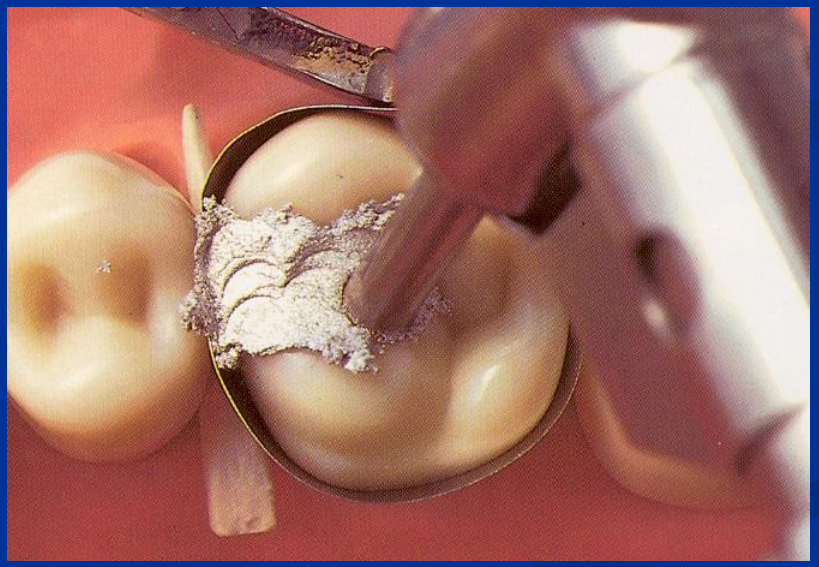
- Condensor – stamen is the best one
- Power driven condensation

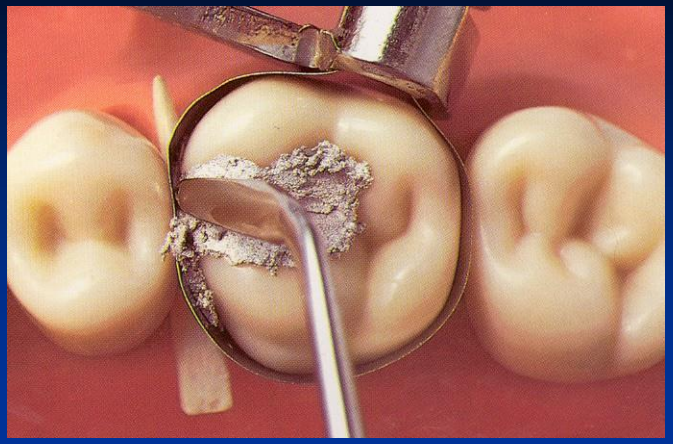
How big the stamen should be??

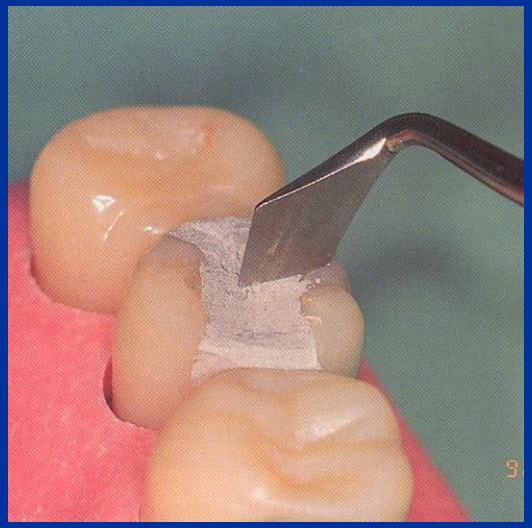








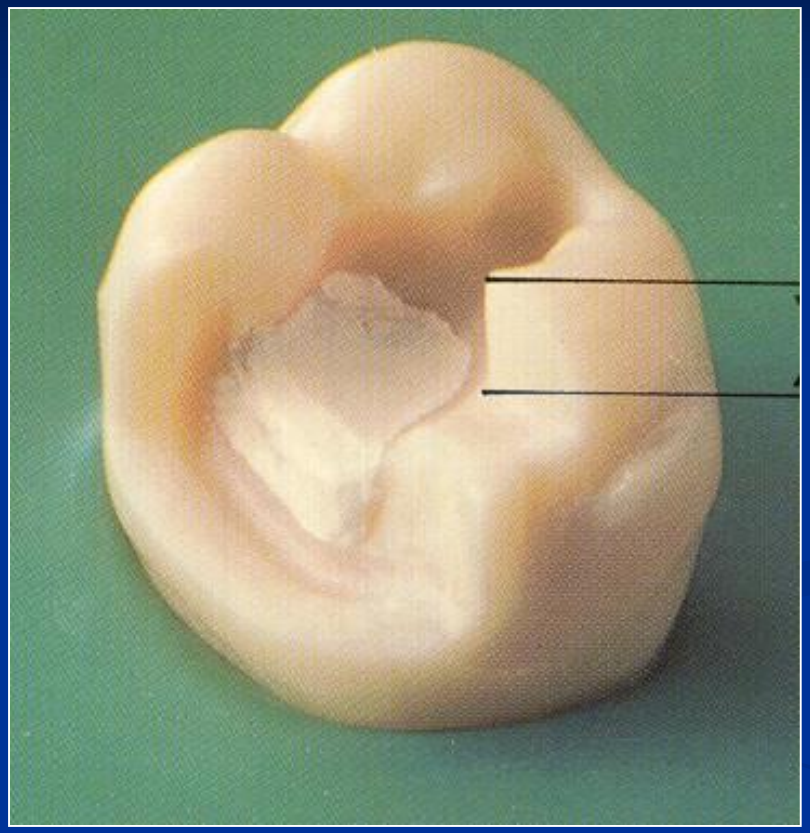


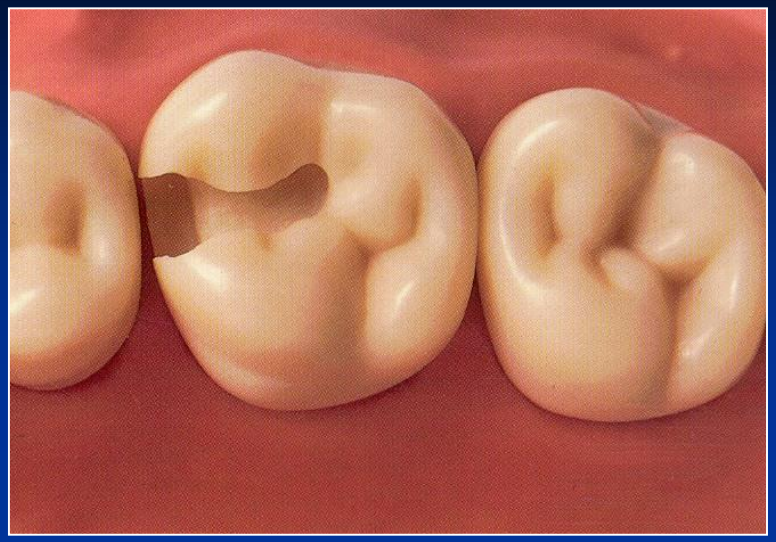


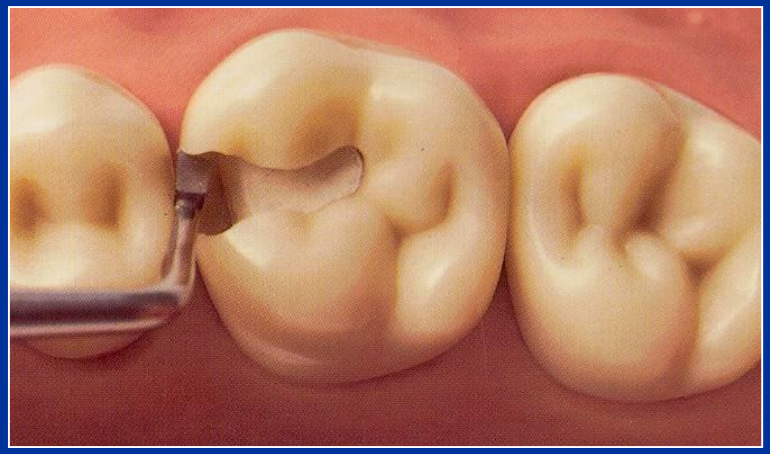
Base

- Zinkoxidphosphate cement

On pulpal walls only!





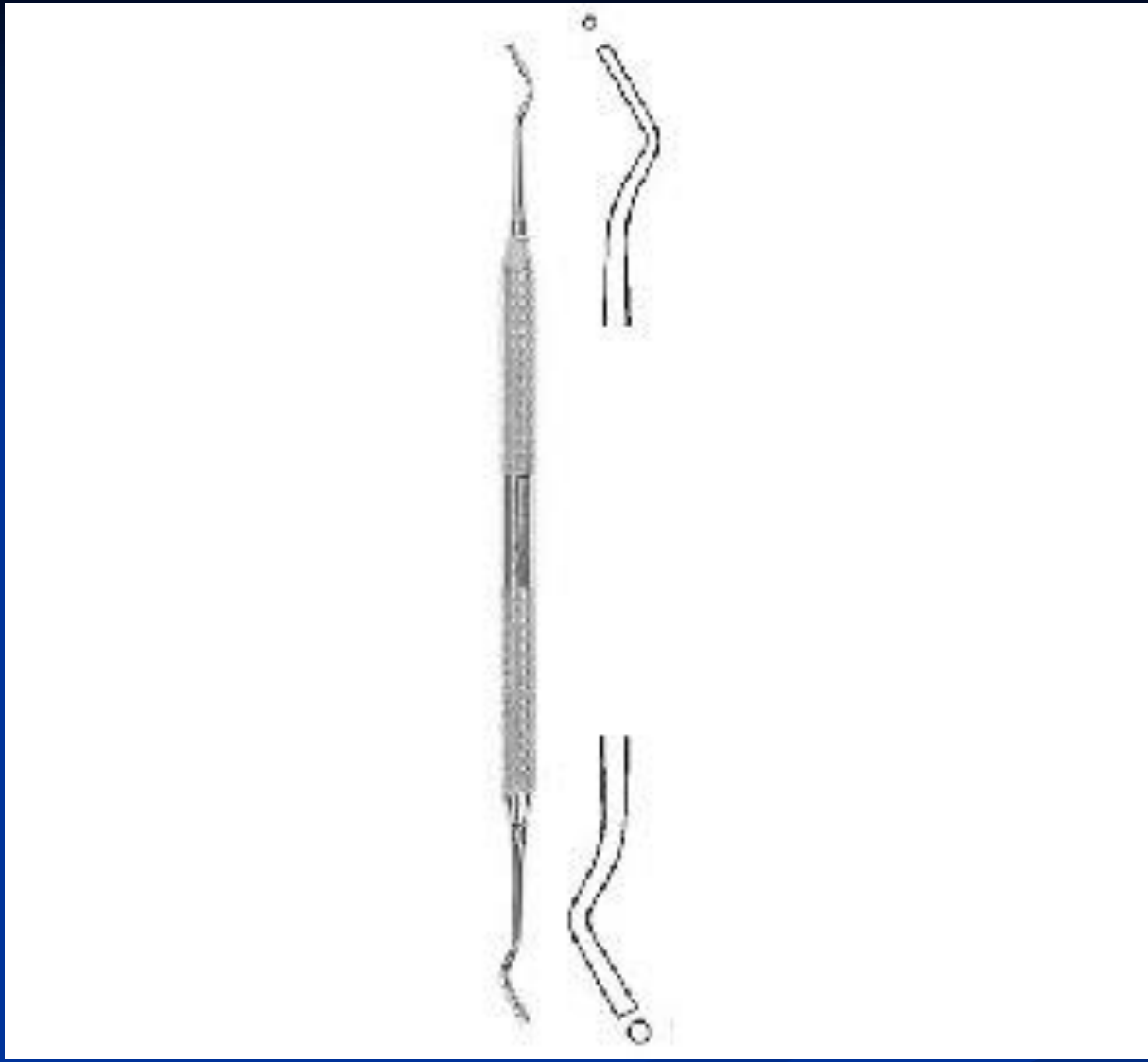


The base must be hardened

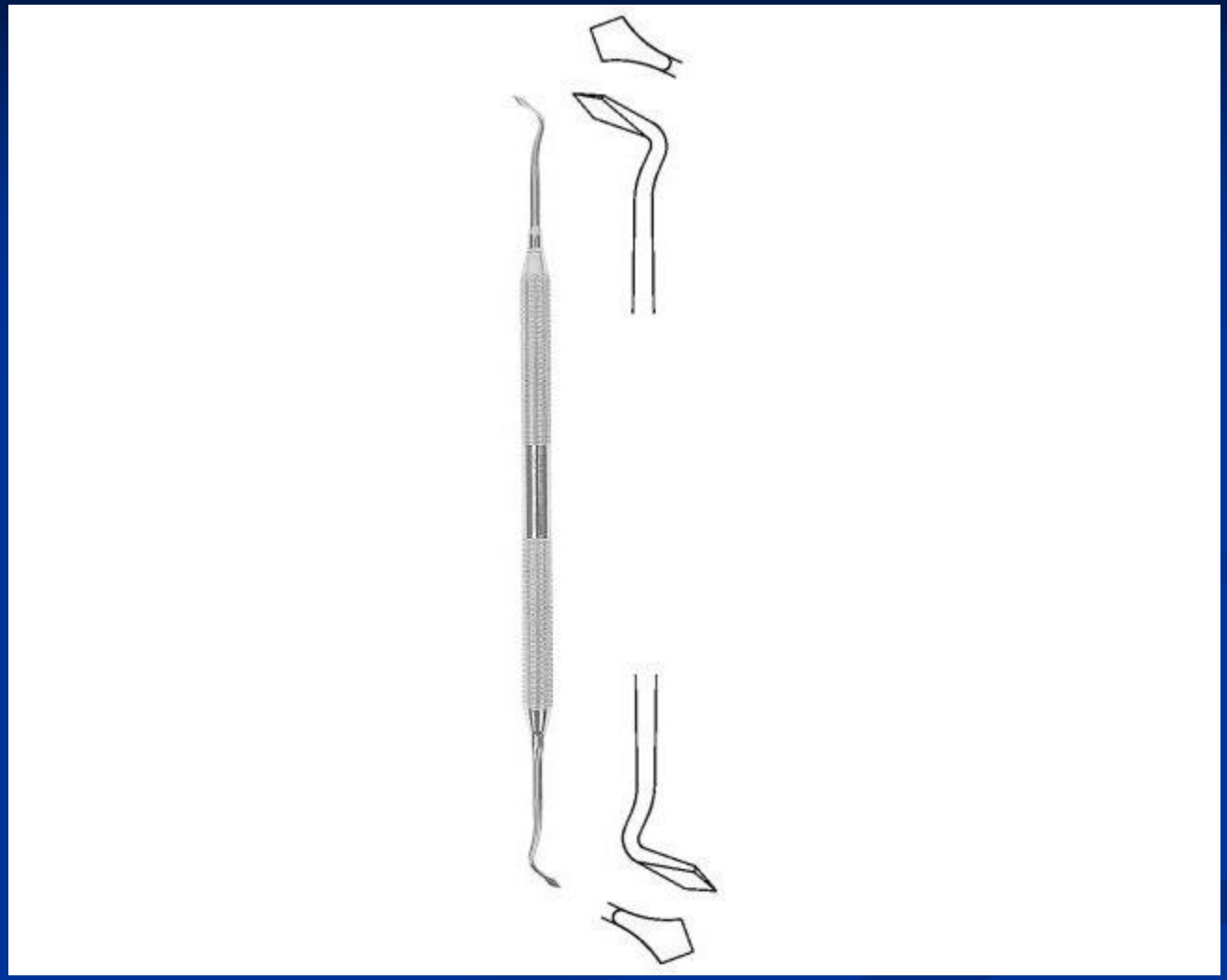
Instruments

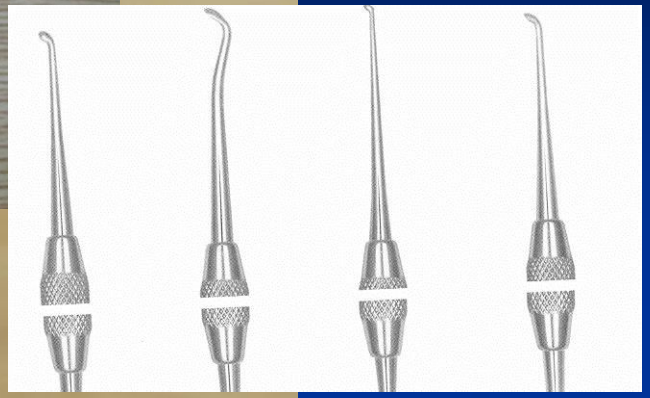
- Preparation
- Filling
- Finishing and polishing

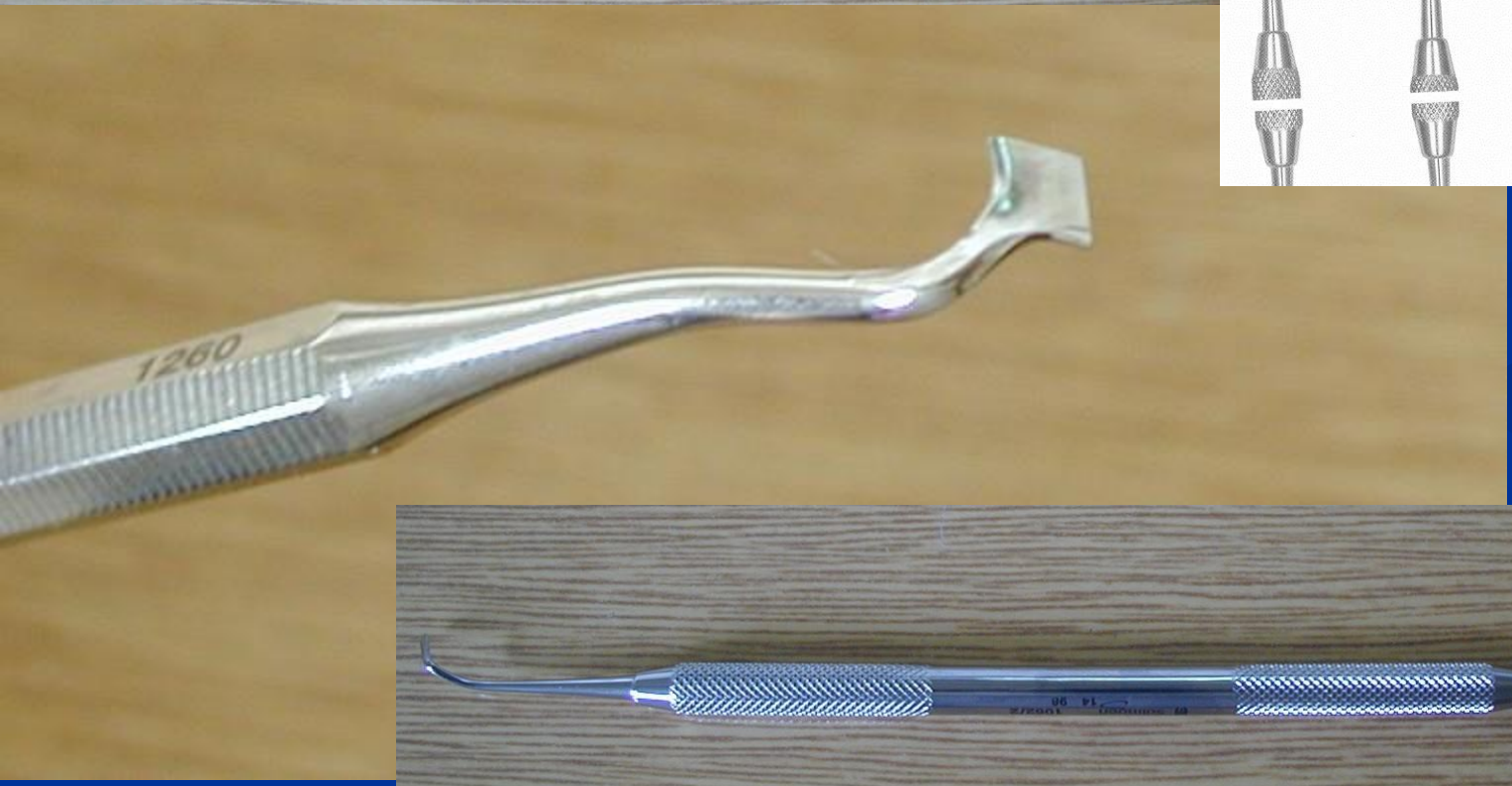
Condensor with straight front



Frahm



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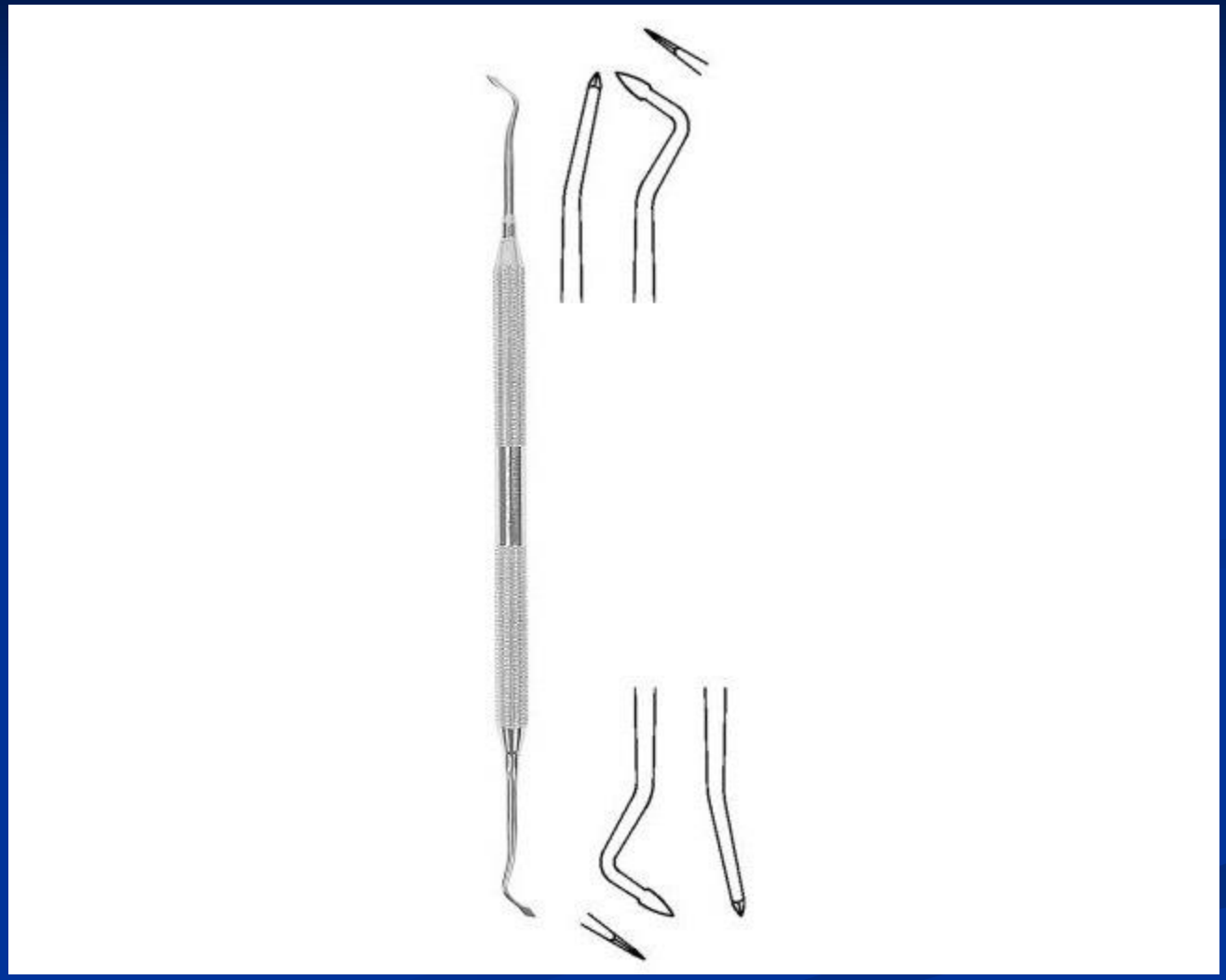

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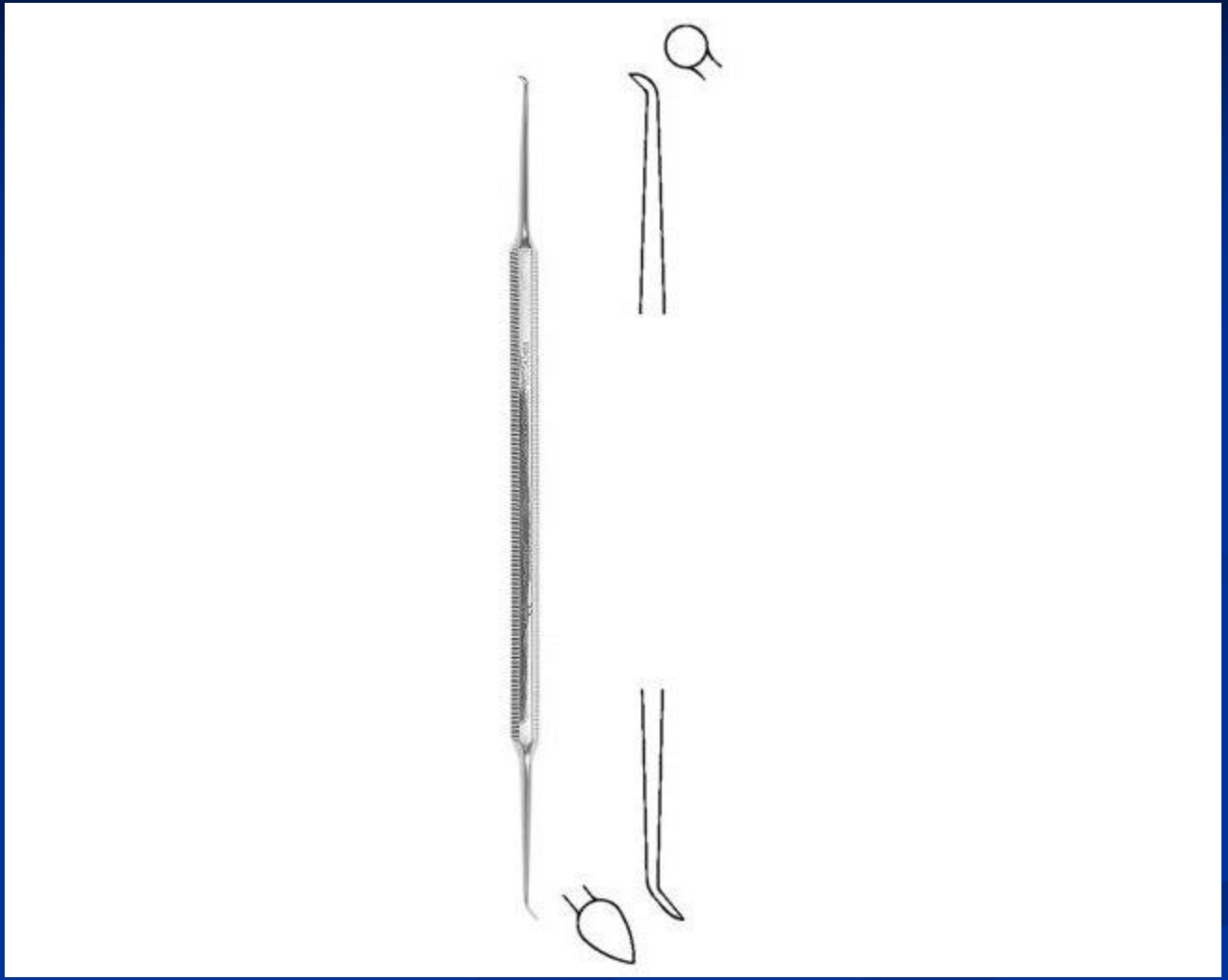

Amalgam carrier