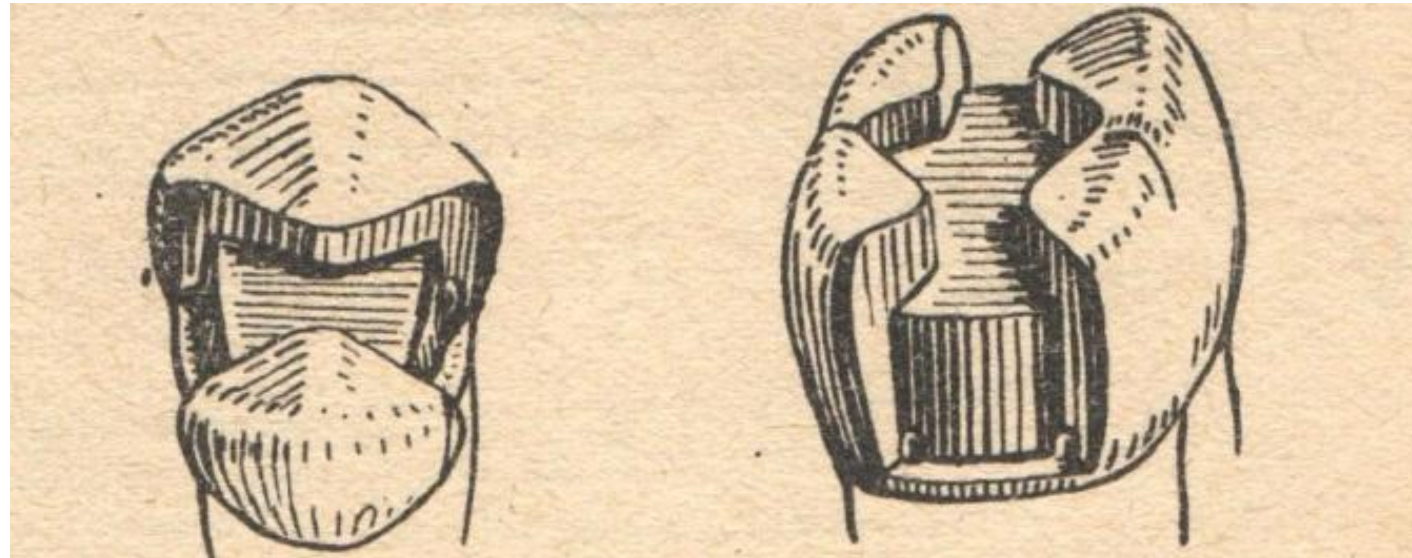
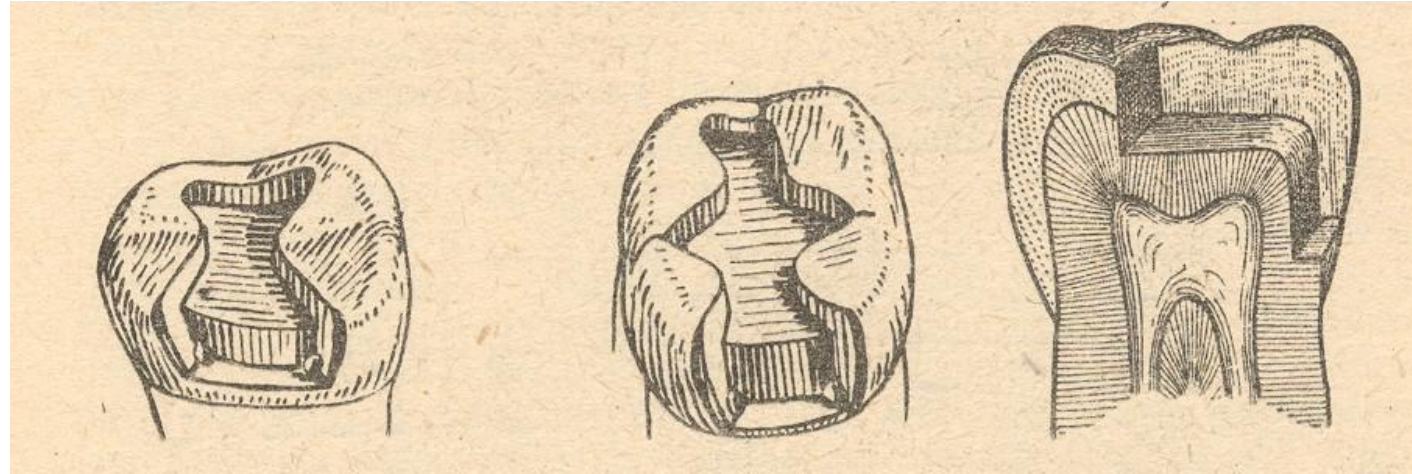
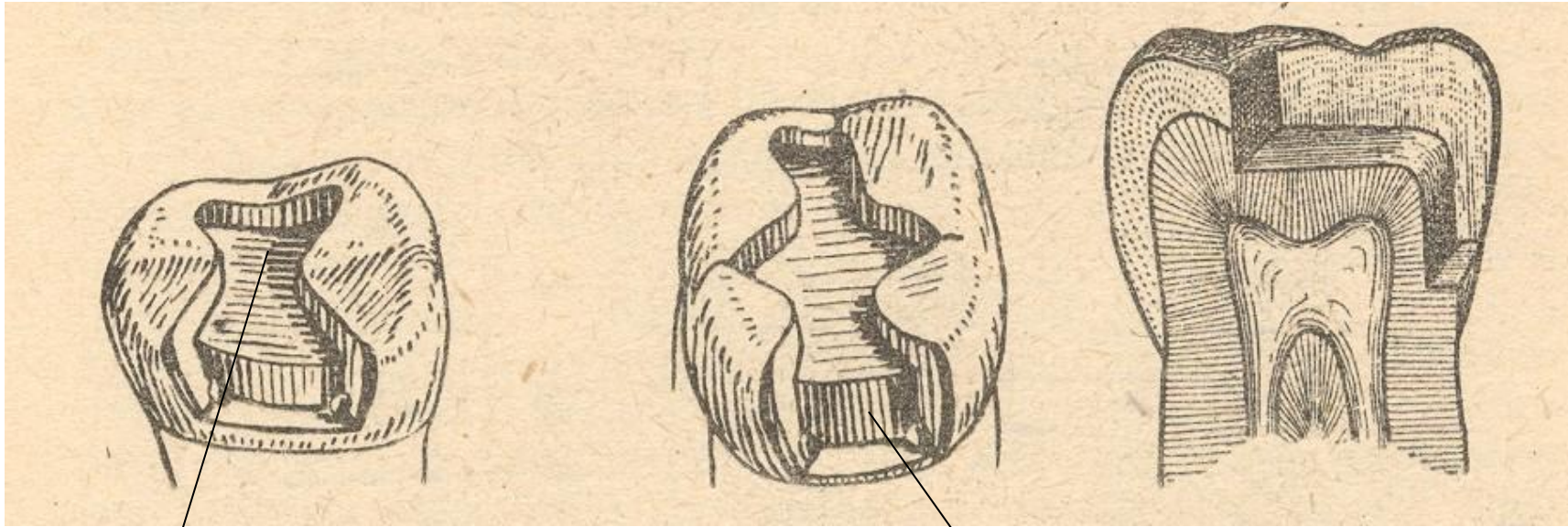


**M U N I**  
**M E D**

# **Clas II. caviry recapitulation**

Name parts of this cavity, name the walls. What is MO. Od and MOD cavity? What is isthmus, where we find it?

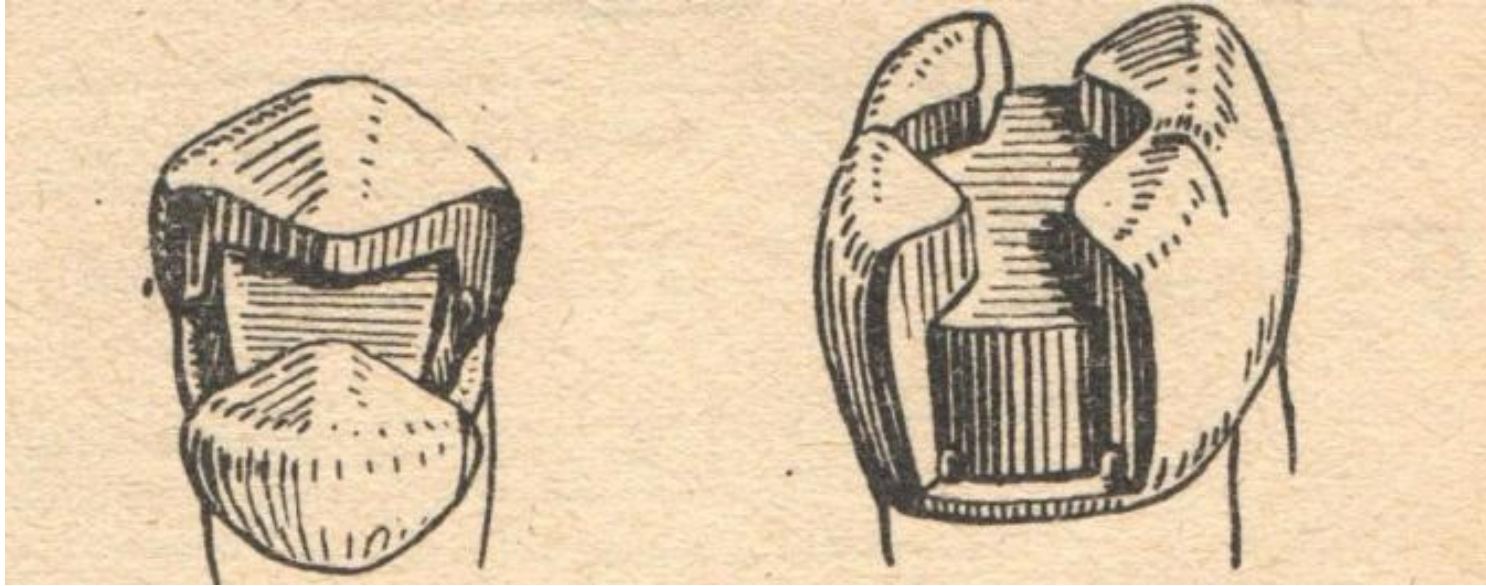




Occlusal cavity

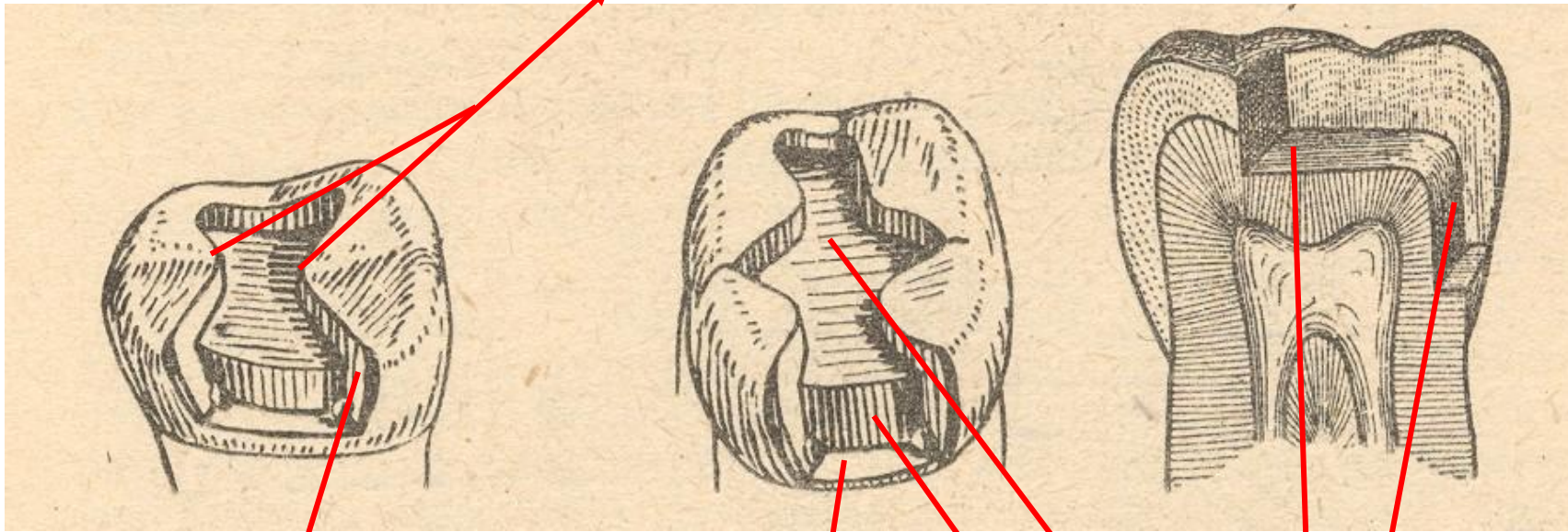
Proximal cavity (proximal box)

MO, OD – one proximal wall is affected, mesioocclusal cavity (MO)  
or distal – occlusodistal cavity (OD)



MOD . Both  
proximal walls  
are affected

Isthmus (between occl. and prox.cavity, the most narrow part)



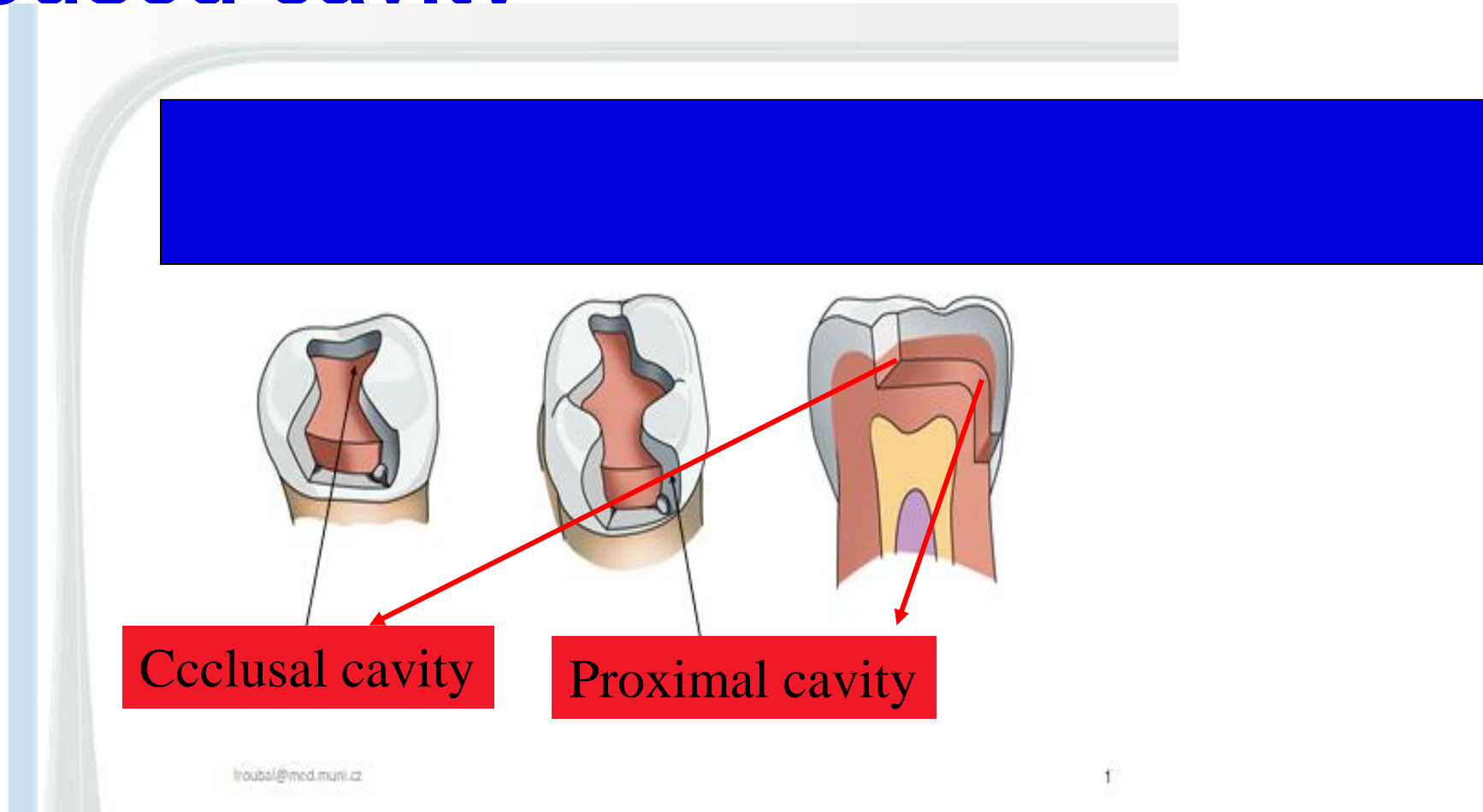
Axial wall

Gingival wall

Pulpal walls

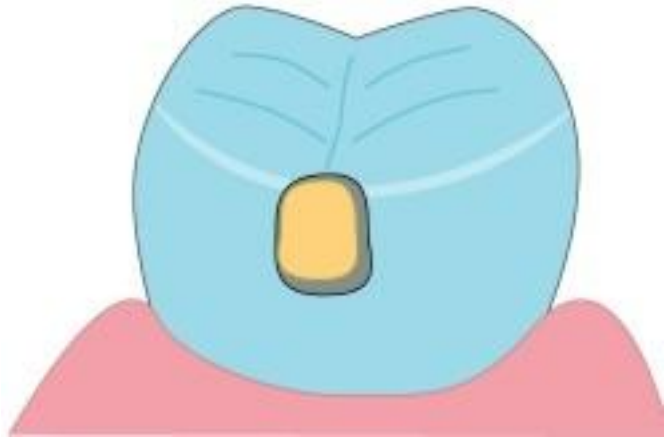
**Which two main types of the class II. preparation do you recognise?**

# 1. Conventional preparation acc. to Black – compounded cavity

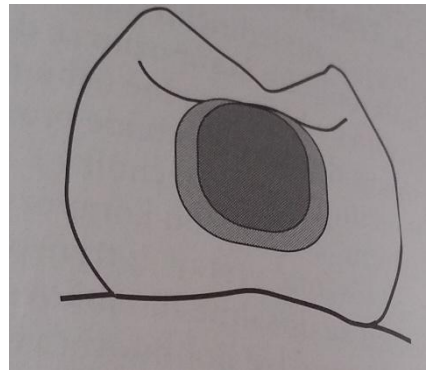
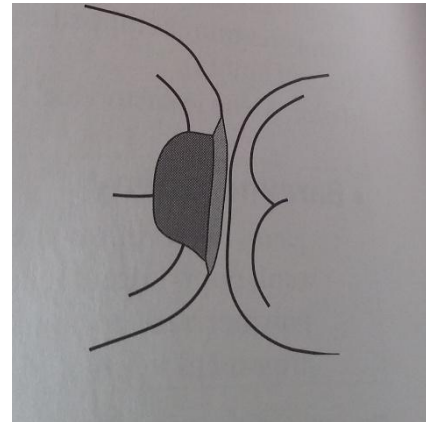


## 2. Slot preparation

### Principle



### Detail



The cavity does not have extension on occlusal surface, it is open occlusally



# Slot preparation – defect, cavity and filling



**When the composite fillings can be used?**

# Composite materials – indications II.class

- Small – moderate cavities
- Large cavities - onlay, inlay, crown
- Dry operating field (absolutely) – rubberdam
- Excellent oral hygiene
- Patients compliance

*Amalgam does not have the substitution – maybe bulk composites – the topic of one of the next lectures.*

**Which contraindications of composite filling materials do you know?**

***See indications***

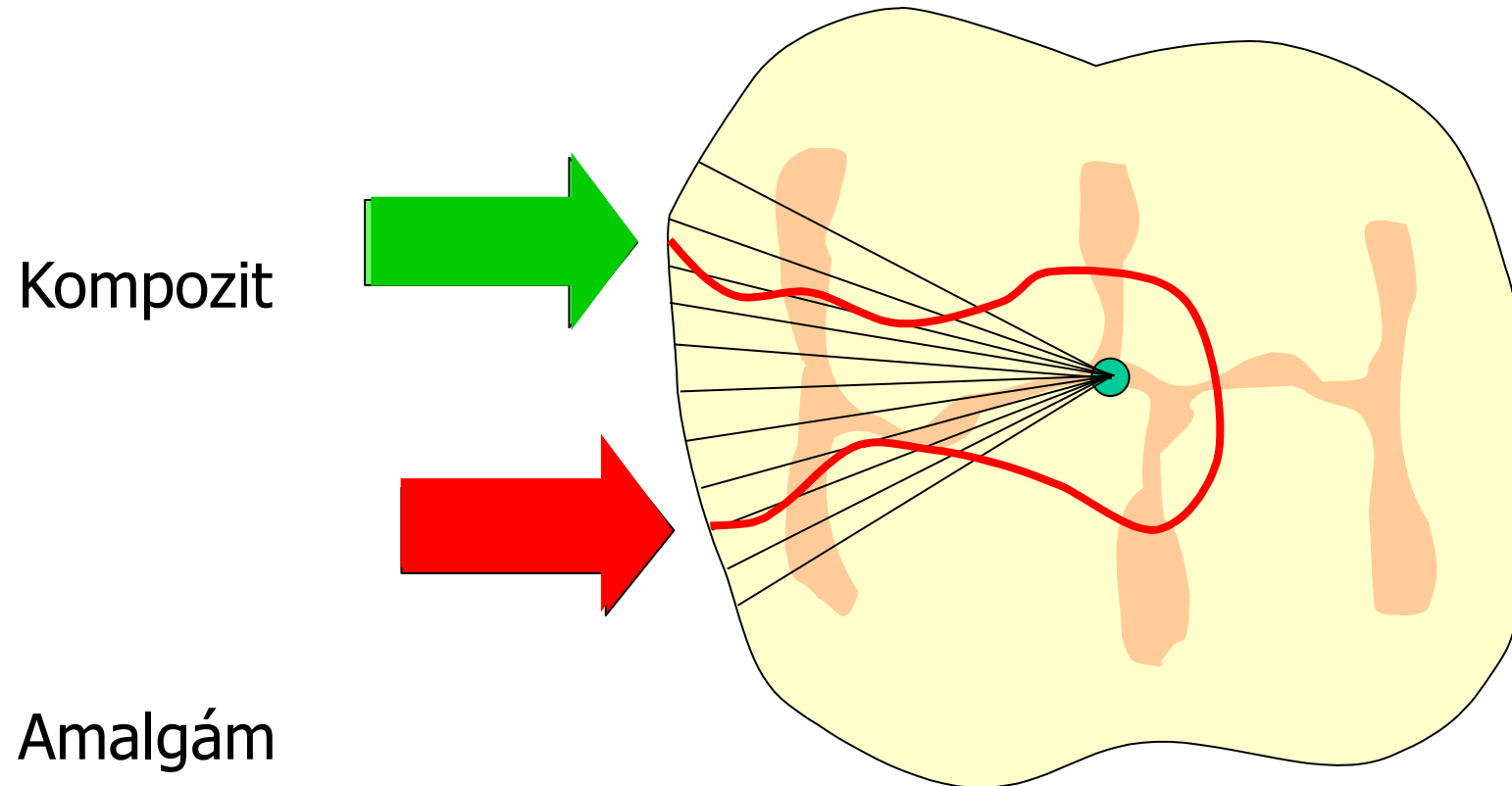
**How do we prepare the enamel margins for composite materials in class II.?**

# Preparation of enamel margins

- Enamel on axial walls must be beveled (red coded diamond) and also the outer edge of the gingival wall must be beveled (if the gingival wall is situated in enamel)

Also hand instruments (chisels) can be used for the gingival wall

# Interproximal vertical margins

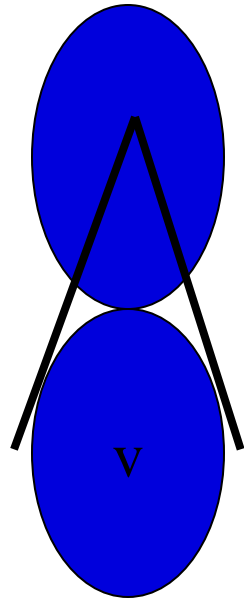


**How do we establish the position of the axial walls?**





# American rule (estimation)

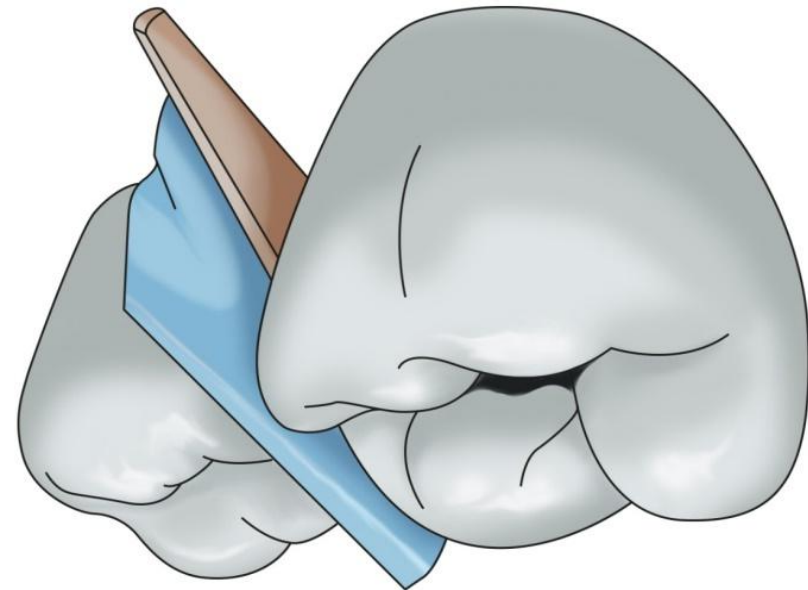


Tangents from the middle of treated tooth to the next tooth – where these cross the treated Tooth there are borders of the preparation

# How do we protect the teeth next to the prepared tooth?

# Protection of the neighbour tooth

- Wooden wedges and the metal strip
- Special plastic wedges with the
- metal foil



**Which tool is necessary when one or more proximal walls are missing?**

# Matrix

➤ 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

In some cases it is important for good setting of the material

# Matrices for II.nd class

Circular and sectional matrices

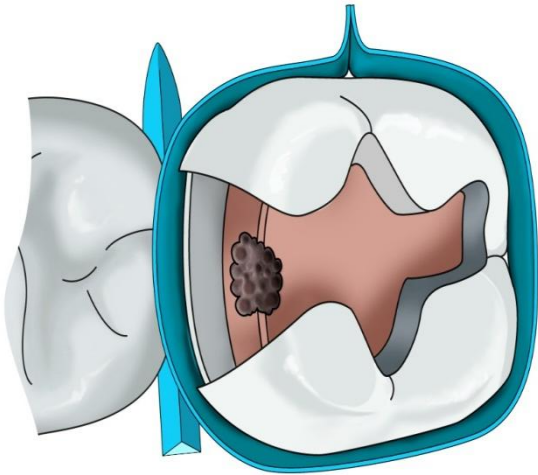
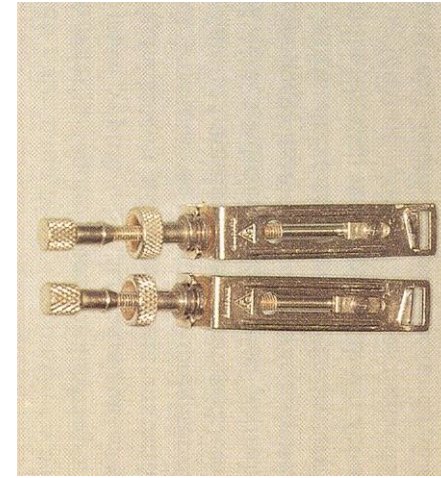
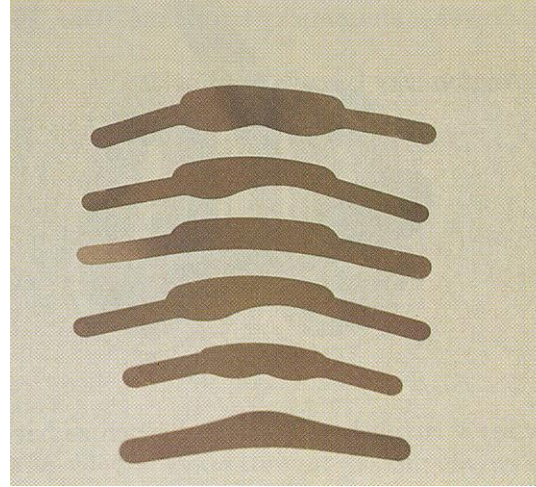
➤ Circular matrices round the tooth

They are used in combination with the matrix retainer.

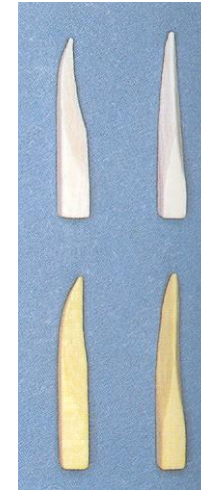
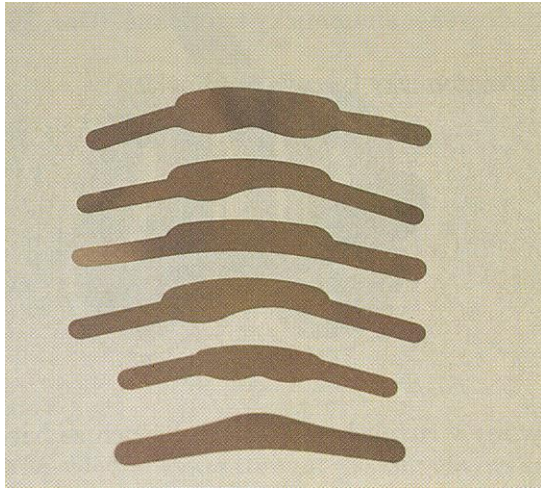
➤ Sectional matrices do not round the tooth, the proximal surface only.

# Circular matrix

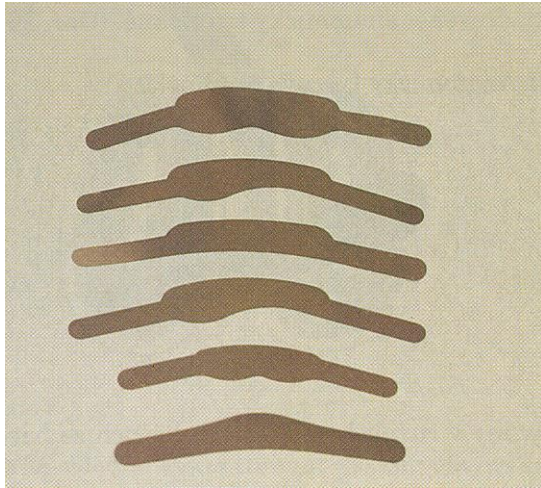
Matrix Hawe Neos  
Matrix retainer ivory 8  
(universal or paired)







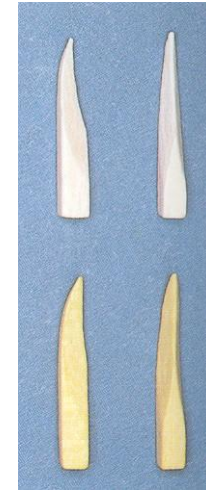
Which tools are here in this picture?



matrix band

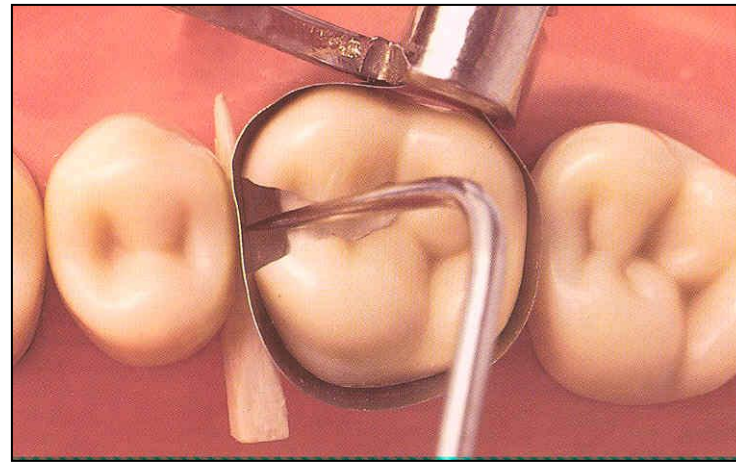
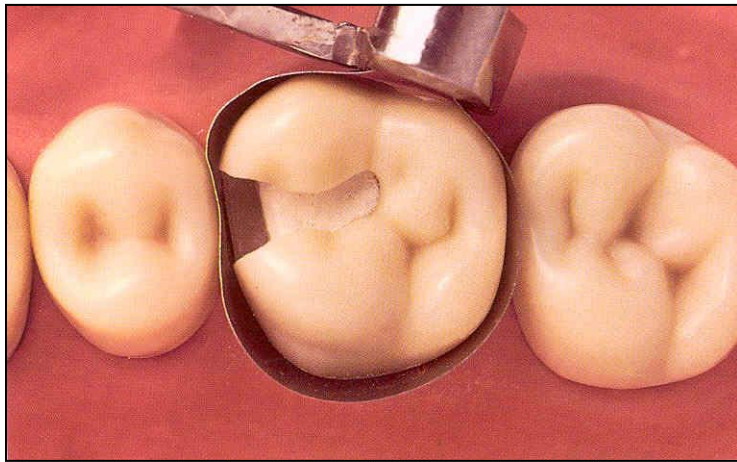


matrix retainer



wedges

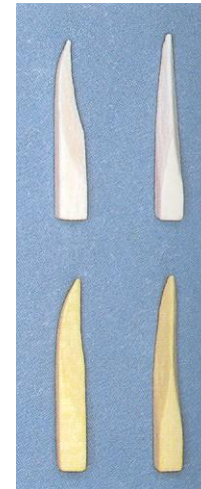
# Which function does the wedge have?



# Wedges

## ➤ Wooden wedges

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

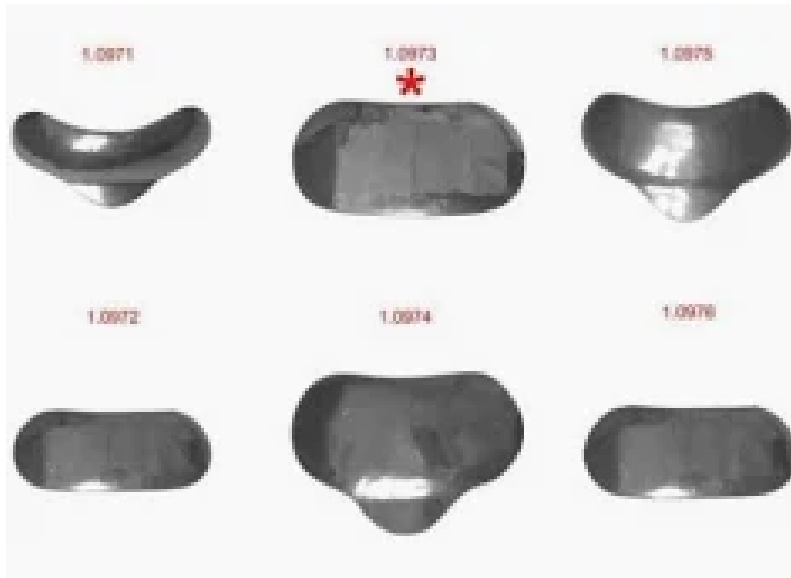


# Wedging

- 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



# Segmental (sectional) matrices



**What do we need for the work with sectional matrices?**

# Tools for the work with sectional matrices

Separator (separation ring)



- Forceps (for rubberdam clamp or similar)



- Wedge



Various types of separators



**Describe sequences of operation by making the composite filling – class II.**

# Sequence of operation

- Preparation
- Bevel the enamel on axial walls and outer edge of gingival wall (if located in enamel)
- Placement of the matrix
- Adhesive procedure (acid etching, washing, priming and bonding)
- Placement of the composite material layer by layer
- Curing
- Finishing and polishing

# Why do we perform the incremental technique? (Layer by layer?)

# The material must be placed layer by layer, max 1.5 mm

- Good polymerization
- Decreasing of the polymerization stress which is connected with the polymerization shrinkage (explanation in next lecture)
- Aesthetics