

Sequences of operations – making fillings

- Amalgam
- Composite
- Glassionomer

Amalgam

Metal-like restorative material composed of silver-tin-copper alloy and mercury.

Principle of setting: Crystallization

(Mercury dissolves the alloy – these intermetallic compounds set by crystallization)

Principle of retention: Macroretention

Preparation

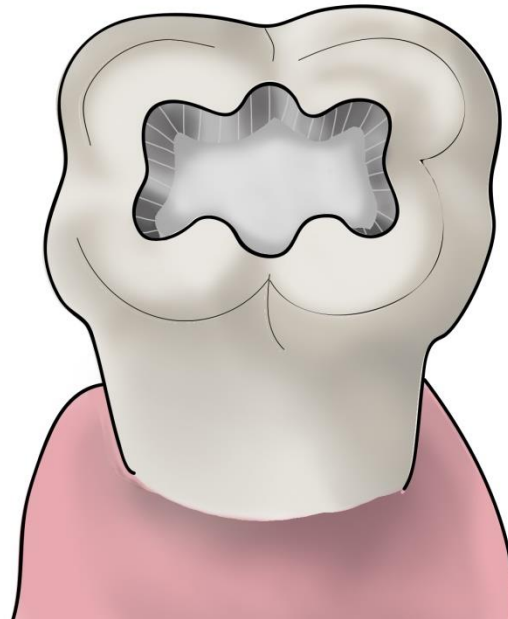
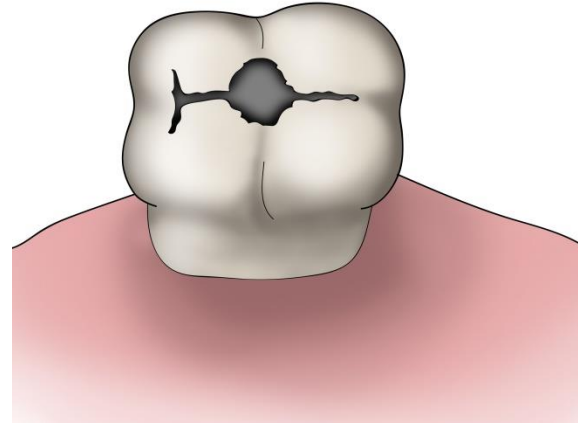
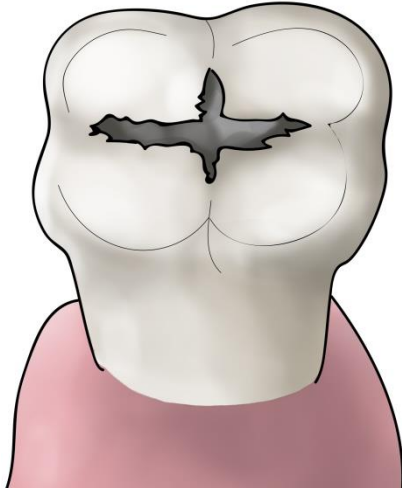
Extension for prevention

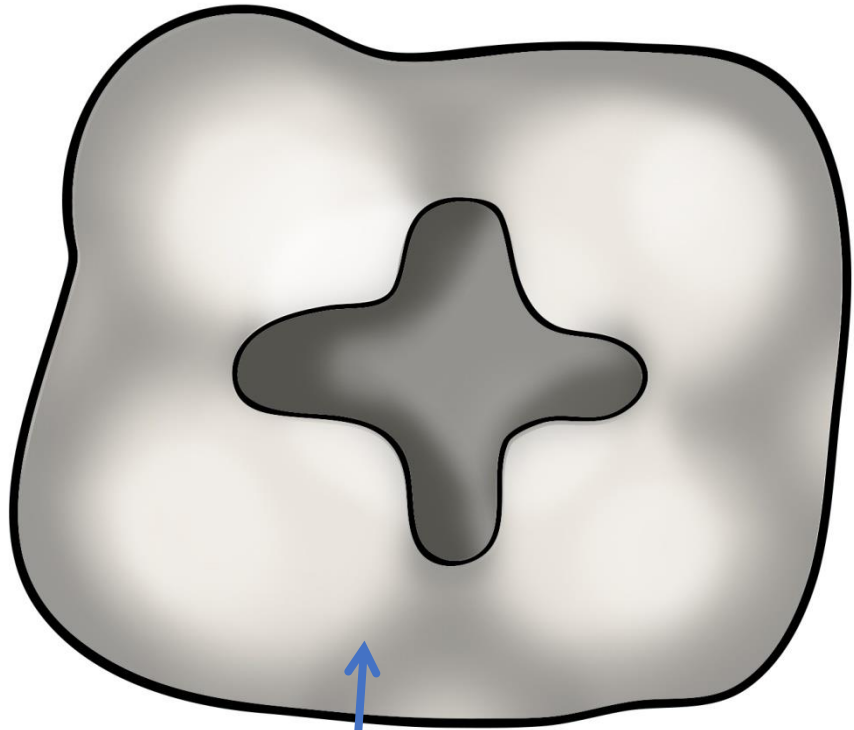
Retention:

Box with undercuts, grooves, pins

Resistance:

Thickness – 2mm occlusally, 3-4 mm when the cusp is replaced, appr.1 mm in class V.

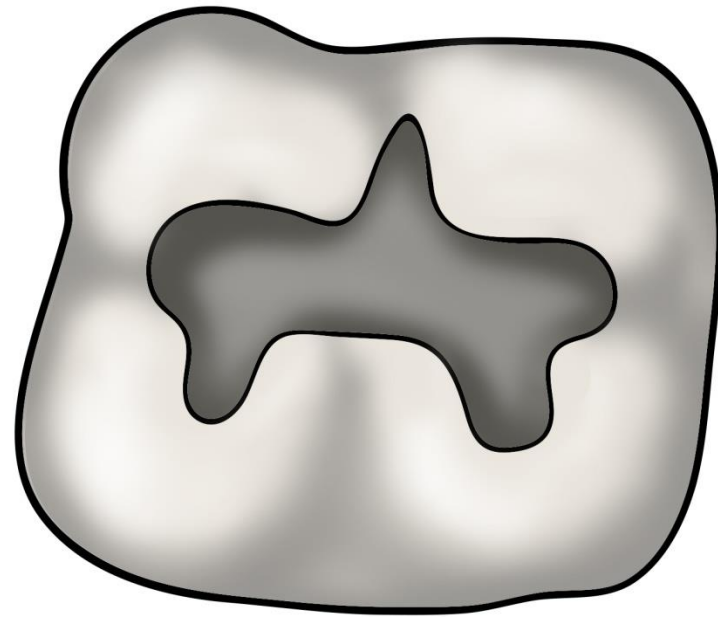




Mandibular 7



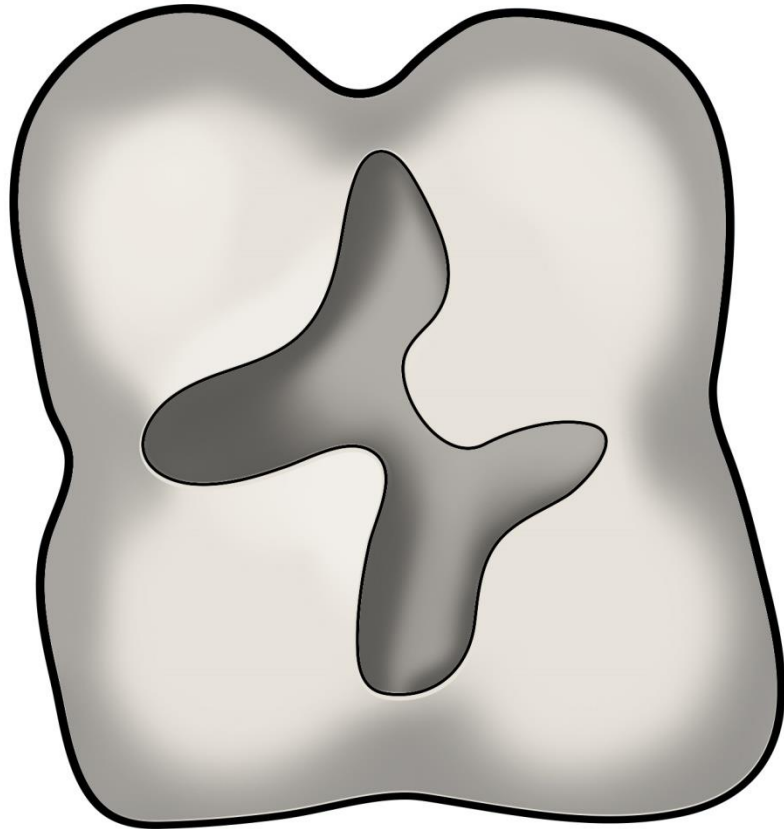
Mandibular 6



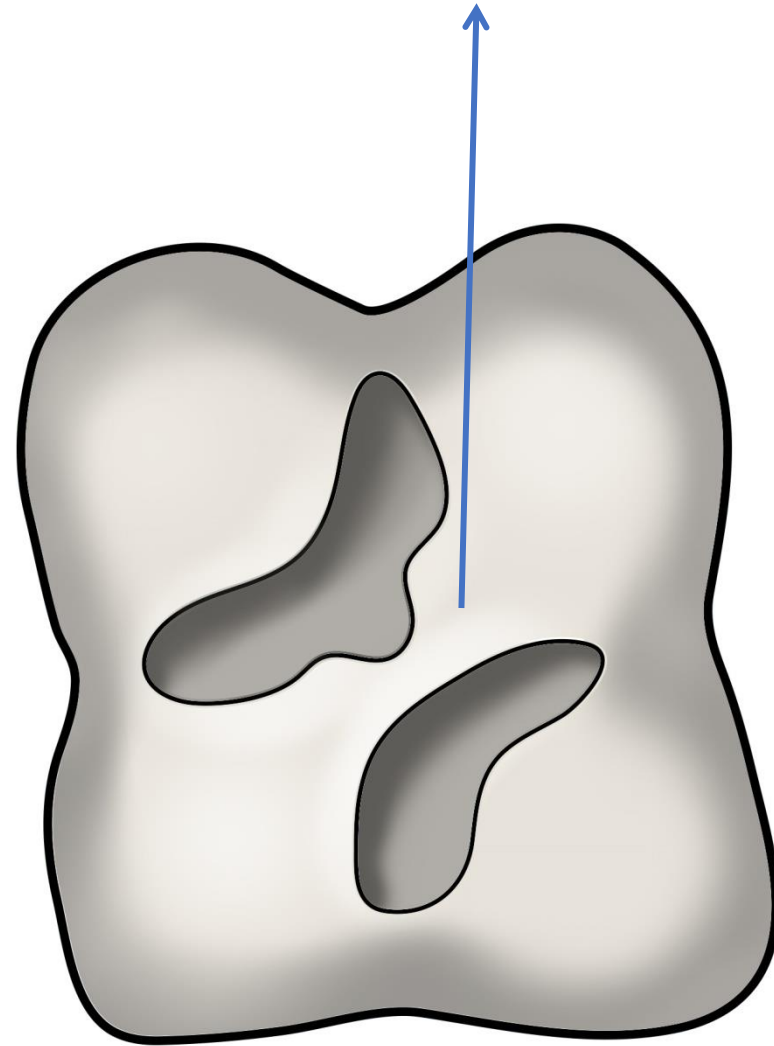
orally

vestibulary

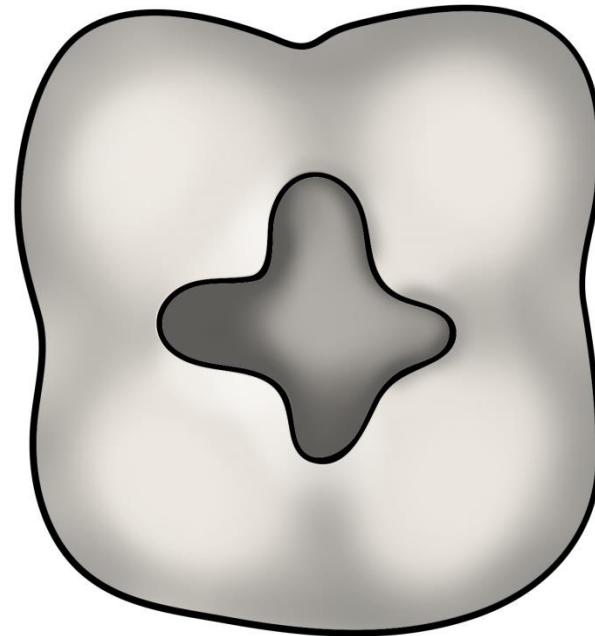
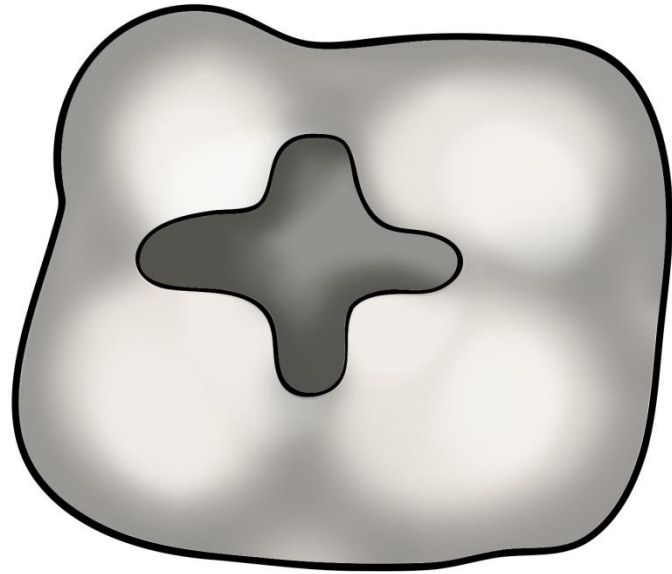
First upper molar

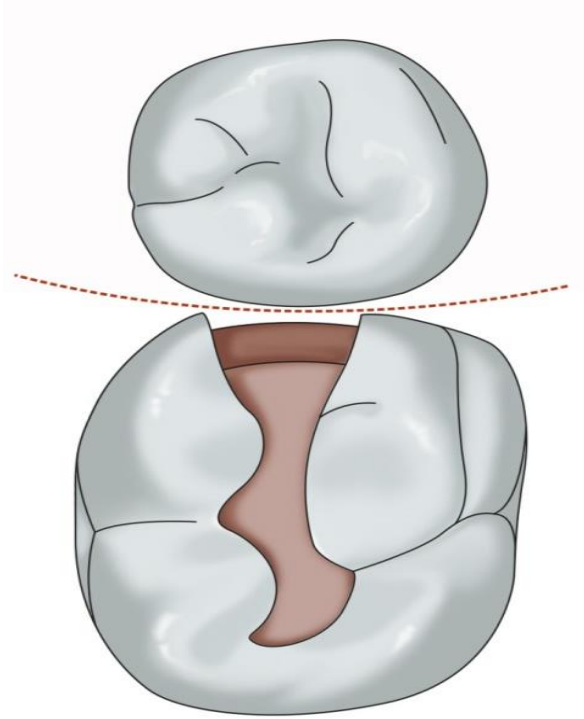


Oblique ridge



Third molars - variable



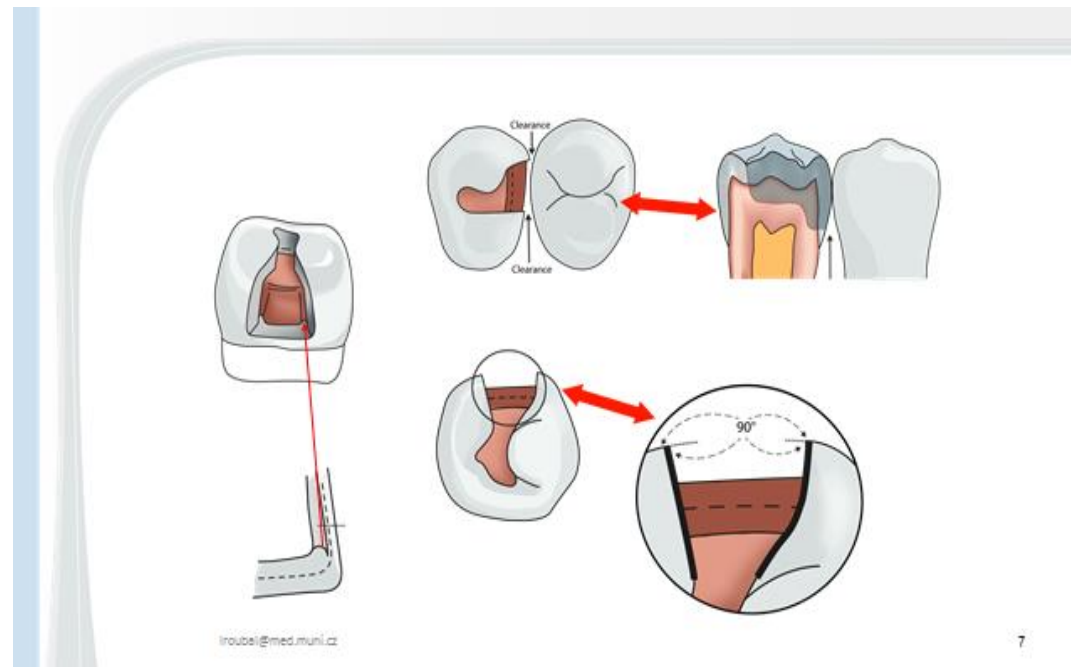


Gingival wall is parallel with the cemento-enamel junction and it is situated approx. 0,5 mm below free gingiva.

Axial walls

Study the contact area (contact point):
The axial walls (cavosurface margins) are approx. 0,5 mm vestibular and orally over this area.

The contact of the treated tooth is made of the restorative materials.



Preparation

Extension for prevention

Retention:

Box with undercuts, grooves, pins

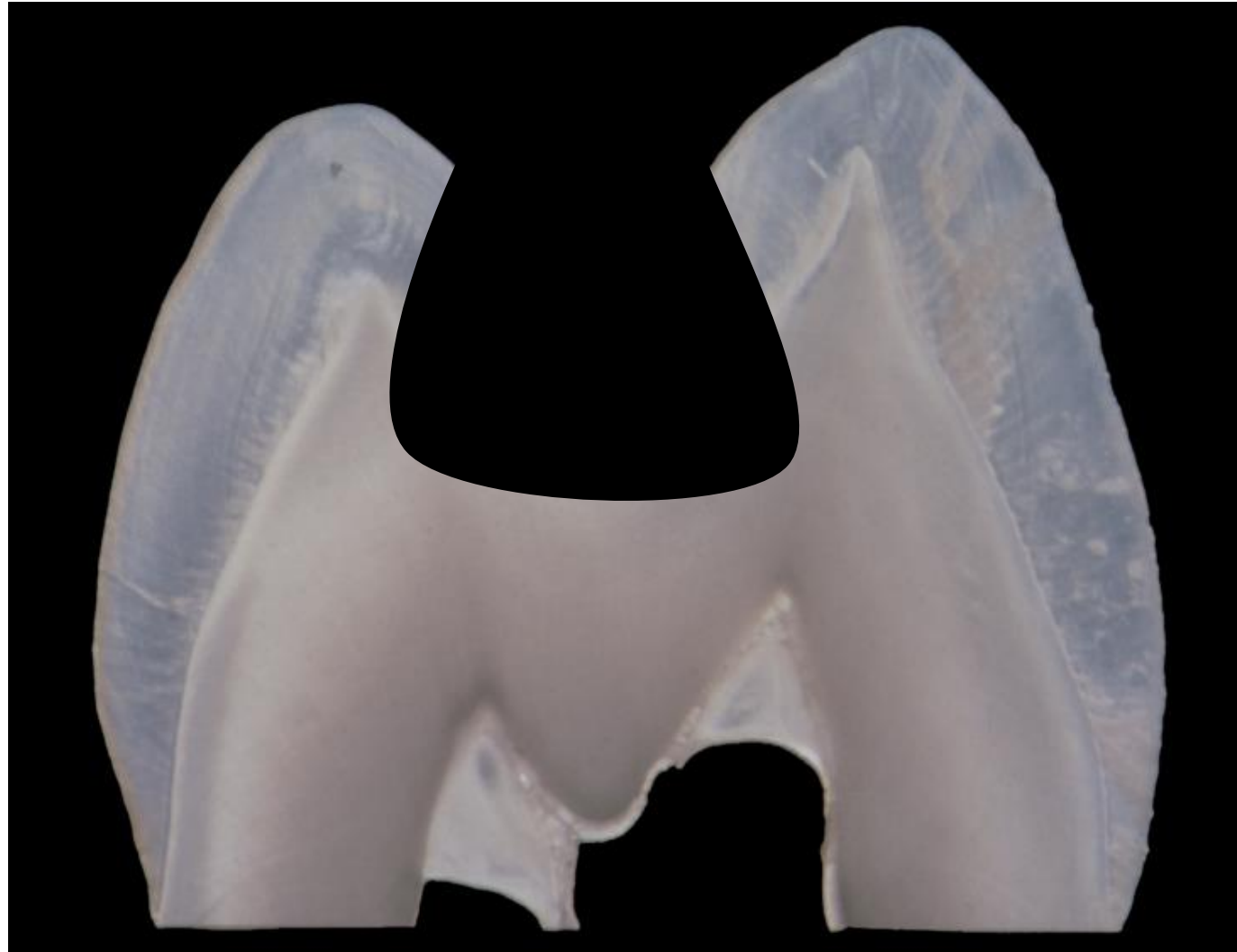
Resistance:

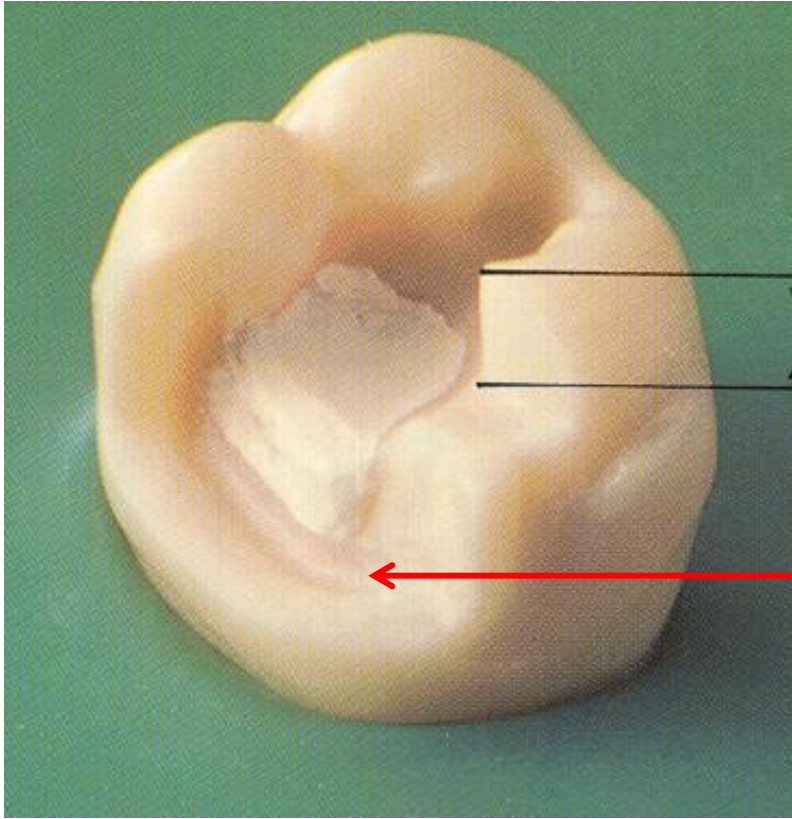
Thickness – 2mm occlusally, 3-4 mm when the cusp is replaced, appr.1 mm in class V.

Box



Undercut

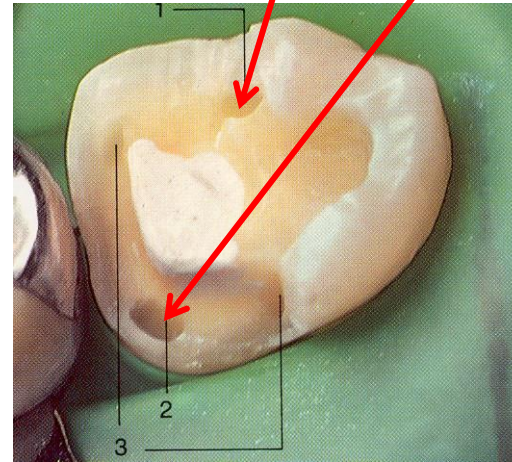


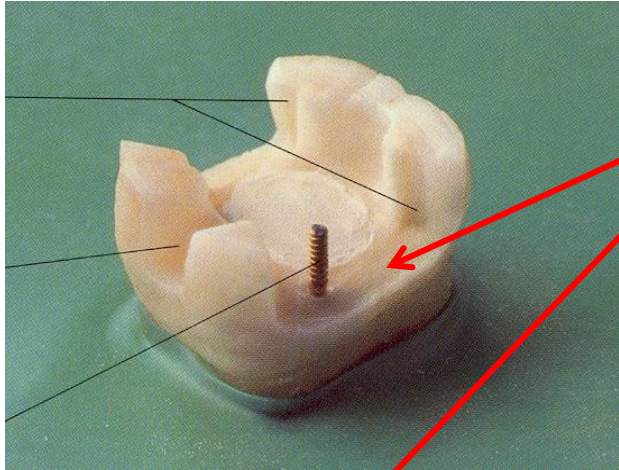


Cusp has been removed

The thickness of the filling
3 – 4 mm (at the cusp)

Retention
Grooves, pins, slots



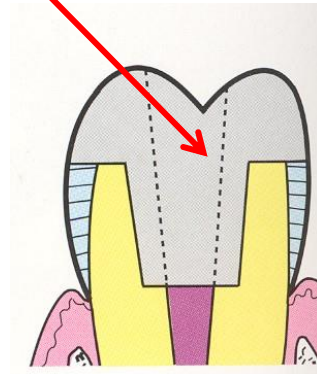
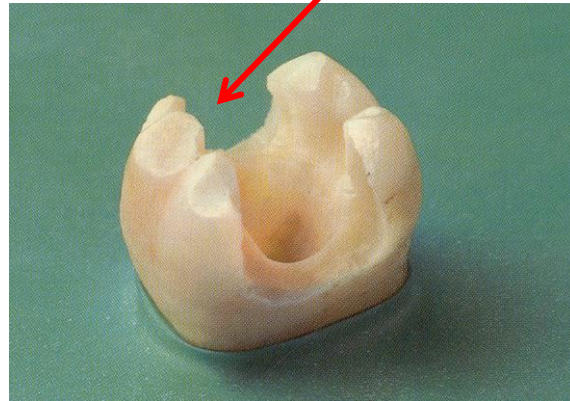
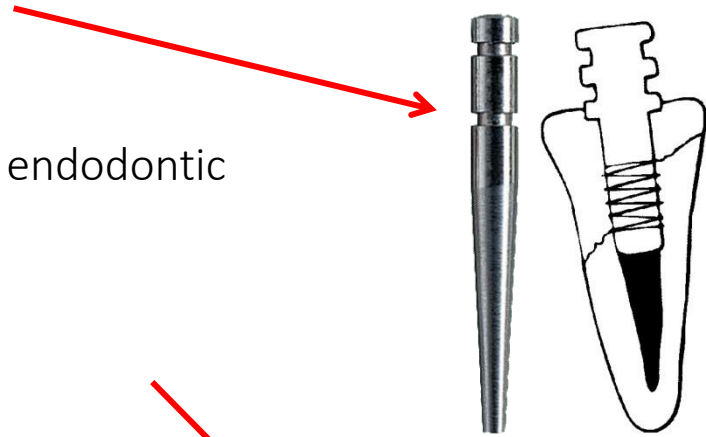


Parapulpal pins

Intrapulpal posts (root canal posts)



Retention in the endodontic cavity



Resistance

Depth 1,5 – 2 mm

The enamel is always supported with dentin

The cavosurface margin till $\frac{1}{2}$ distance of the bottom of the fissure and the cusp

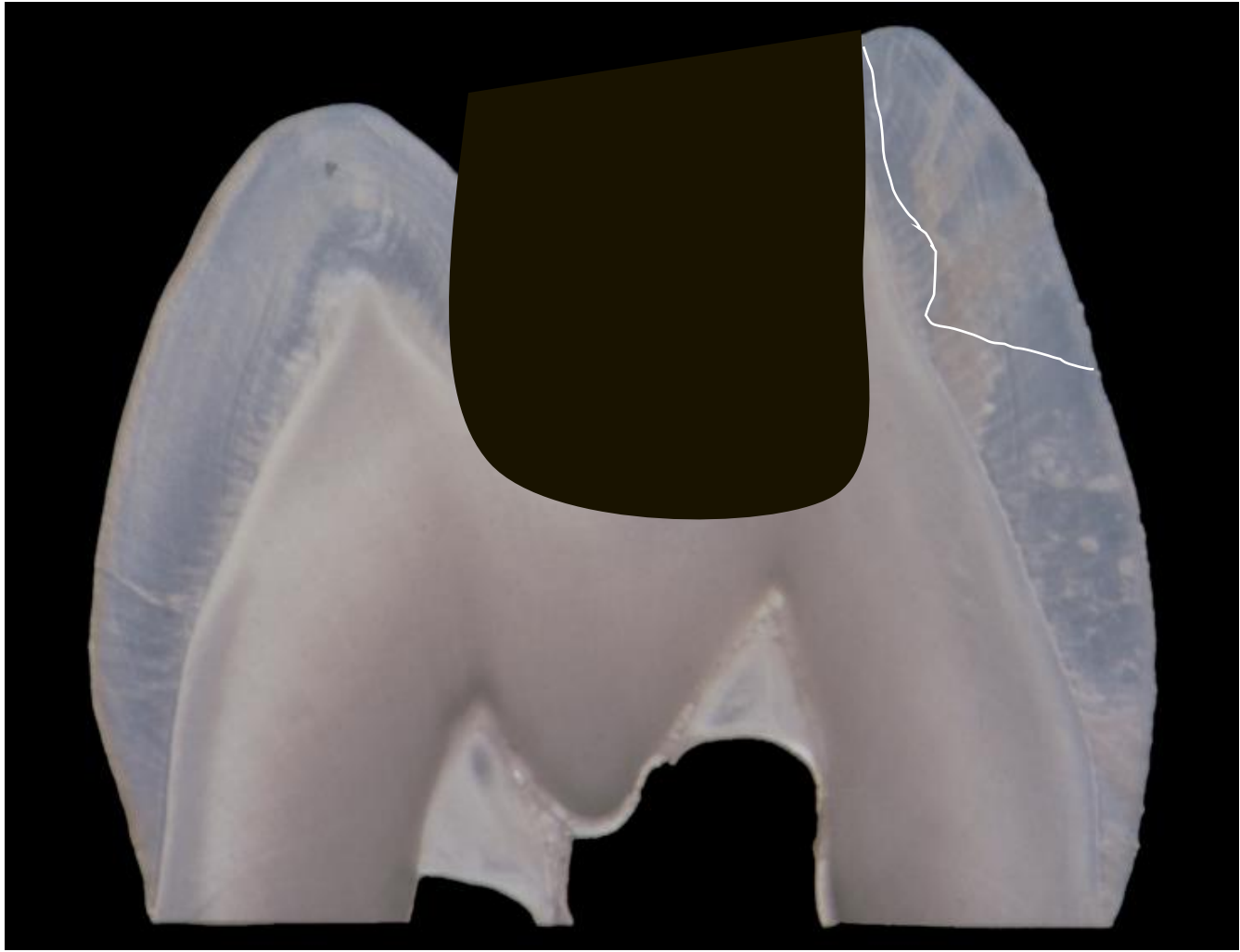
No sharp edges

Resistance

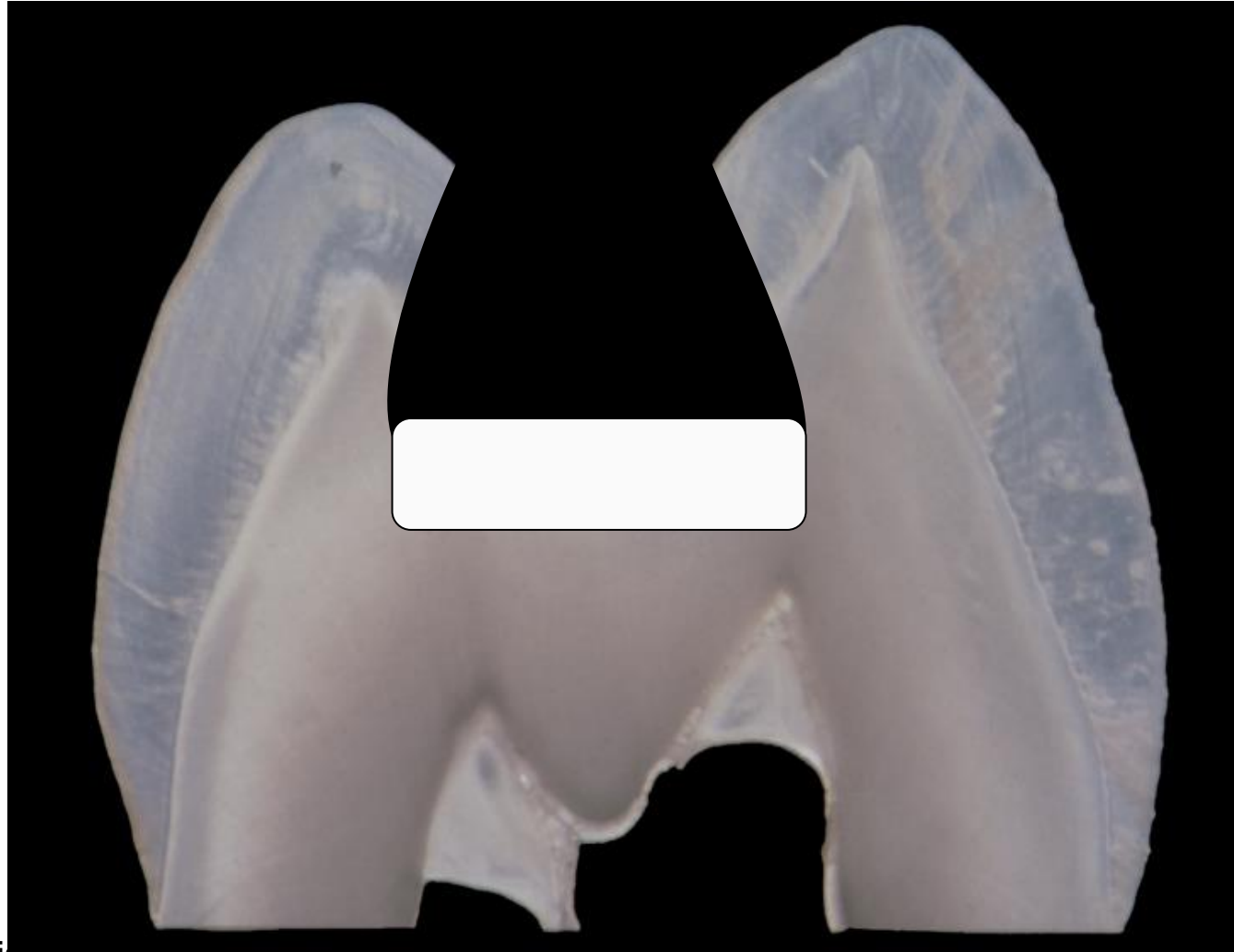
- Proximal ridges must not be undermined!
- Enamel must be supported with dentine
- No sharp edges!

$\frac{1}{2}$ distance between the bottom of the fissure and the cusp

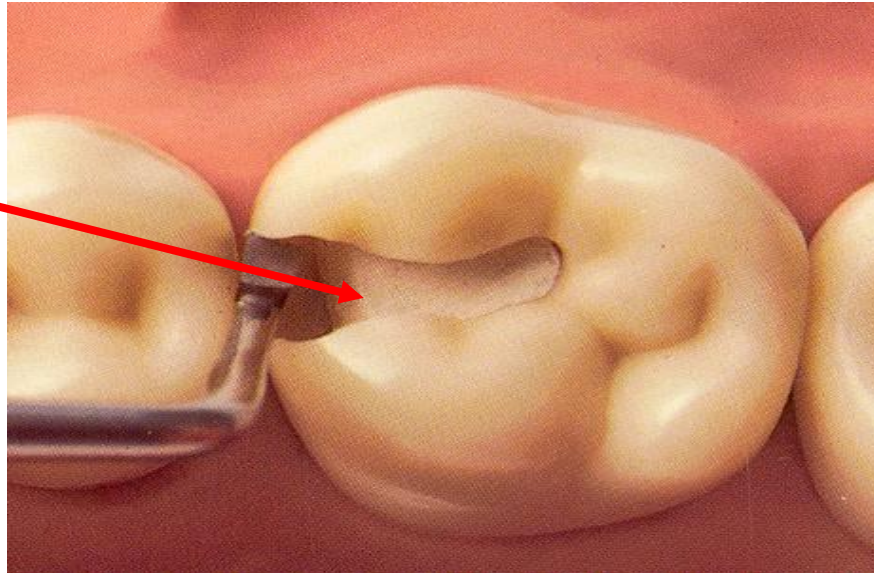




**Base is made usually
of zinkoxidphosphate cement
It is placed only on pulpal wall**

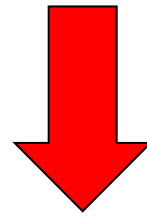


Base



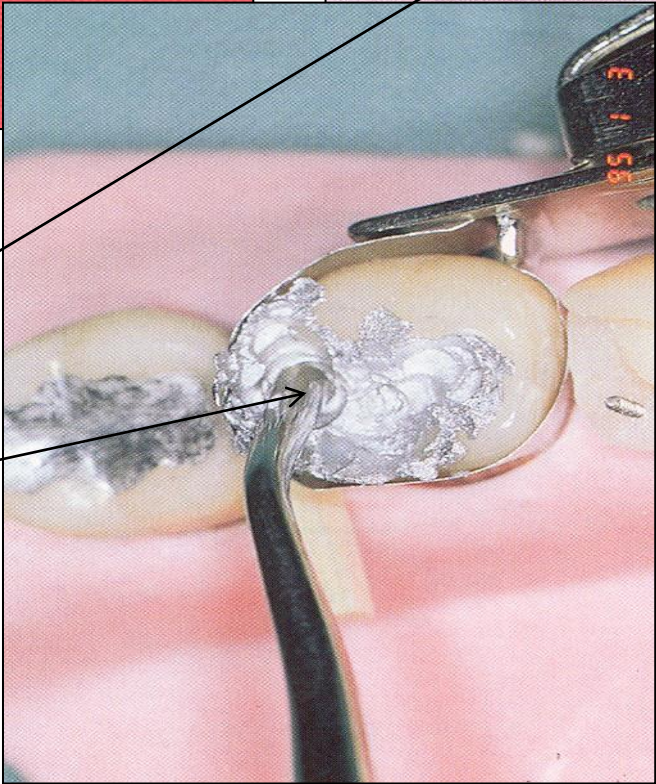
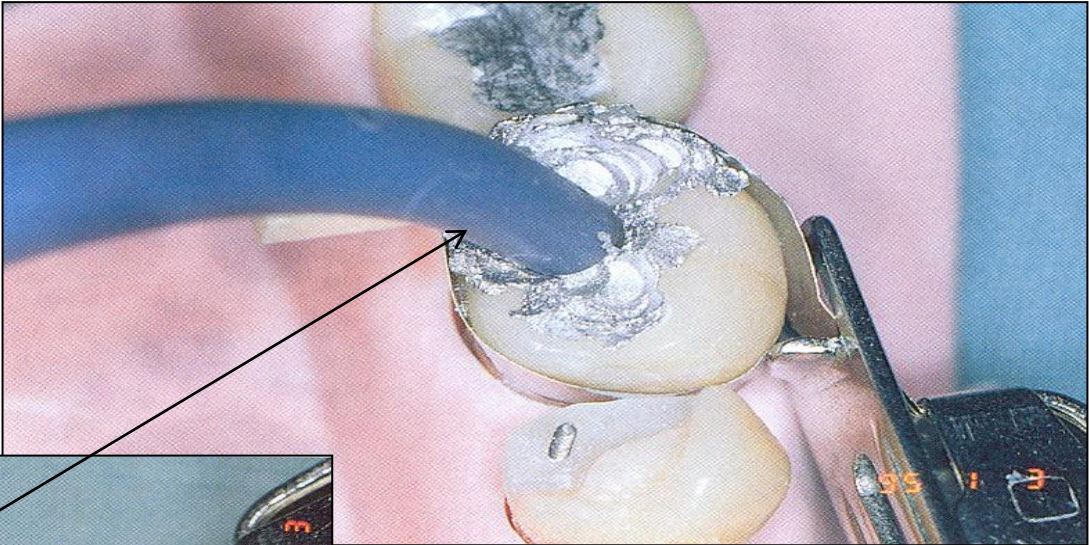
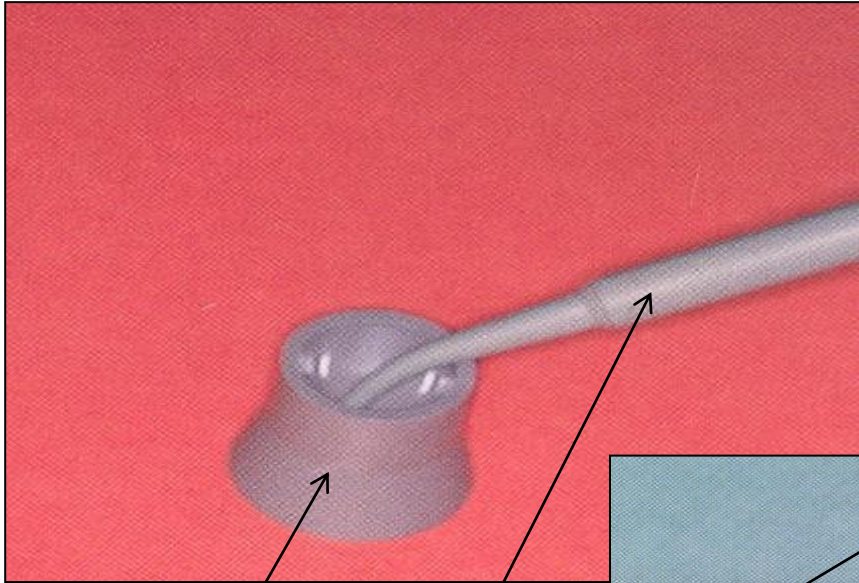
Mixing of amalgam

- **Hand mixing (obsolete)**
- **Power driven trituration**



Amalgamators

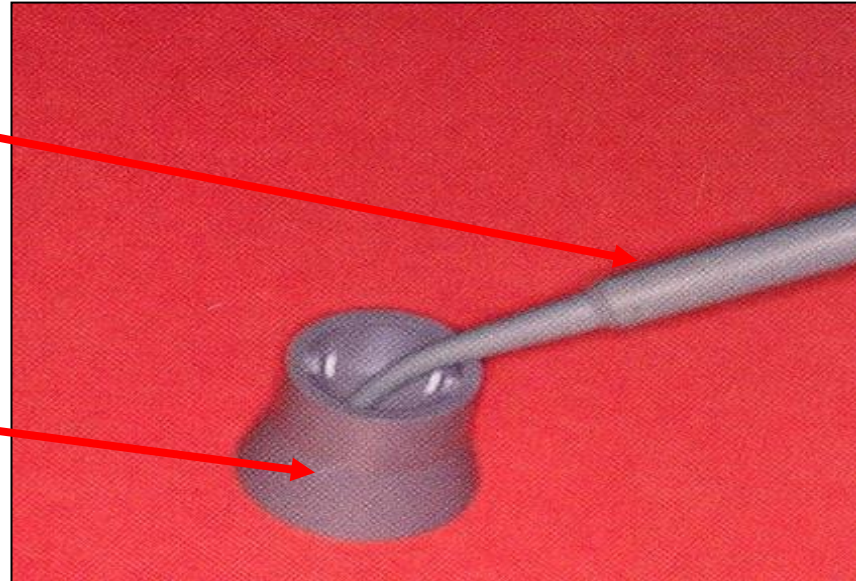


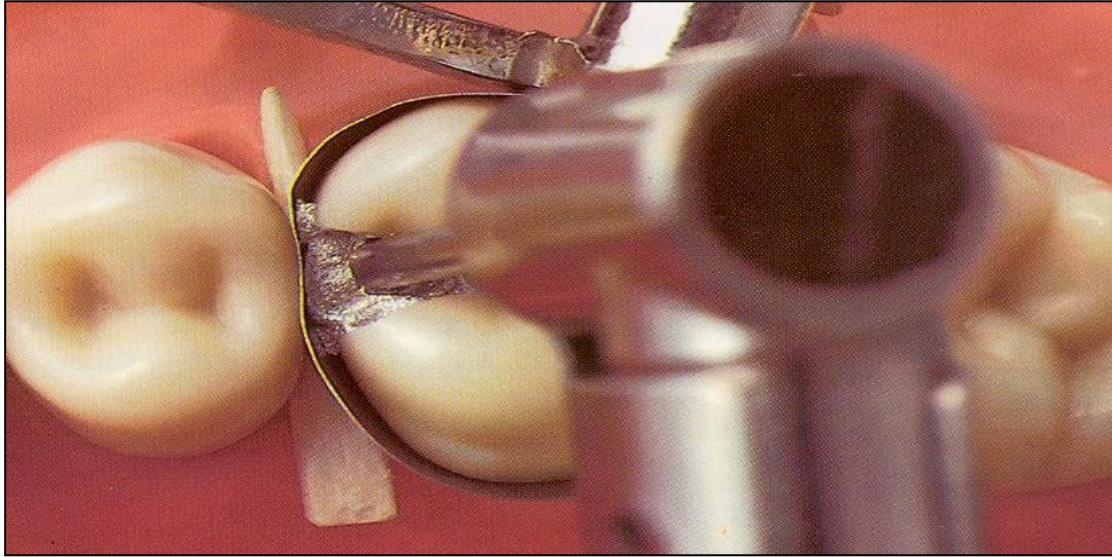


Cup
Amalgam gun
Condensor

Amalgam gun

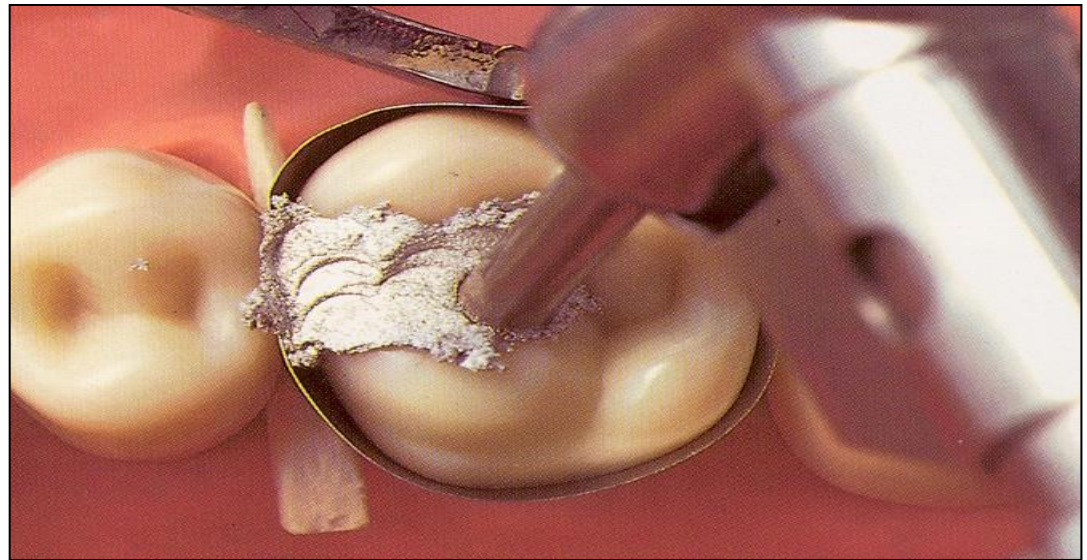
Crucible (cup)





Power driven condensation

handpiece
condensor





Instruments

➤ **Preparation instruments**

➤ **Filling instruments**

➤ **Carvers**

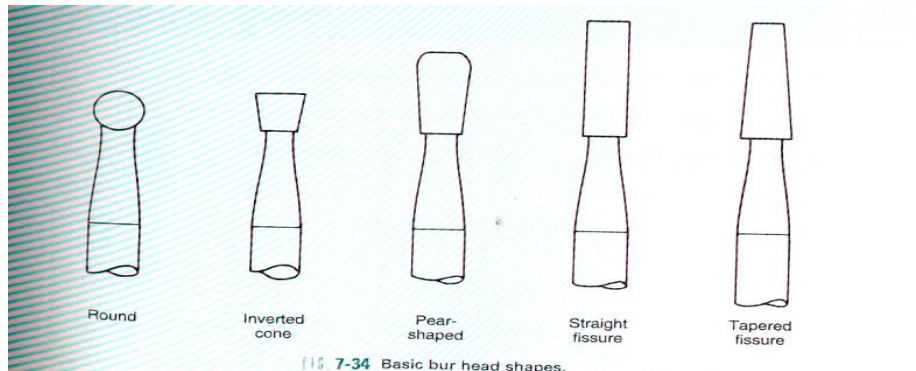
➤ **Burnishers**

Instruments

Preparation instruments - power driven

Burs

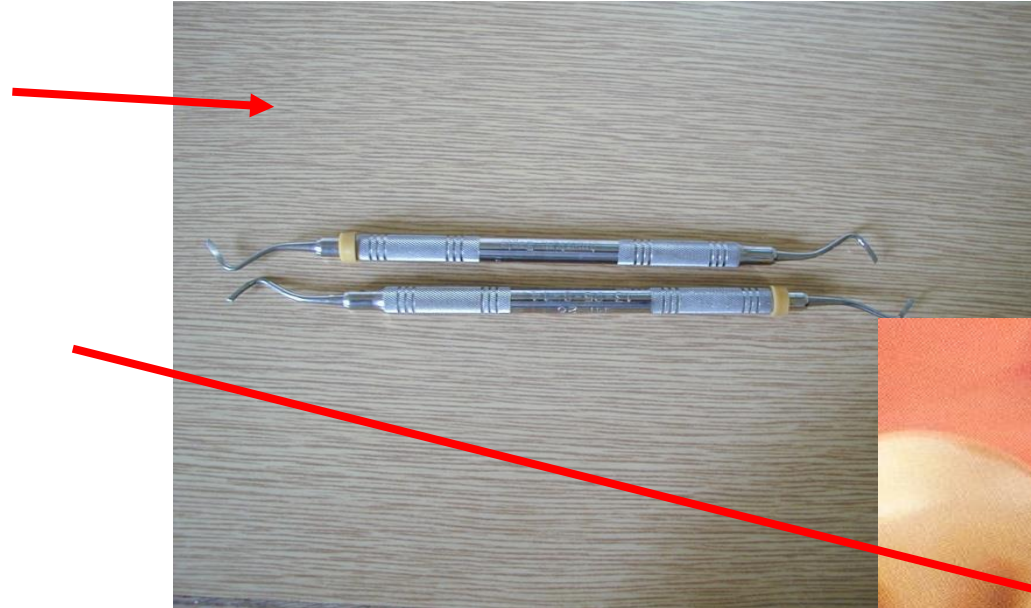
Diamonds



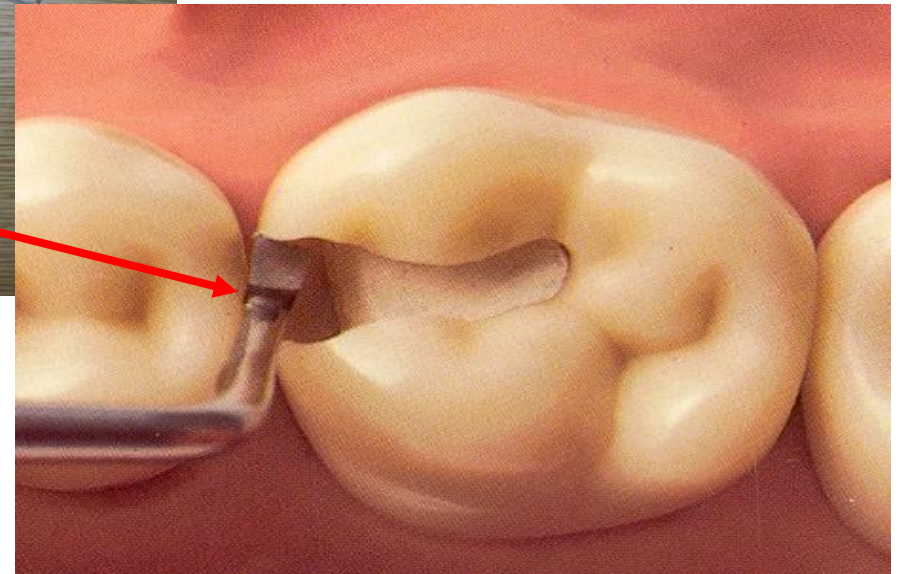
Instruments

➤ Preparation instruments - hand

Chisel



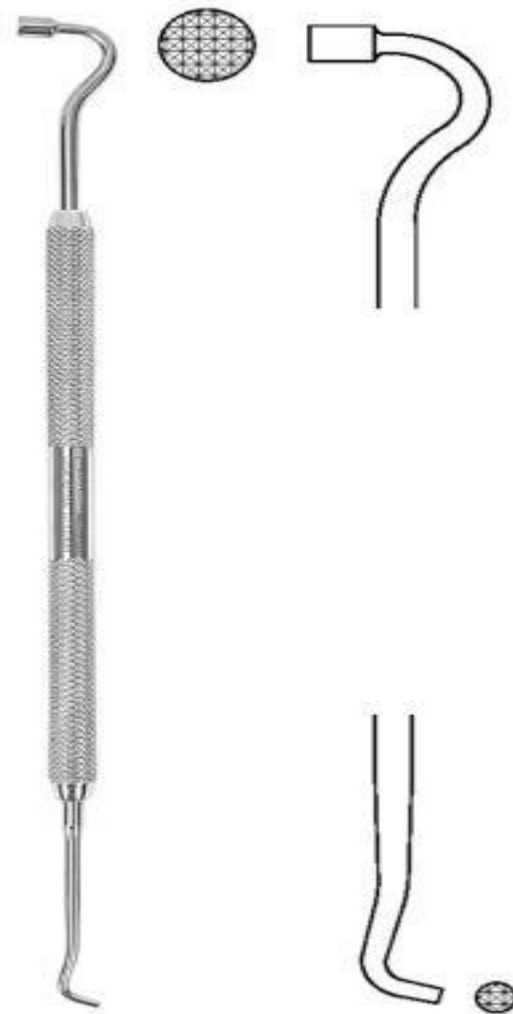
Excavator



Amalgam carrier



Amalgam carrier



Condensor with flat front



Condensor and burnisher - spatula combined



Burnisher - spatula
Angular- trough edge trough face



Carver - Frahm



Carver - Sapin

Carver - Sapin



Carver discoid-cleoid

Carver Discoid-cleoid

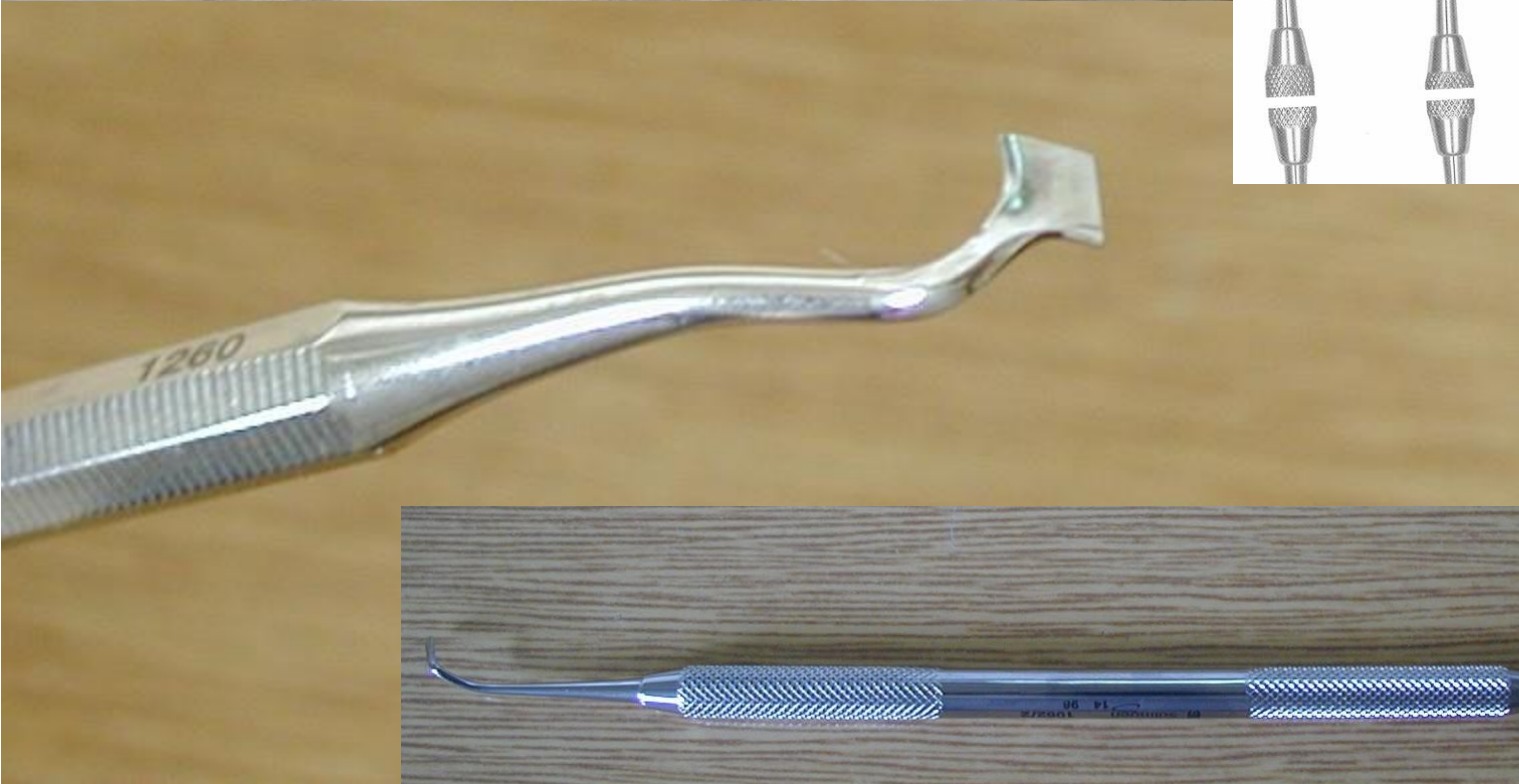


Burnisher – spatula,
angular three face



Ball condensor – used as a burnisher at most





Sapin

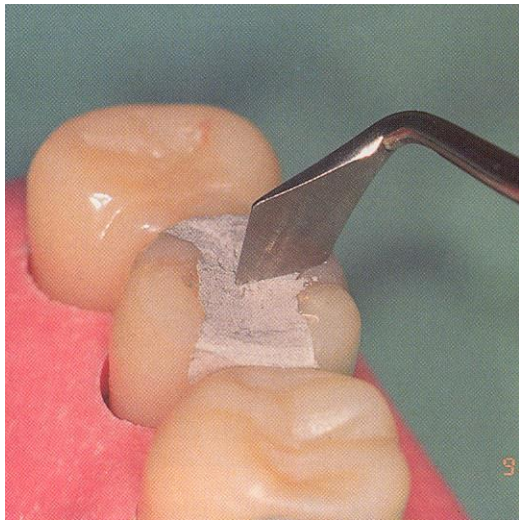
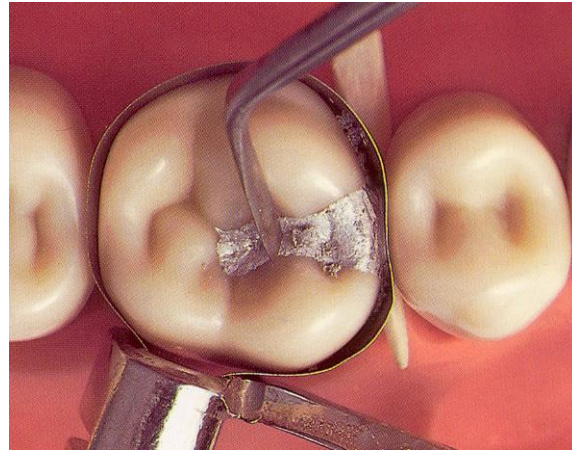
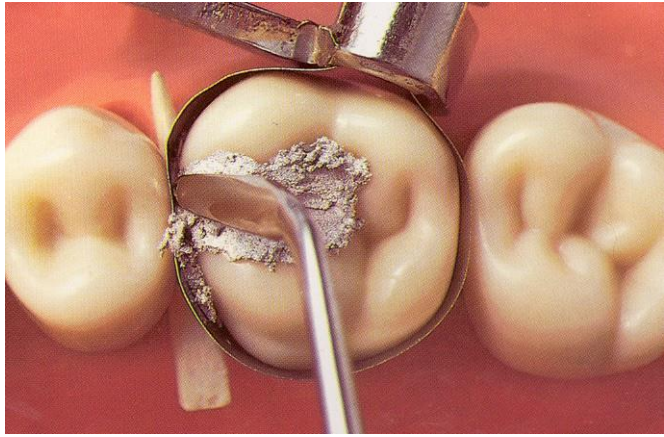


Discoid-cleoid



Amalgam carrier





Carving
Burnishing

