

Prosthetics II.

Fixed dentures

Fixed dentures

- Cemented (fixed) on/in pilots, abutment teeth.
- Inlays (inlays, onlays, overlays, partial crowns).
- Crowns
- Bridges

Inlays

- Rigid fillings
- Manufactured in a dental lab
- Direct or indirect method
 - Direct method rarely
 - Indirect method most common

Inlay

■ Crown inlay

- a part of a clinical crown is replaced

■ Root canal inlay

- The inlay is cemented into the root canal and replaces a crown (abutment tooth – stump, snag)

Crown inlay

Material

- *Composit*
- *Ceramics*
- *Metal Alloys*



Crown inlays

Indikations

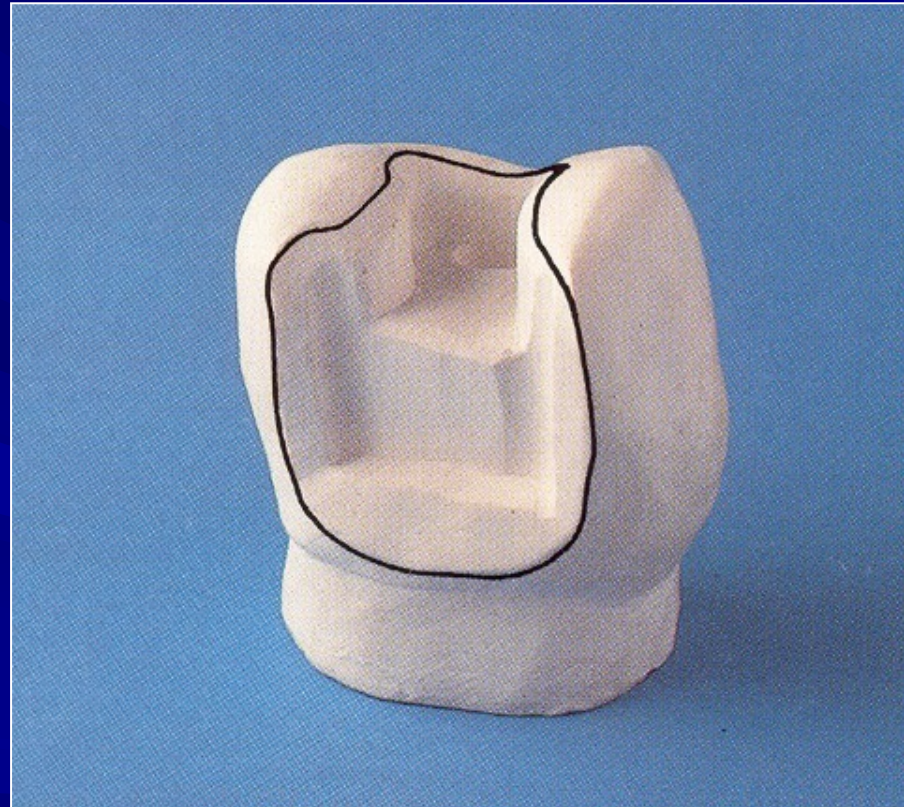
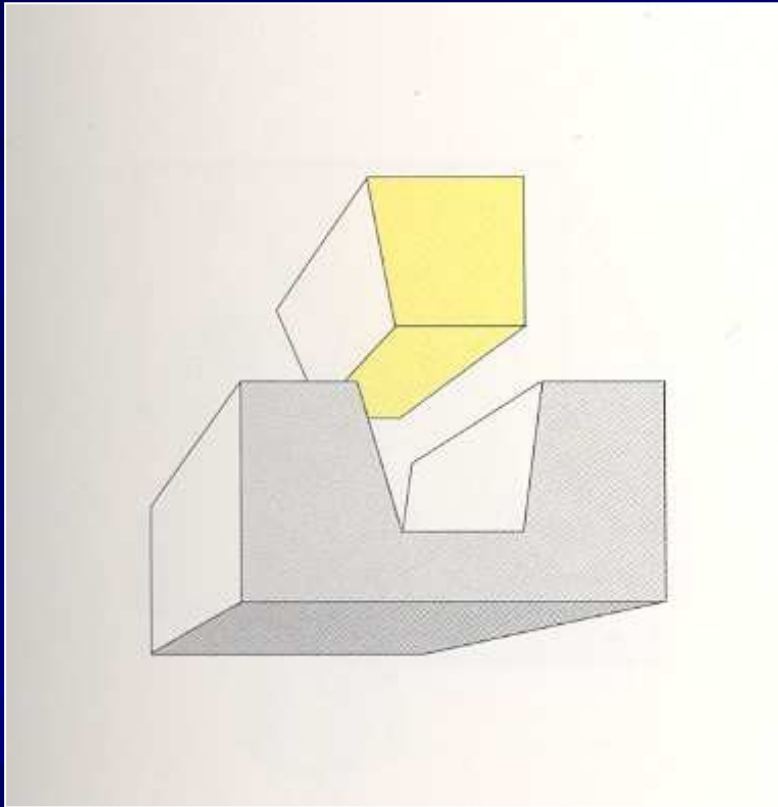
- A big lost of dental tissues
- Big interdental spaces
- Next to the crowns and bridges made of metal alloy

Crown inlays

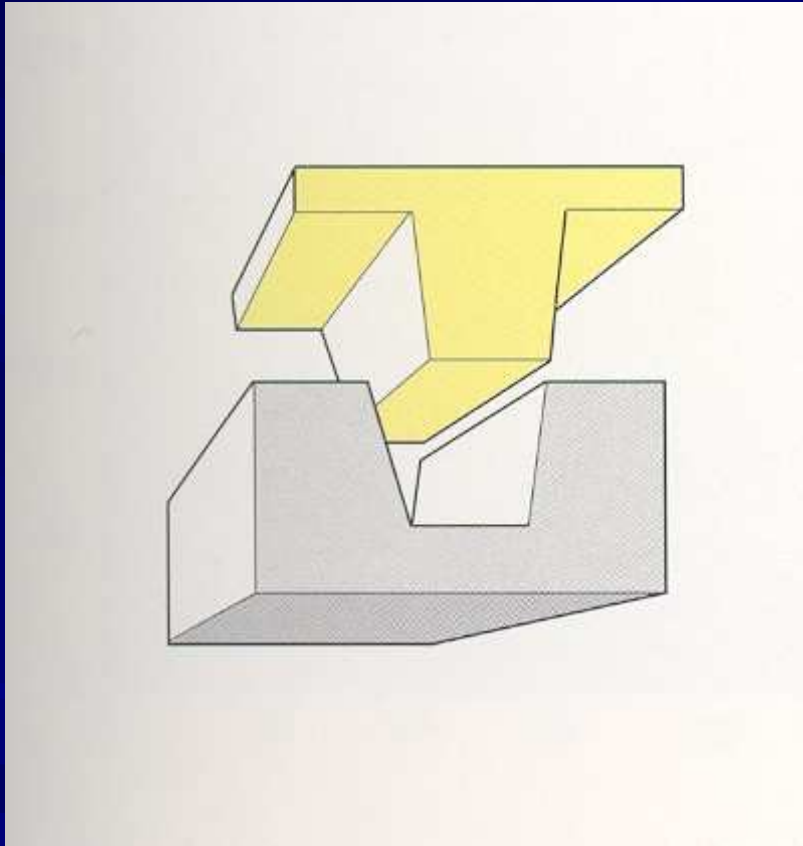
Contra - indication

1. *Too small - shallow (flat) cavities*
2. *High caries risk*
3. *Frontal area (metallic)*

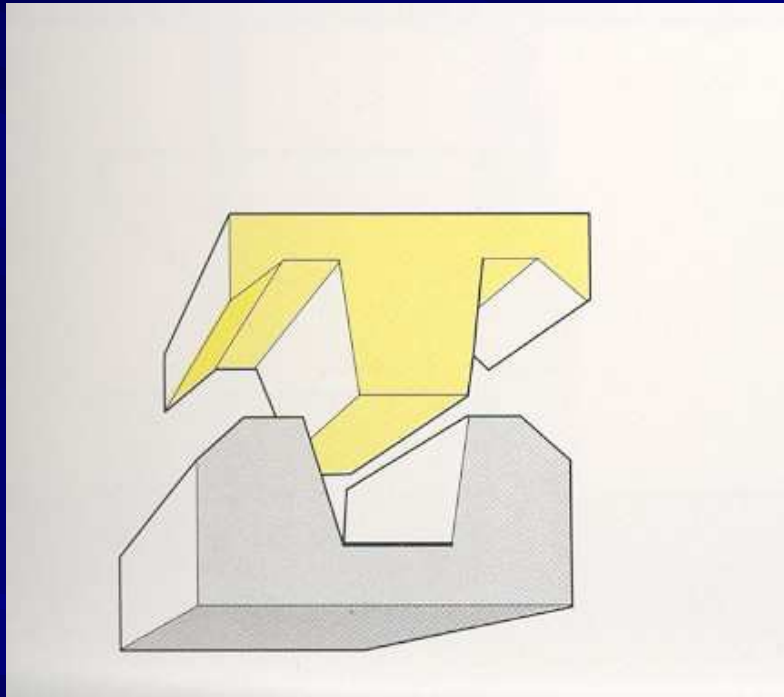
Inlay



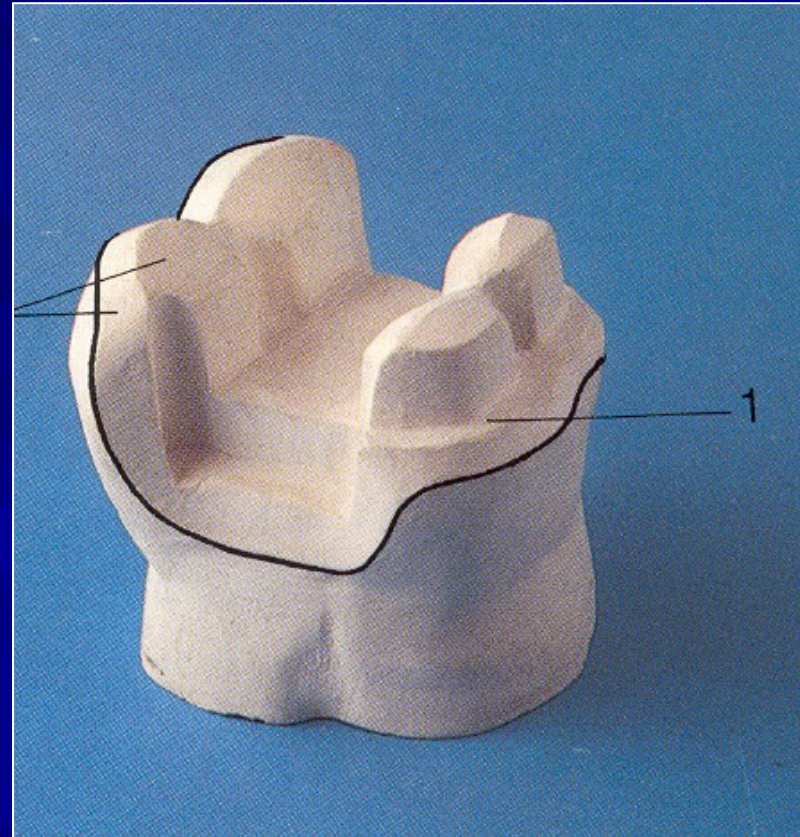
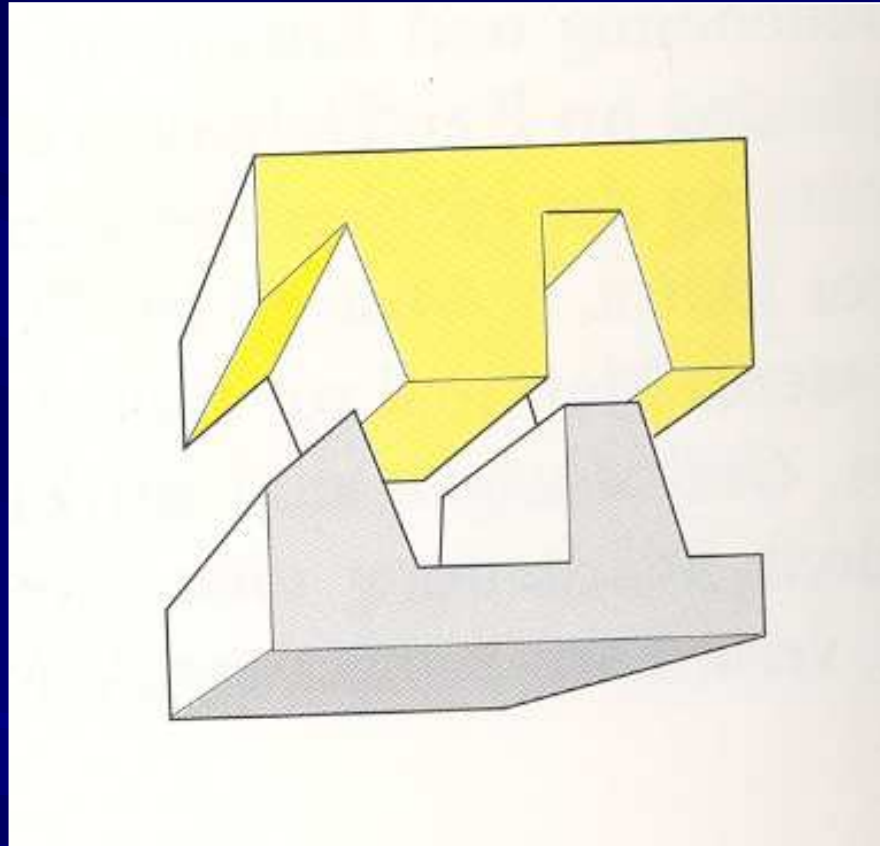
Onlay



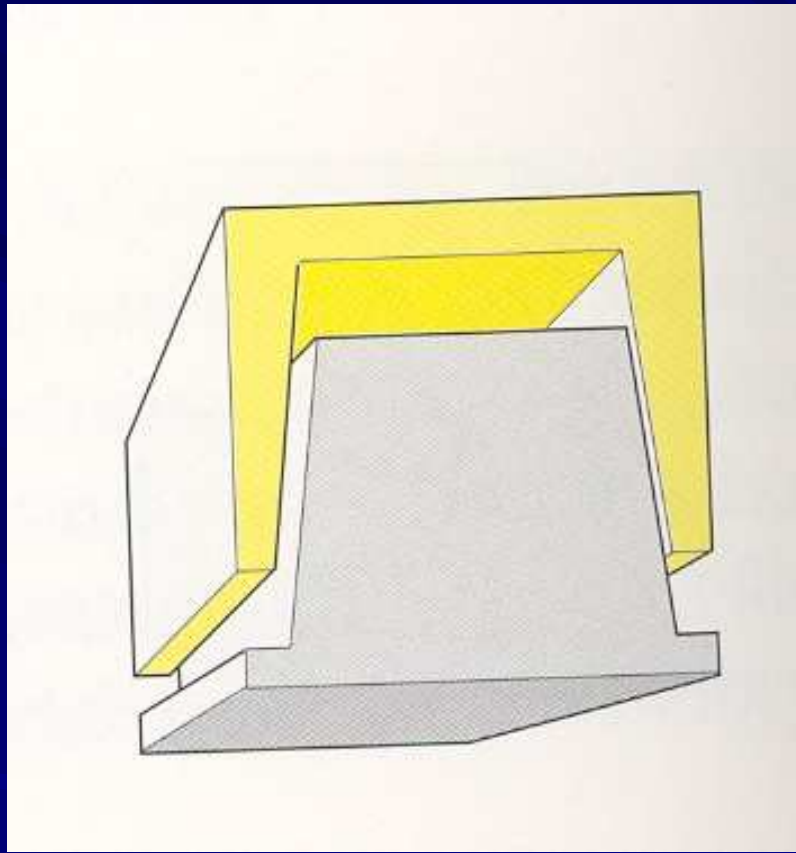
Overlay



Partial crown



Crown



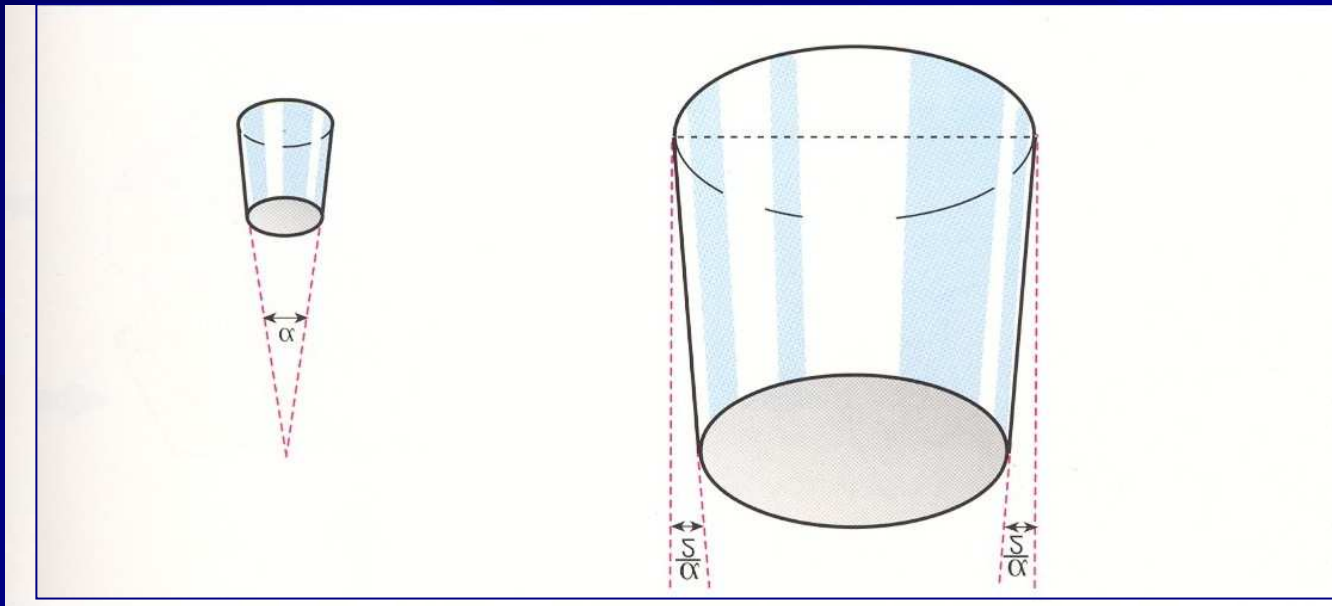
Retention of rigid fillings

Whitstand capability against axial forces:

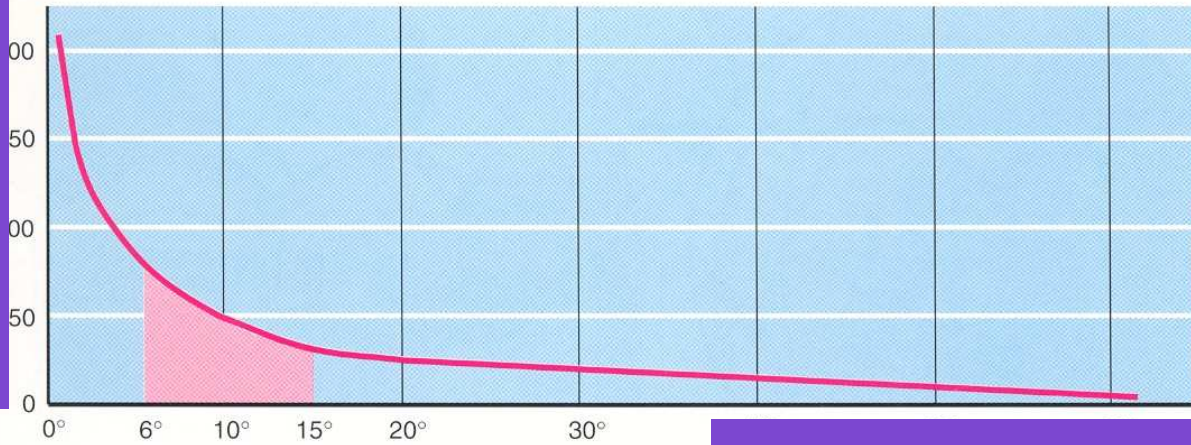
Geometry of the preparation

(facilitating shape)

Quality of the luting material

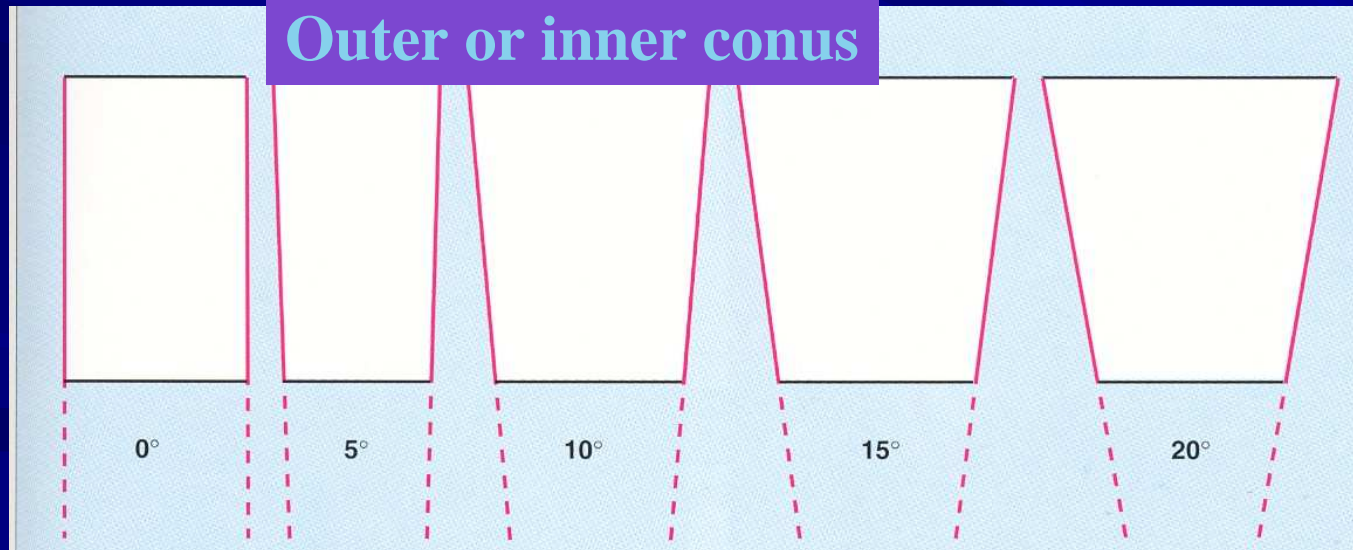


Retention g/mm²



Angle of the convergence

Outer or inner conus



Angle of convergence

- 0° - maximum
- 6° - very good
- 15° - acceptable
- 20° - insufficient

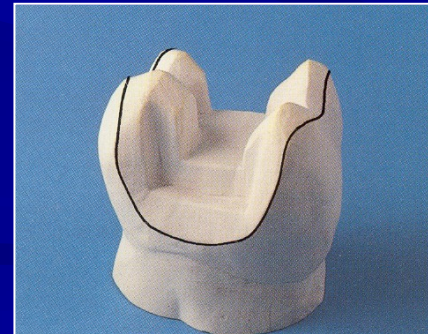
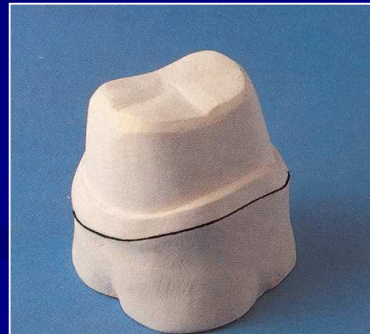
Optimum 6° - 15° .

Retaining area

- Surface of contact

Rigid filling

Inlay or crown (internal, outer, combined)



Stability of rigid fillings

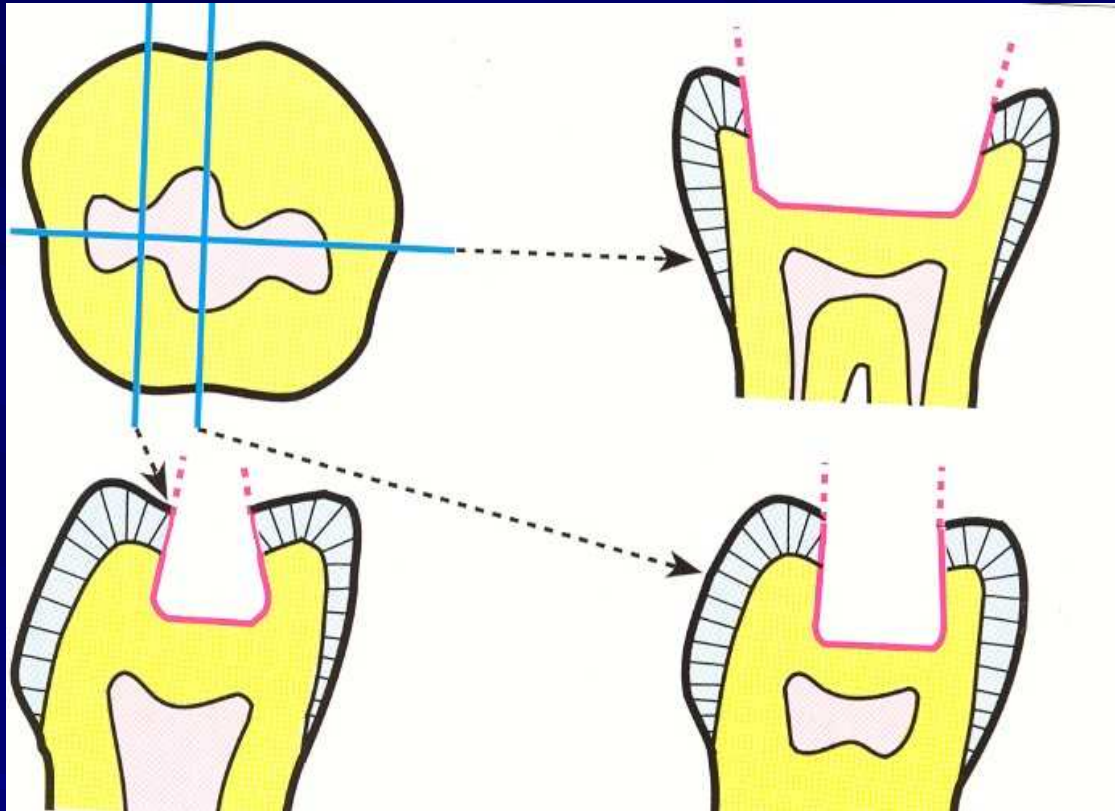
Whitstand capability against horizontal forces

Angle of convergence

Axial length contact surface

Basic rules of cavity preparation

- Box
- No undercuts
- Light divergence of the walls (facilitating shape)



Box

Undercuts

Simple box

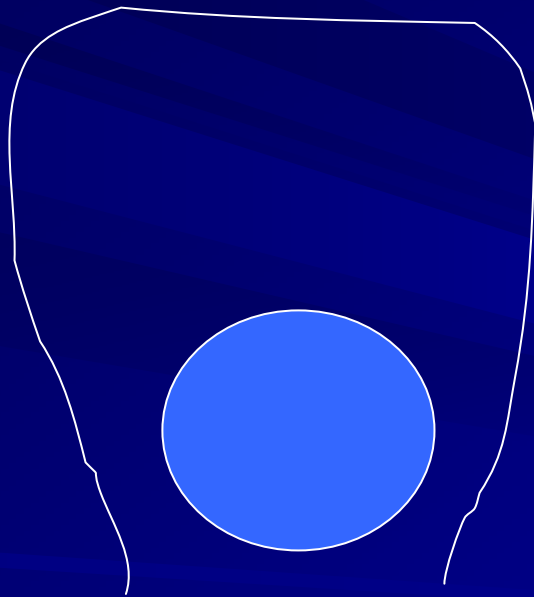
Facilitating form

Inlay of metal alloy

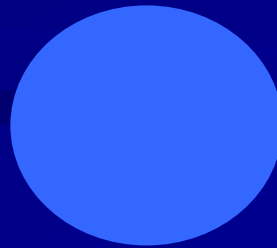
- Direct method
- Indirect method

Inlay of metal alloy

➤ Direct method



Direct modelling in the mouth
Special wax – casting wax,
(special polymers)
Sprue pin
Investment
Method of the lost wax



Inlay of metal alloy

Direct method

- Central cavities (class I., class V.)
- Root canal inlays

Inlay of metal alloy

Indirect method

Taking of the impression

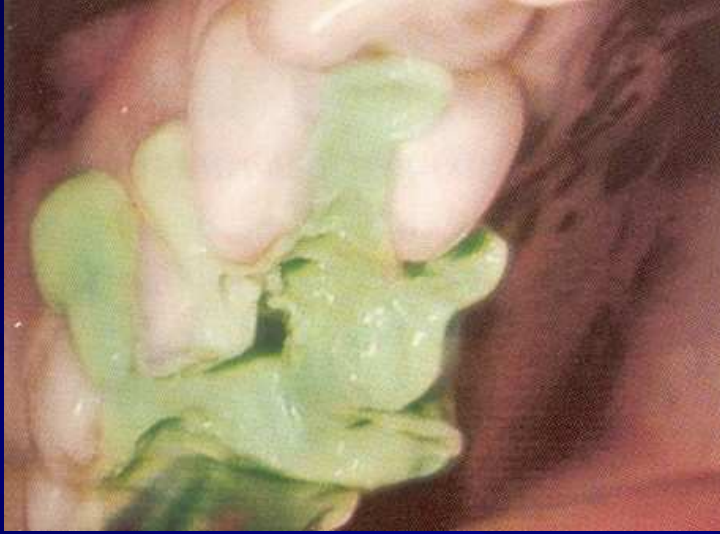
Model

Modellation of the casting wax,
(special polymers)

Sprue pin

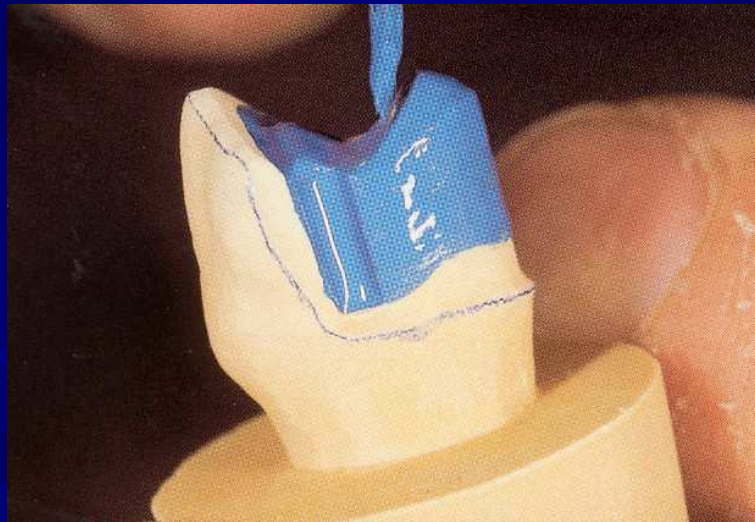
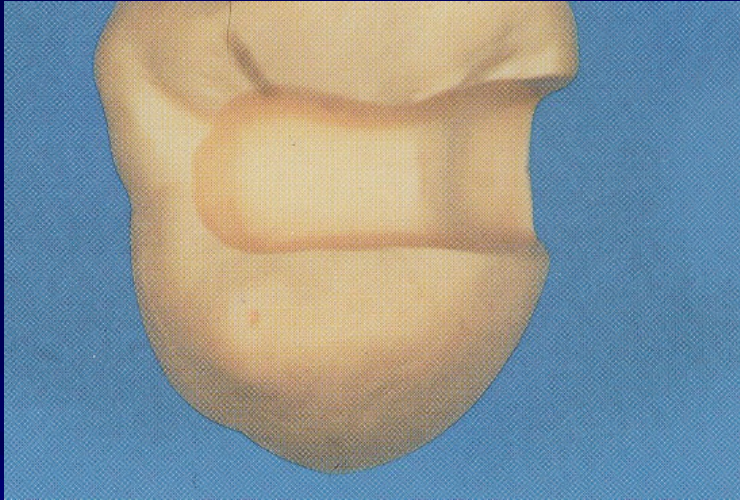
Investment

Method of the lost wax



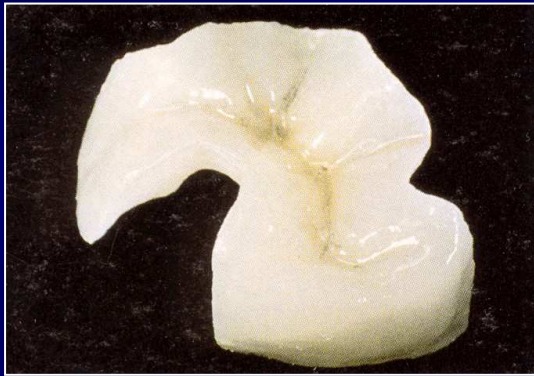








Aesthetic inlays – composite materials, ceramics



Special procedure



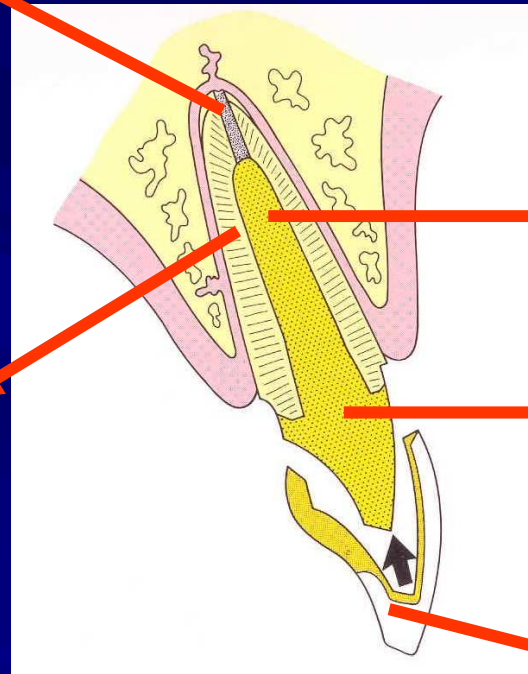
Indirect method always





Root canal inlay

Root canal filling



Root



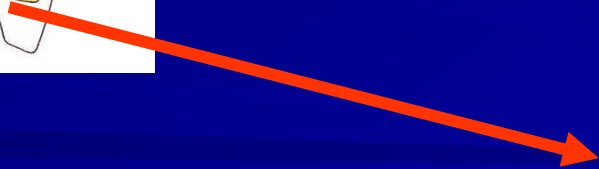
Root post



Stump, snag



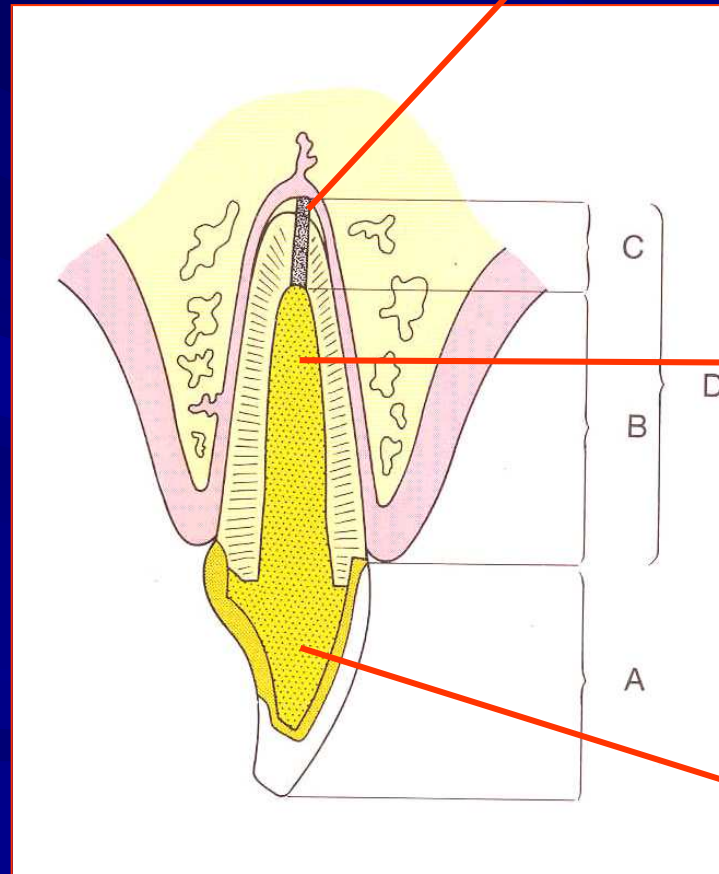
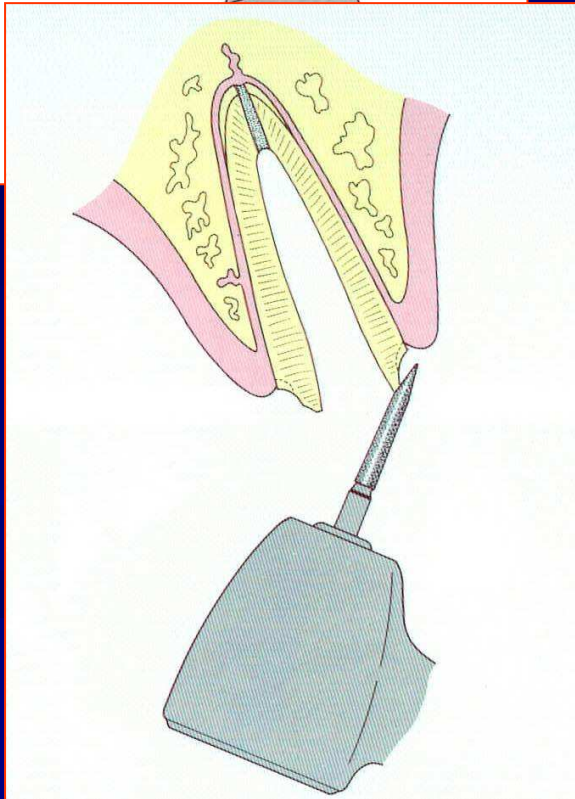
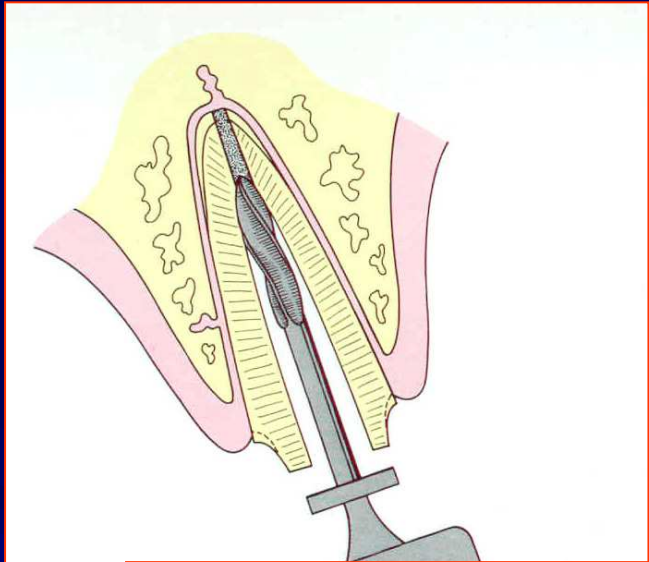
Crown



Gates, Peeso – Largo,



Preparation

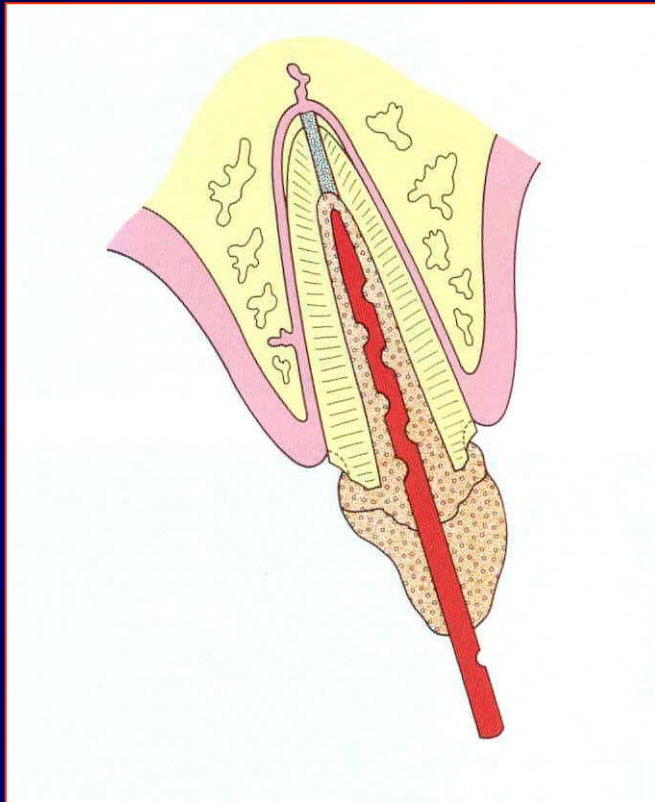


4mm at least

$\frac{2}{3}$ of the
root canal length

$\frac{1}{4}$ of the total length

Direct method



Isolation

Modelling – casting wax,
heated, flowing

Sprue pin

Investment

Method of the lost wax

(burntout in the special oven)



Indirect method

Impression

Model

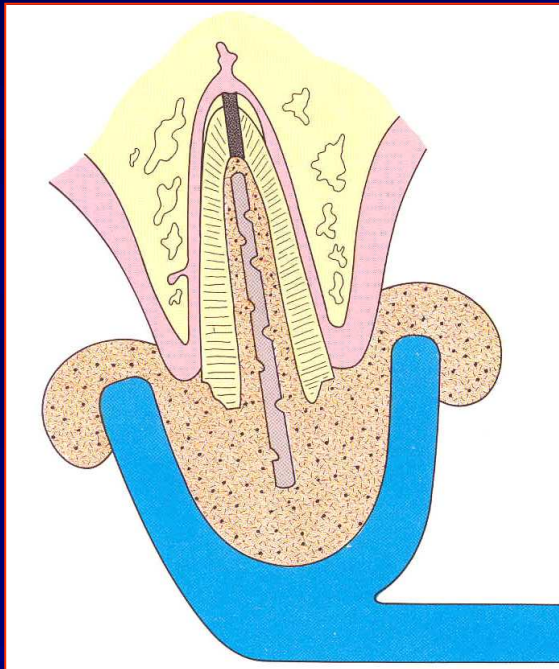
Modelling – casting wax,
heated, flowing

Sprue pin

Investment

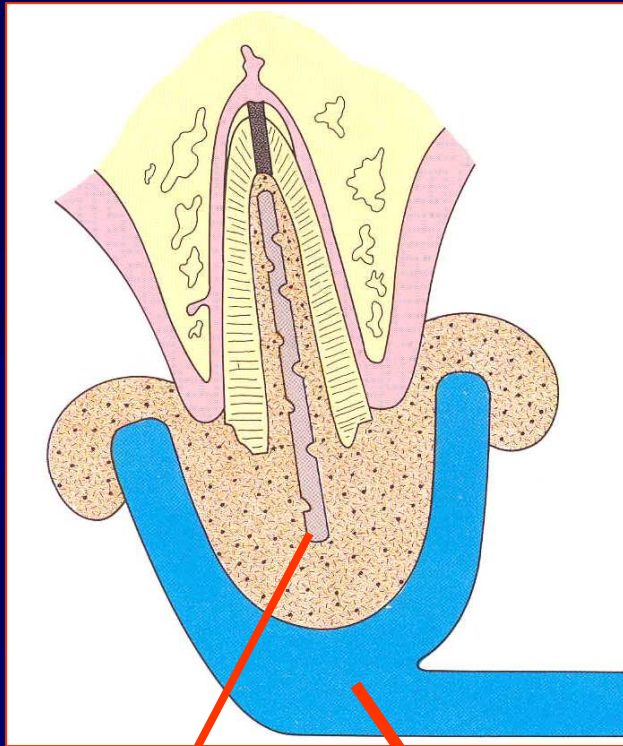
Method of the lost wax

(burntout in the special oven)



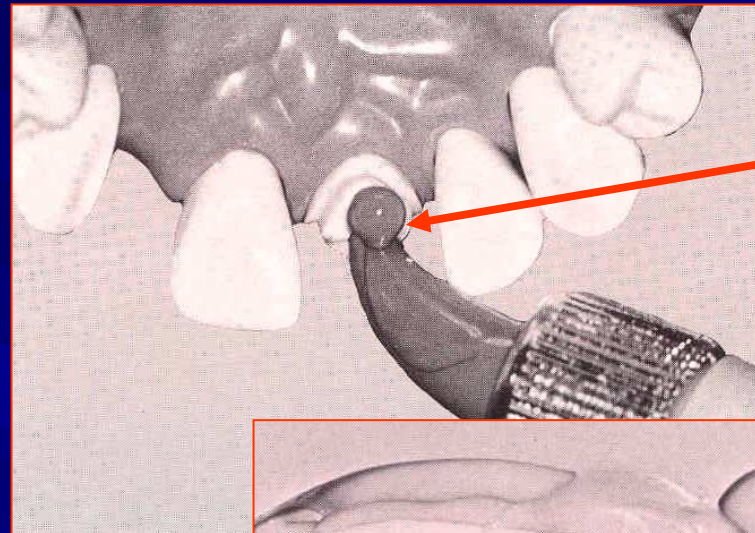
Indirect method

Impression

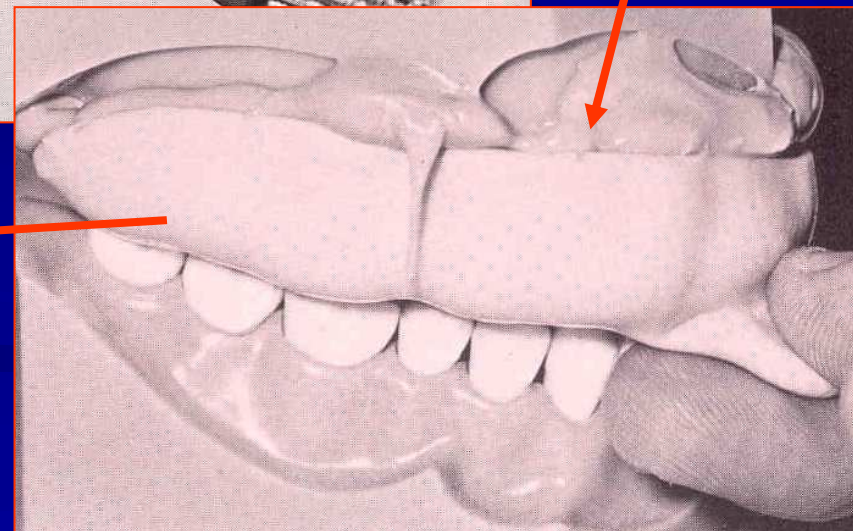


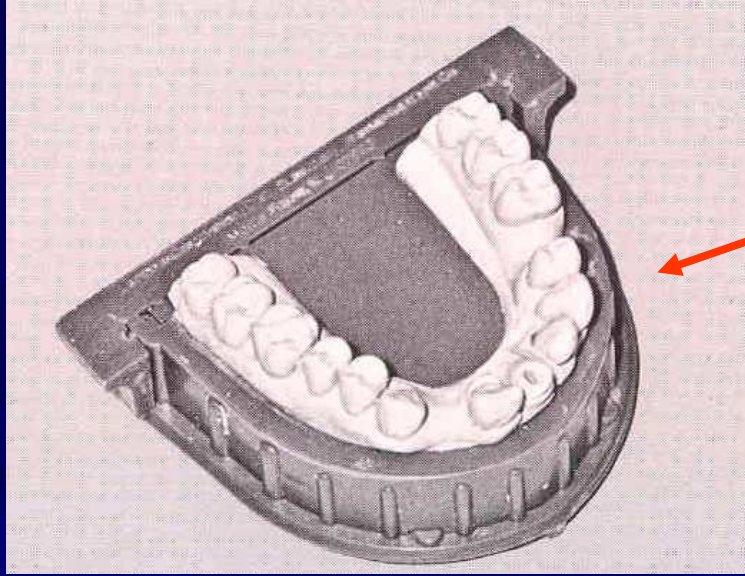
Wire

Impression tray



Impression material

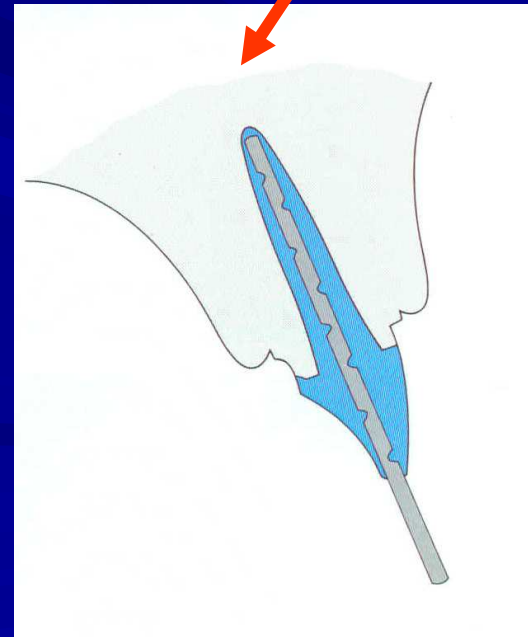
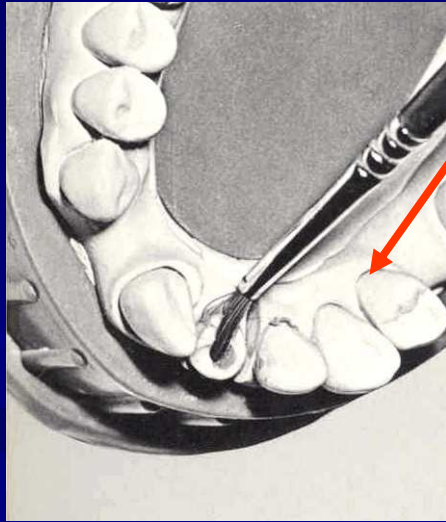




Model

Insulation

Modellation



Indirect method

Impression

Model

Modelling – casting wax,
heated, flowing

Sprue pin

Investment

Method of the lost wax

(burntout in the special oven)

