Prosthetic III.

Fixed dentures

Fixed dentures

- Restore the form (and function)
- Cemented on (in the) prepared teeth
- Can not be removed

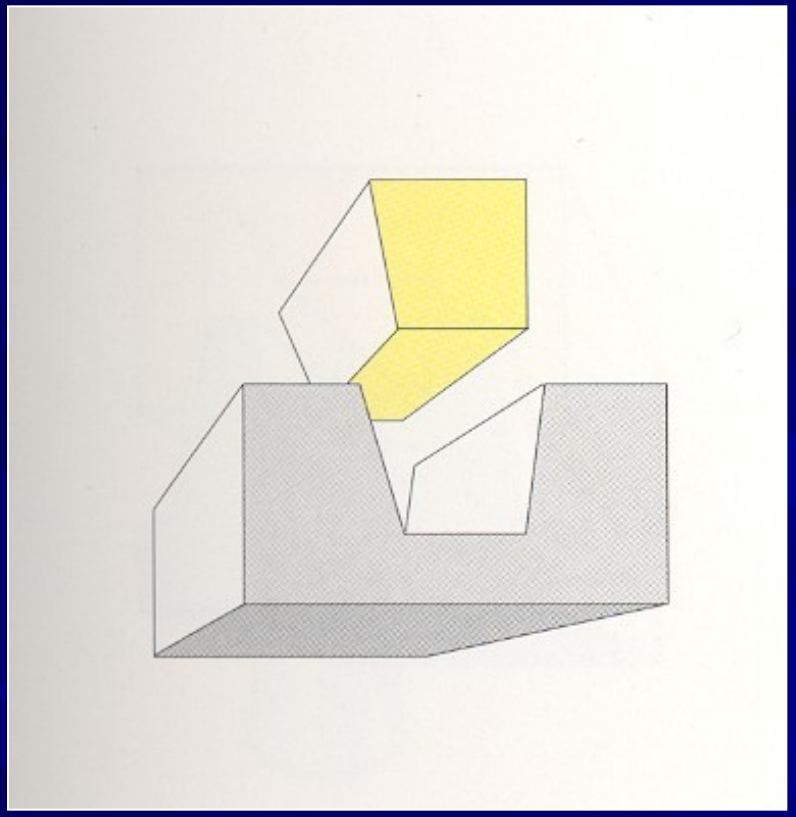
Fixed dentures

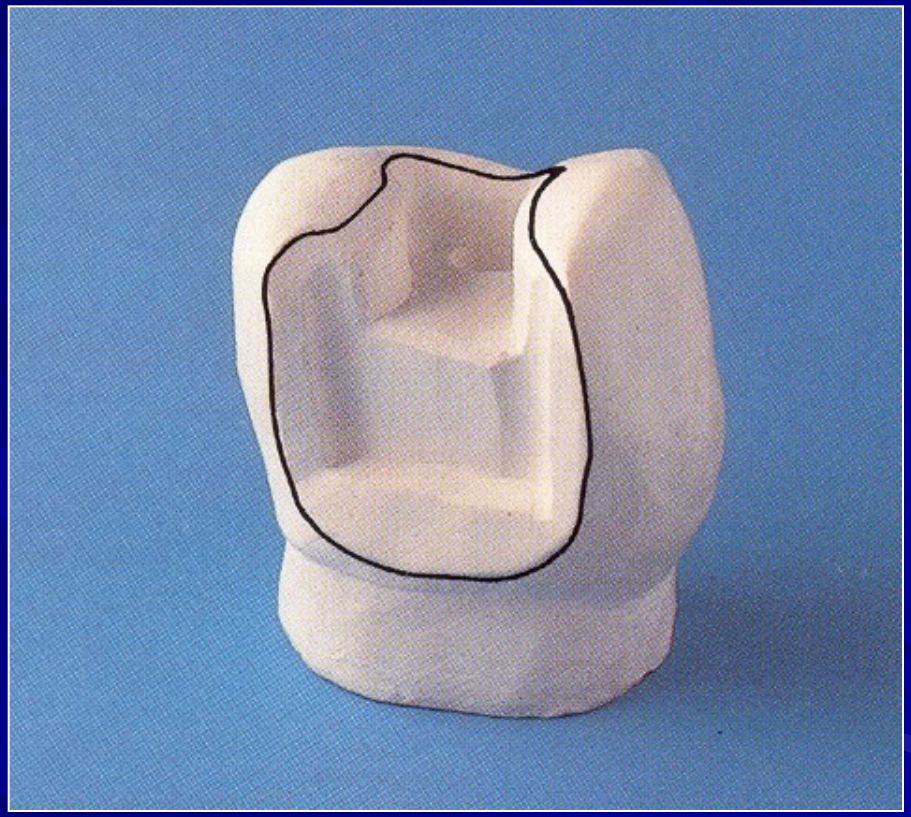
Inlays /onlays

Crowns

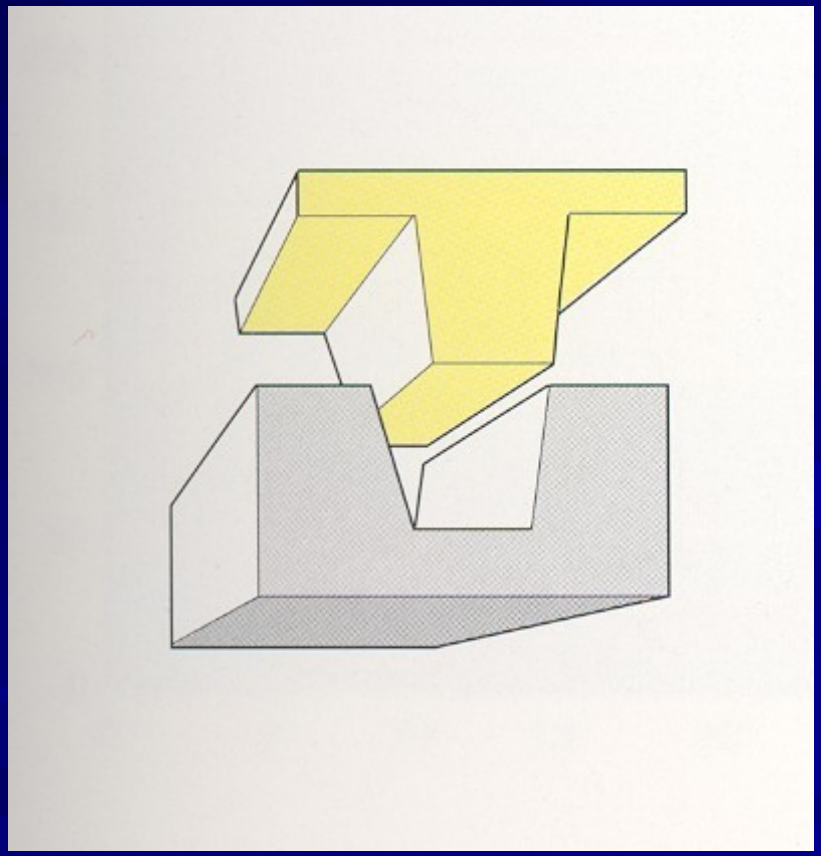
Bridges

Inlay

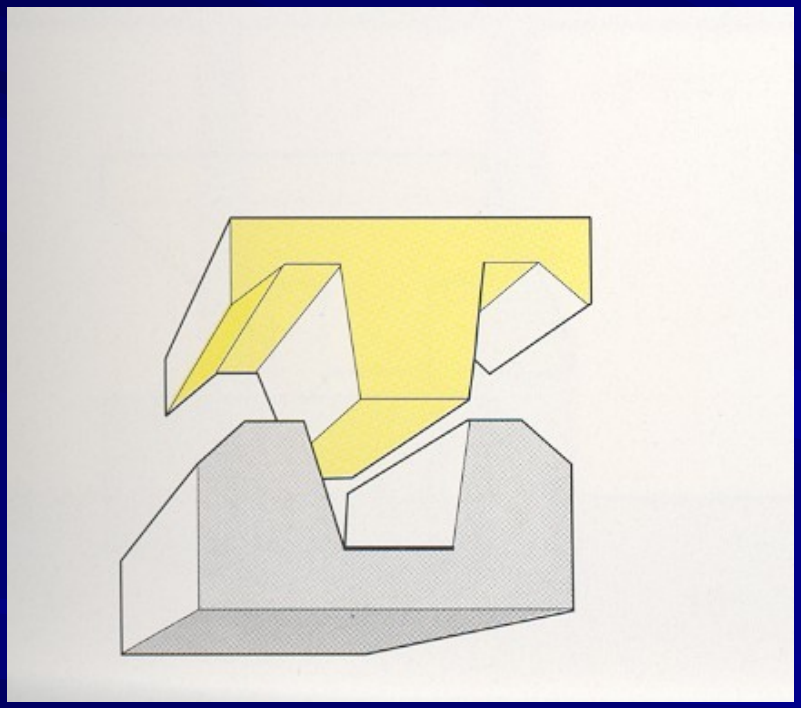




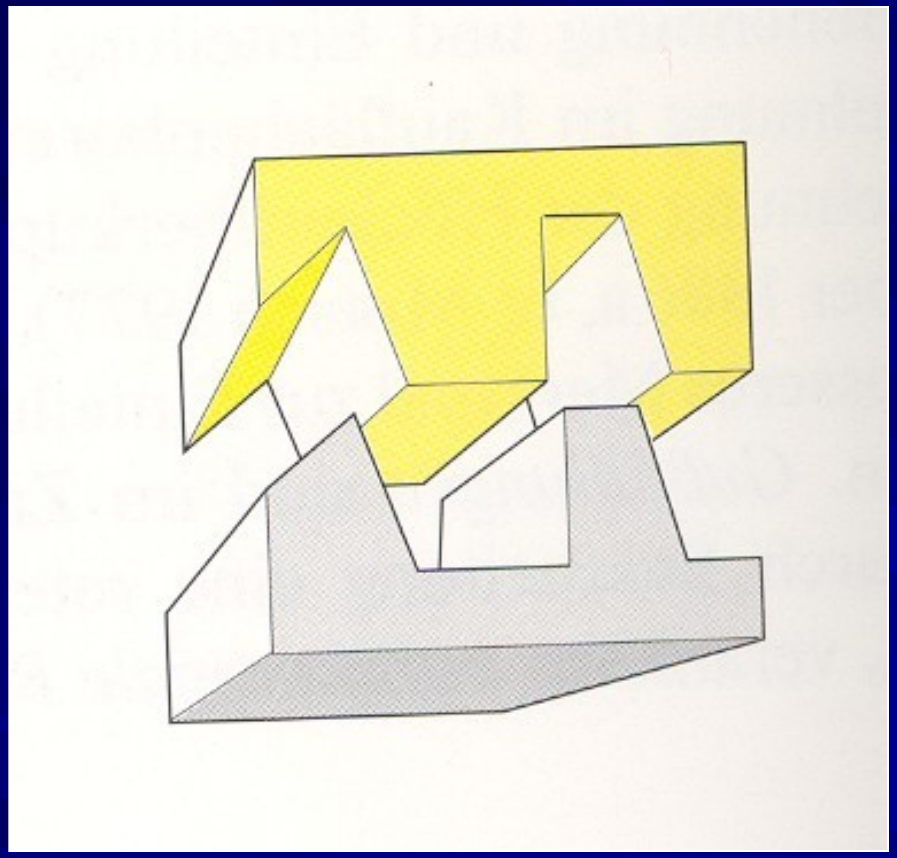
Onlay

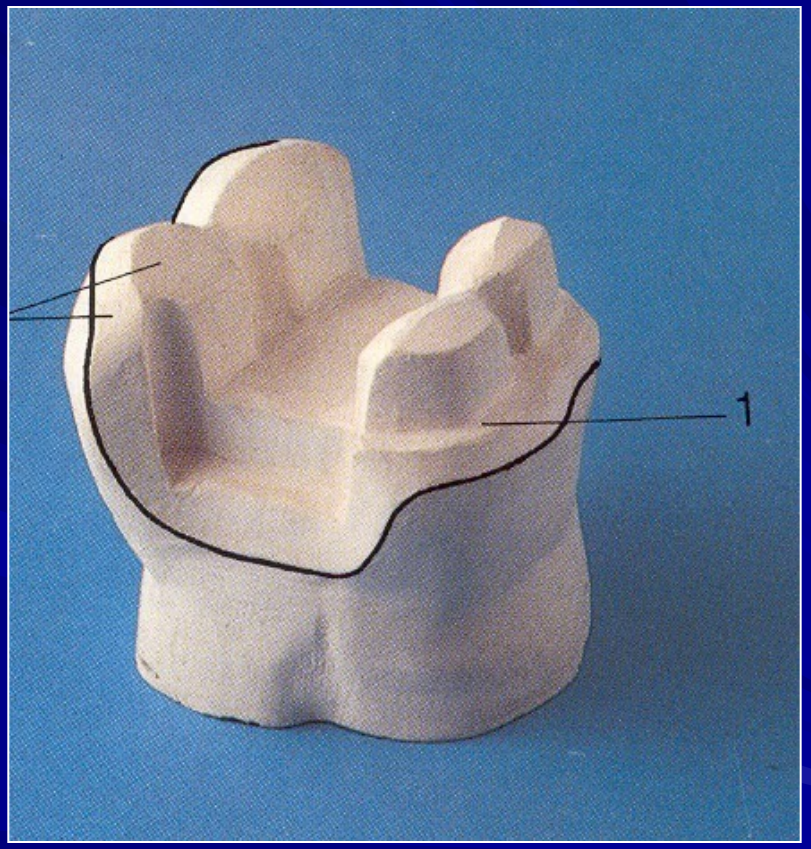


Overlay

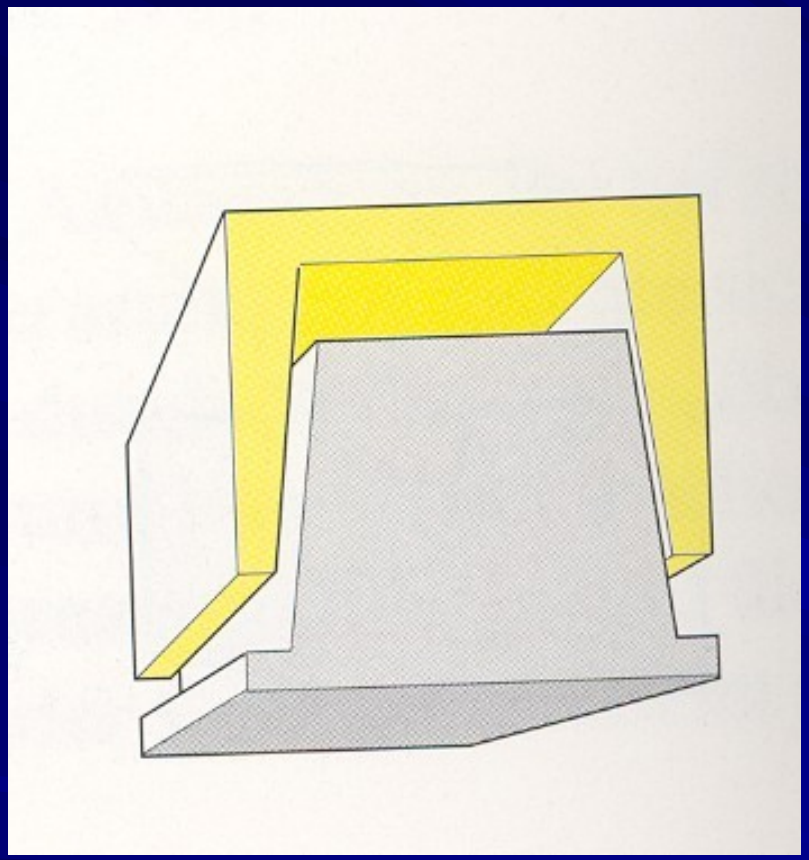


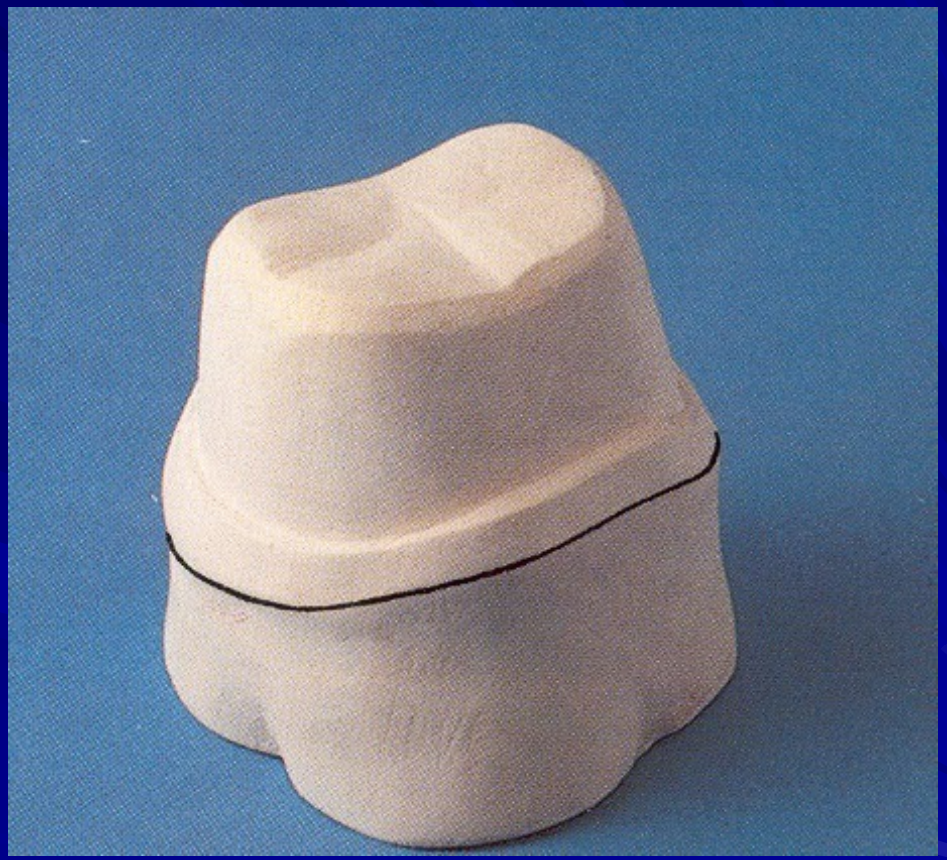
Partial crown



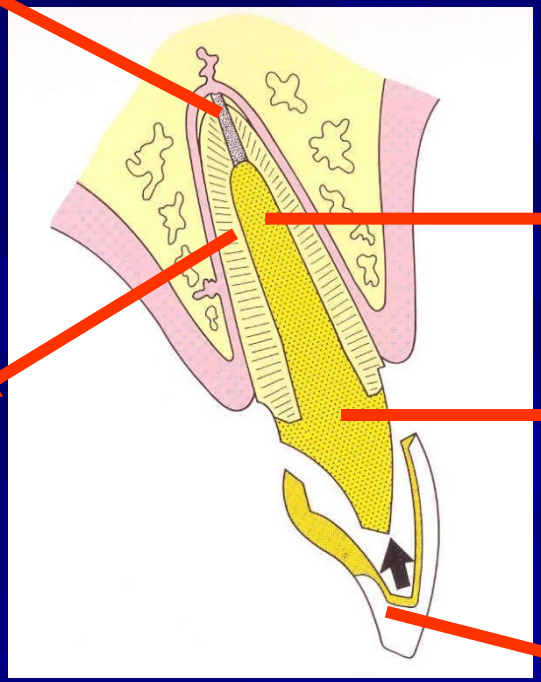


Crown



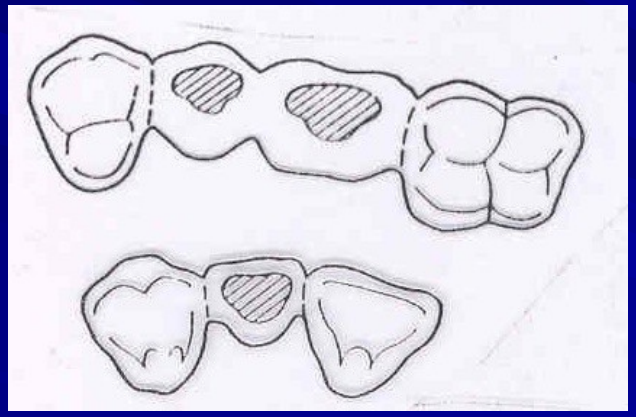


Root canal inlay



Fixed bridge

- Replacement one or more teeth



Crowns

Restore the shape of a damaged tooth

Most frequently

- Replace the lost part of a tooth (caries, fracture)
- Protect before damage
- Anchoring of a bridge

Indications

1. Badly broken down tooth (previously restored, secondary caries, loss of vitality)
2. Fracture (large)
3. Tooth wear- erosion (chemical)
   - attrition (mechanical)
   - abrasion (patological)
   - diseases of the hard dental tissues
4. Changes in position of teeth

Types of crowns

Full crowns

One material (metal alloy, resin, ceramics)

resin and ceramics - jacket crowns

Facet crowns

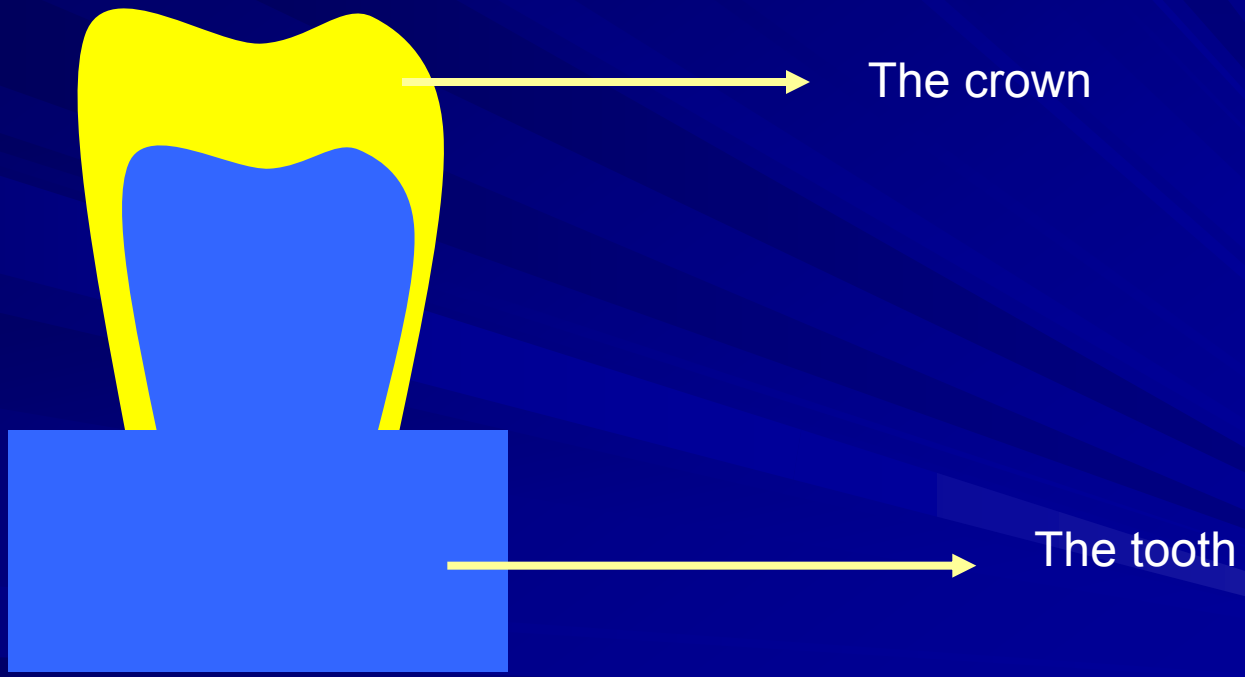
Combination of materials

Metal alloy –resin

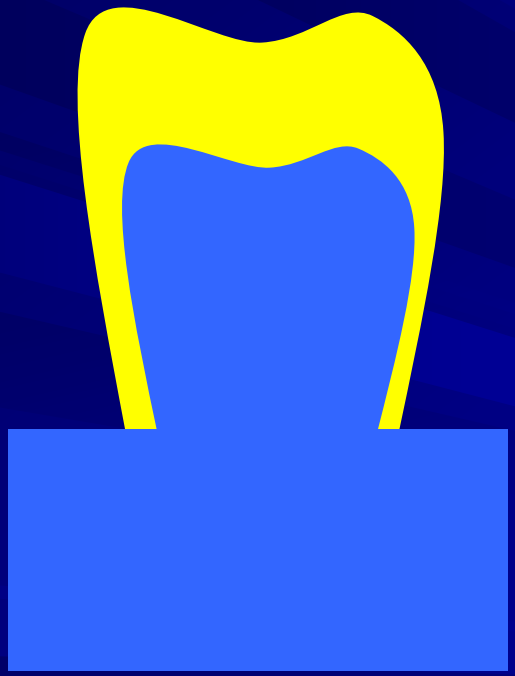
Metal alloy – ceramics

Partially / full covered

Full crown

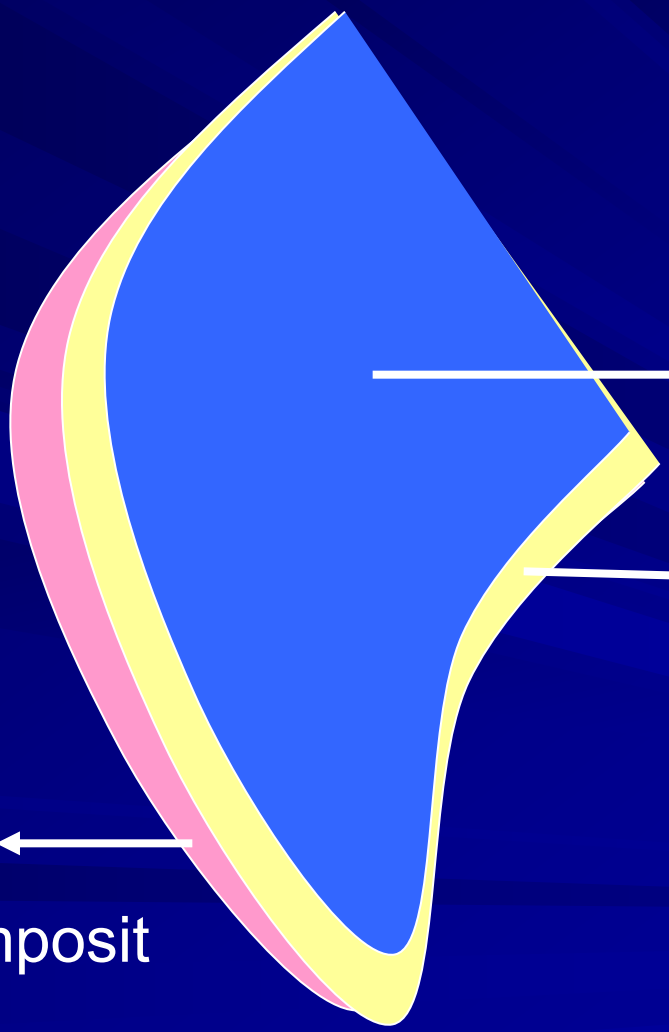


Full crown



Posterior teeth

Facet crown



Tooth

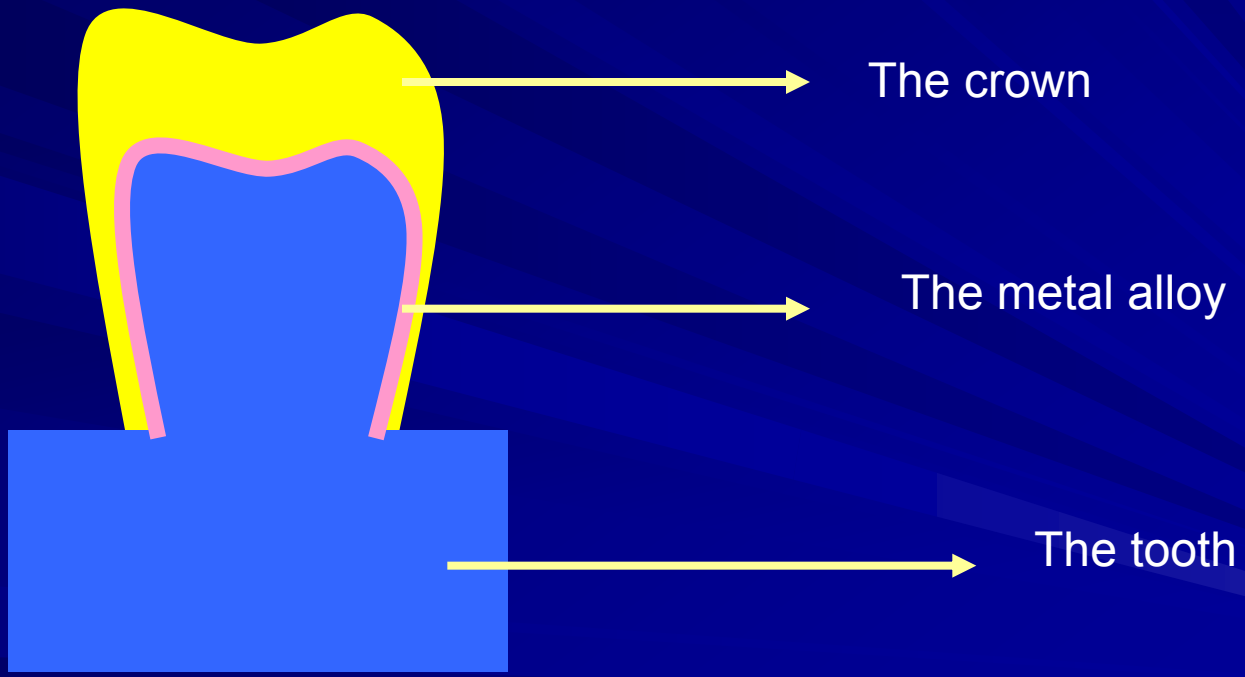
Metal allo

Facet made
of resin or composit

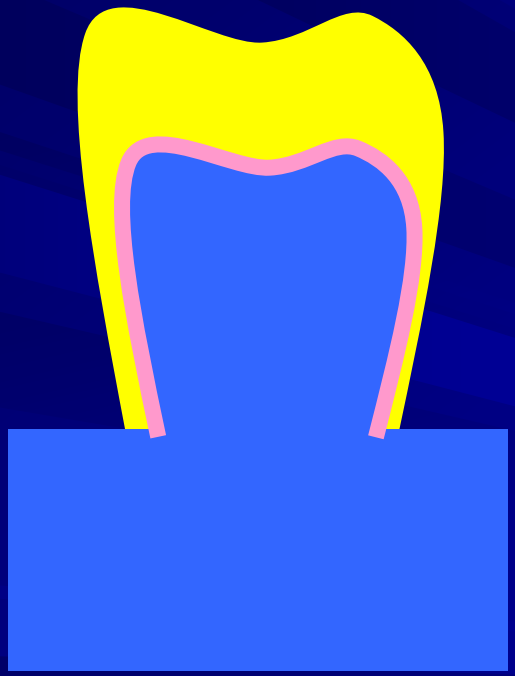
Facet crown

Anterior teeth

Facet made of ceramics Metalceramic

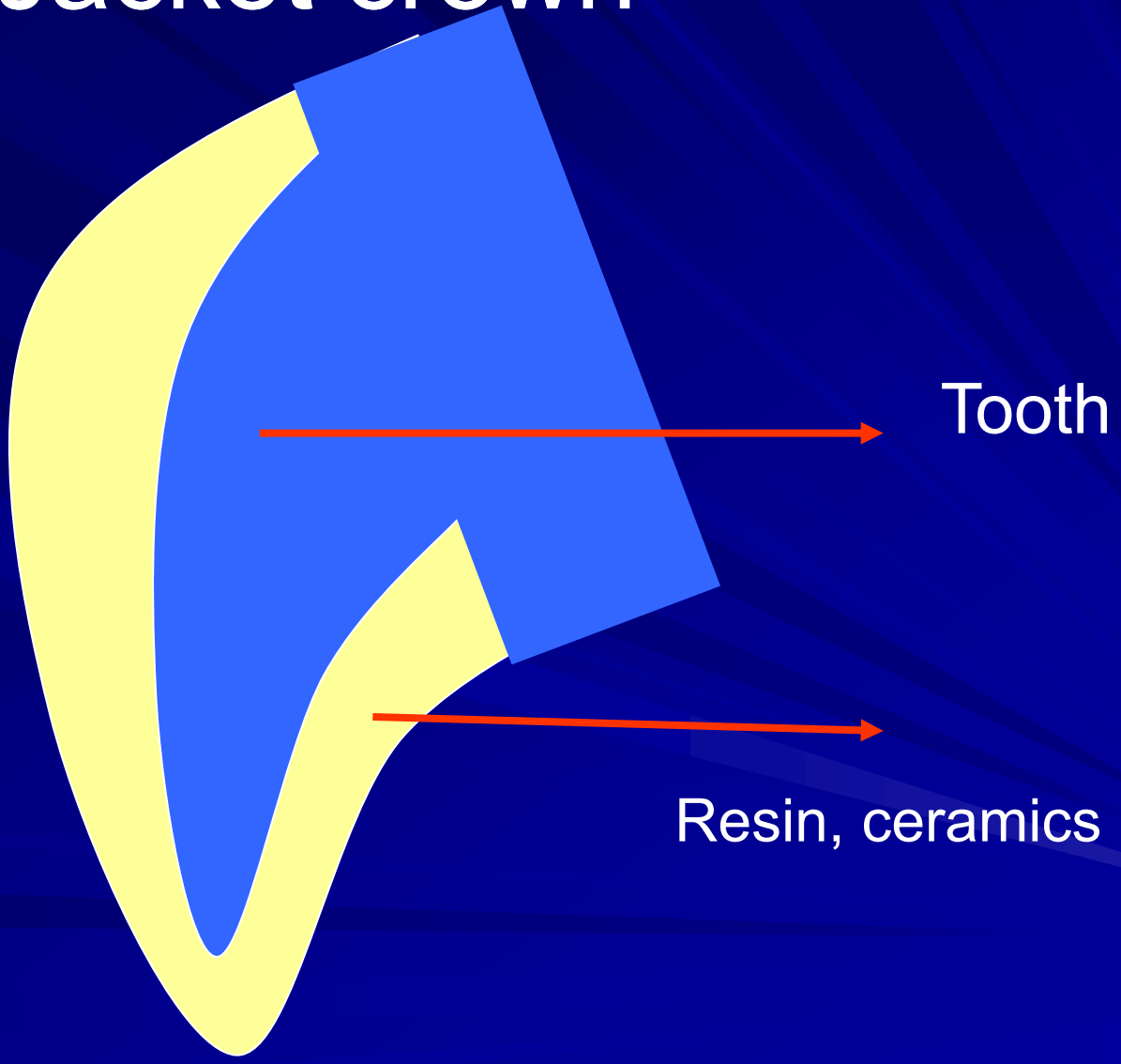


Metalceramic



Posterior teeth
Anterior teeth

Jacket crown



Basic rules for the crown preparation

- Reduction of the hard dental tissues – space for the arteficial material (restore the form as well as the function – strong enough)

- Conical form (5° - 7 ° optimal, max 15°), no undercuts!!!! No sharpe edges!!!

Basic rules for the crown preparation

- Cervical border – shoulder must be clear, it can. The location is:

- Supragingival
- Subgingival
- Gingival

Full metal crown

- Occlusal reduction: 1,5 mm, following the anatomical form
- Reduction vestibular and oral – 0,5 mm (max 1 mm)
- Shoulderless

Combined crown – facet crown

- Metal construction + facet (made of acrylic or composit)
- Incisal or occlusal reduction 1,5 mm
- Vestibular reduction 1,5 mm
- Oral reduction 0,5 mm
- Round shoulder (vestib appr. 1 – 1,5 mm, oral 0,5 – 1 mm)

Combined crown - metalceramic

- Occlusal (incisal reduction) – 2 mm
- Vestibular and oral reduction and other 1,5 mm
- Round shoulder

Jacket crown – ceramic, composit, acrylic

- Occlusal (incisal reduction) – 2 mm
- Vestibular and oral reduction and other 1,5 mm
- Sharp rectangle shoulder

Replacement of missing teeth

Bridges

Fixed

Removable

Implants

Bridges

- Abutments (crowns on abutment teeth)

- Pontic

Various size:
3 members bridges, 4 members bridges, 5 members… etc
The member: abutment or pontic.

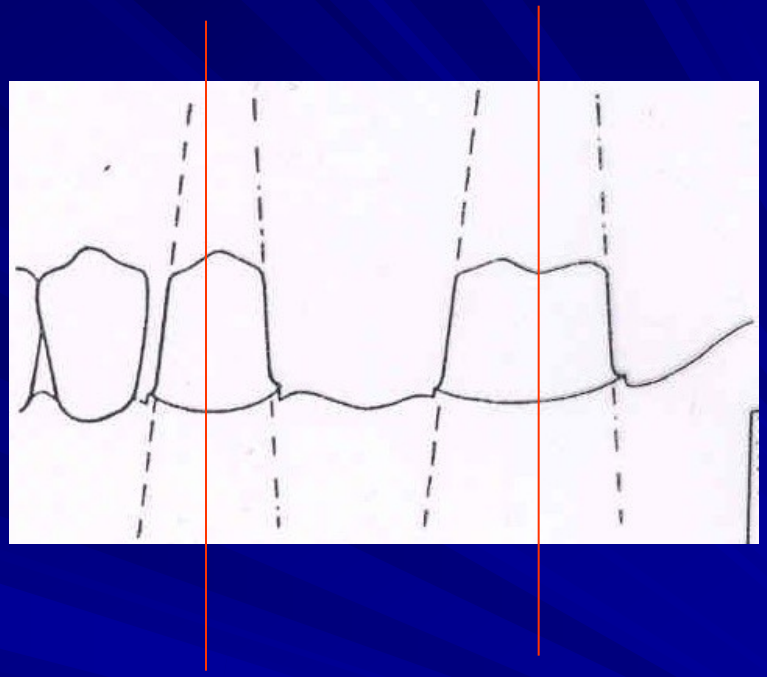
Bridges

- Abutments are

Full metal crown

Facet crown

Metalceramic crown



The axis must be parallel

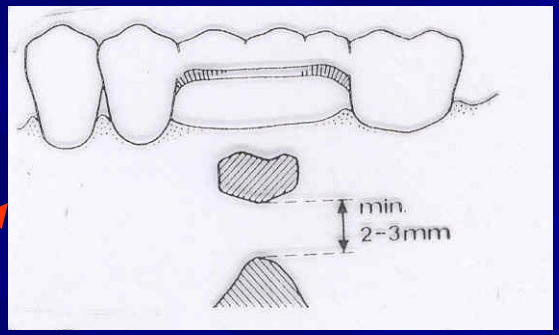
Bridges

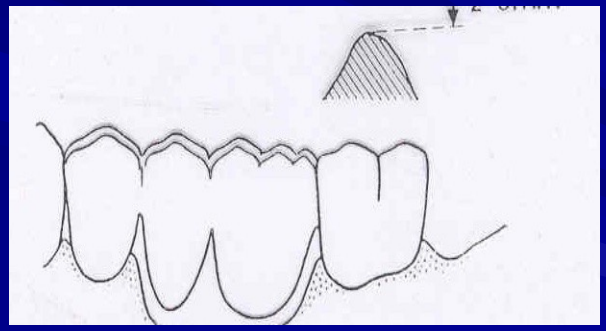
- Pontic

Full metal

Facet

Metalceramic

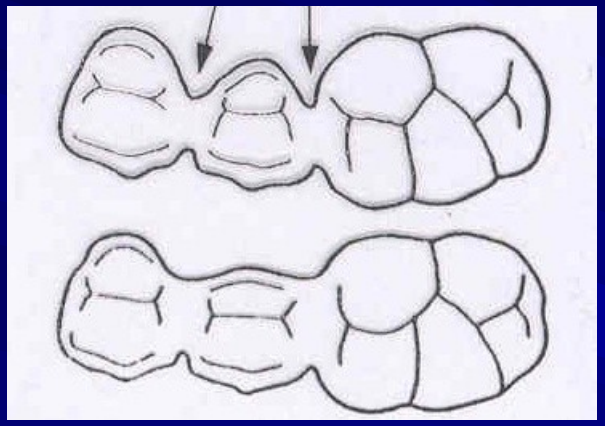


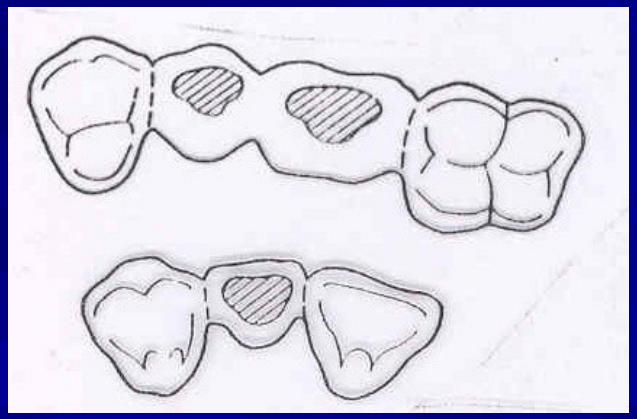


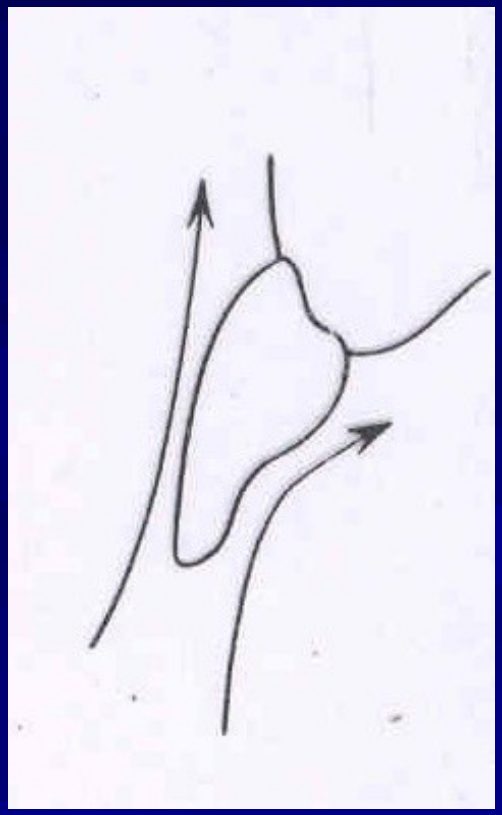
Self cleaning bridge (sanitary bridge)

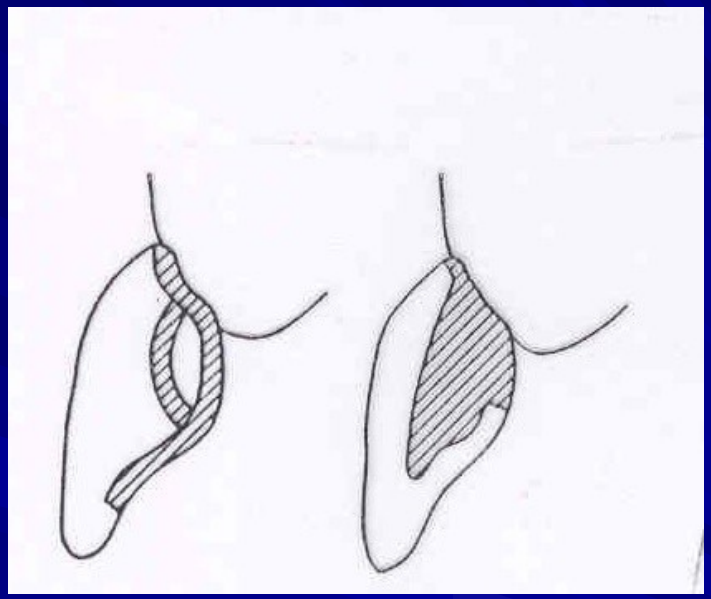
Contact pontic

Reduction - the area that is in contact with gingiva 1/3 of the occlusal size.
Occlusal reduction depends og the magnitude from 10 – 30% reduction.









Preparation

- Preparation grooves
- Occlusal reduction
- Vestibular reduction
- Oral reduction
- Proximal reduction
- Finishing and polishing

Preparation

- The long axis of each abutment tooth must be parallel.

If not the cementation would not ne possible.

Manufacturing procedure 1.st phase in dental ofice

- Taking impression – elastomers
- Antagonal impression)alginate
- Occlusal impresion – bite registration (intermaxillary relationship)
- Provisional treatment

Manufacturing procedure 1.st phase in dental lab

- Plaster model– the dental arch is made of ultrahard gypsum, the base of a stone.
- The model is divided after application of guide pins
- The antagonal model of stone
- Mounting to the articulator (simulator)

Manufacturing procedure 1.st phase in dental lab

- The wax pattern of the metal framework is manifactured
- Casted (the method of lost wax)
- Adapted on the model

Manufacturing procedure 2.nd phase in dental ofice

- The framework is tried out
- The colour of veneering material is choosen

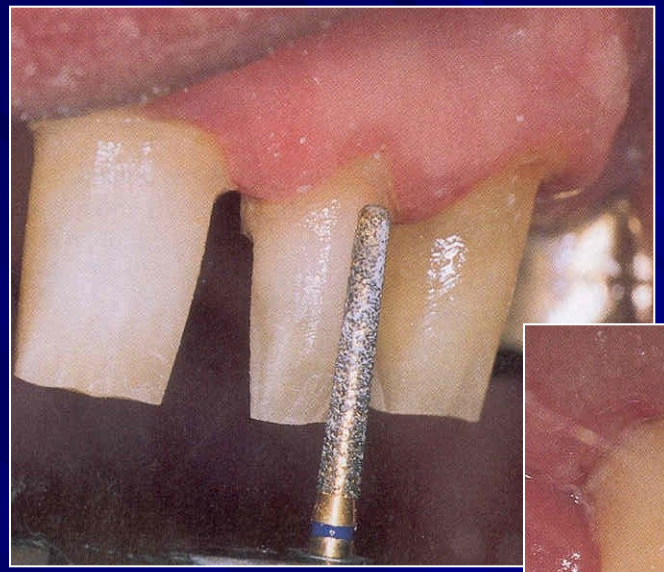
Manufacturing procedure 2.nd phase in dental lab

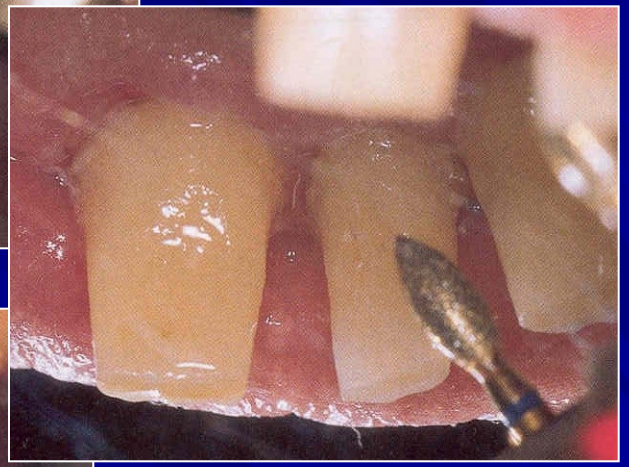
The veneering material is applied on the framework and polymerized ot burnt (ceramics).

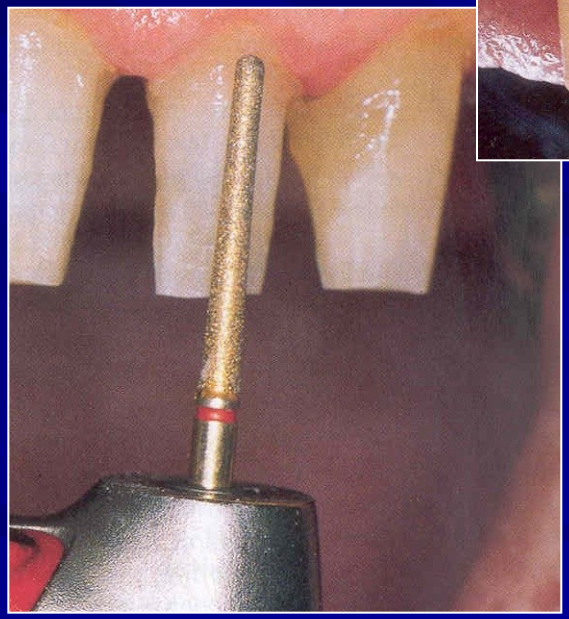
Manufacturing procedure 3.rd phase in dental ofice

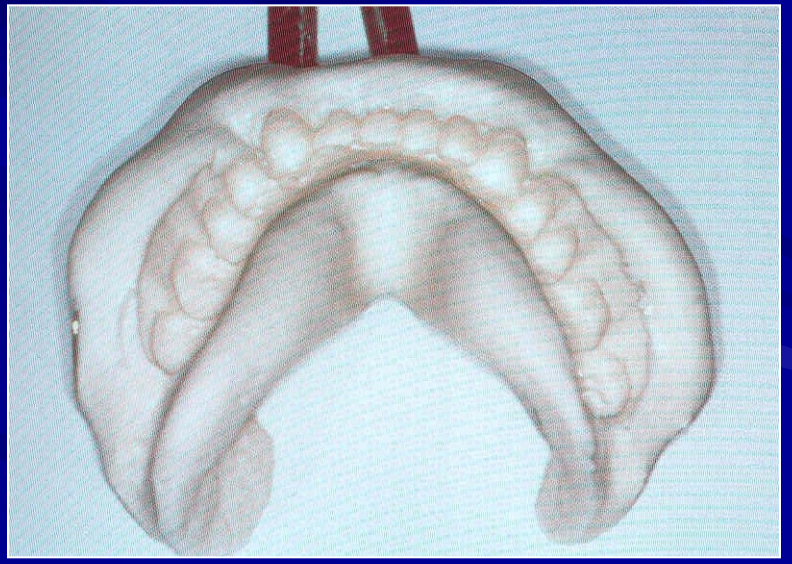
- The denture is tried out

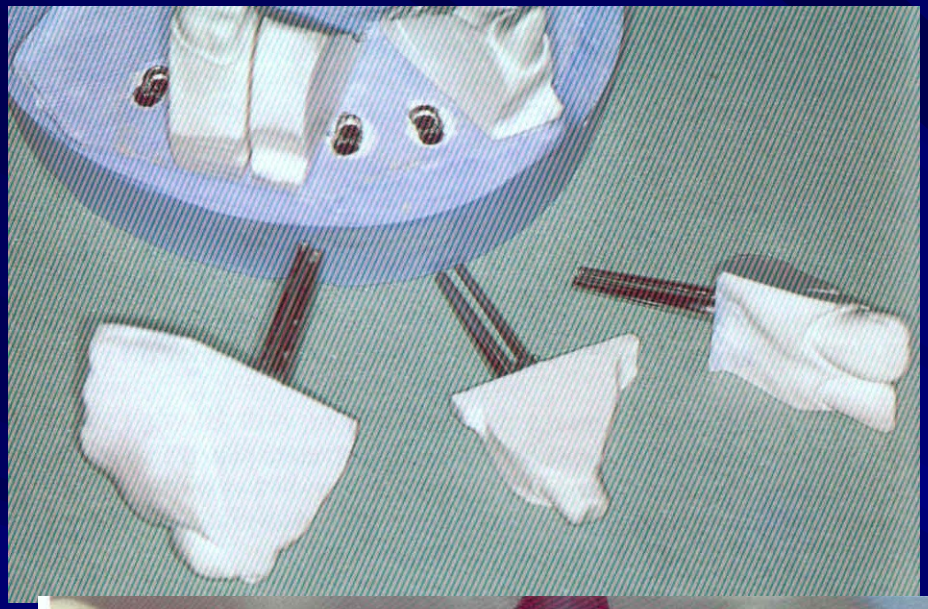
- Cemented
- (zinkoxidphosphate cement, glasionomer or composite)

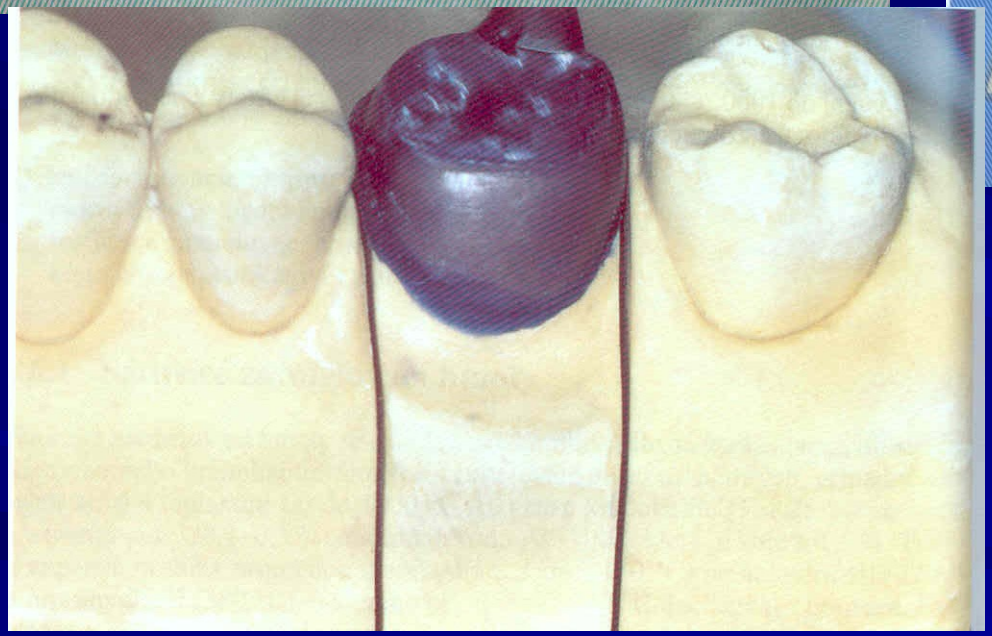


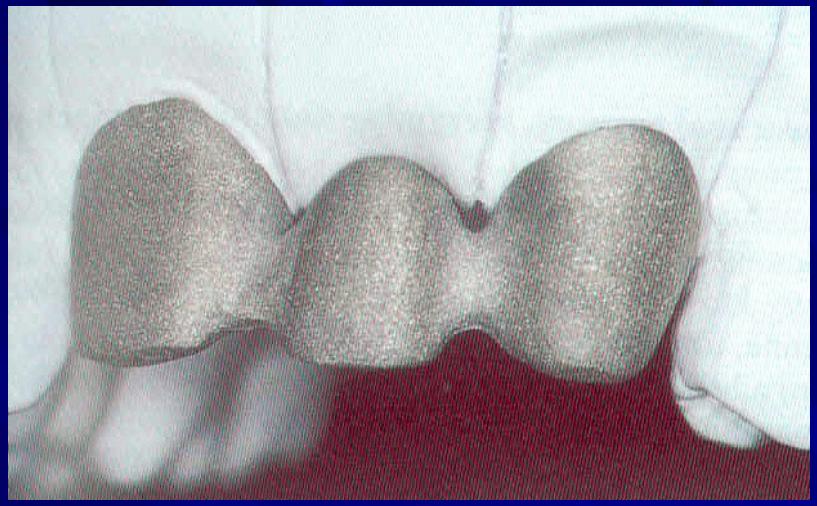


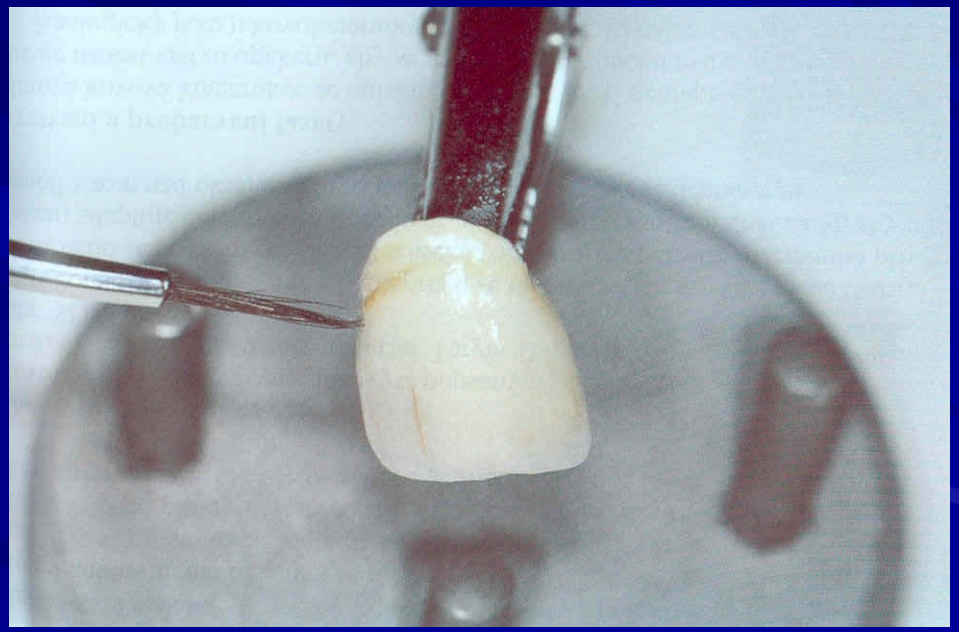












Temporary prosthetic treatment

- Protection of prepared teeth – dentin wound
- Keeps the abutment teeth in their position
- Other reasons
  - Correction of the intermaxillary relations
  - Aesthetics
  - Disorders of TMJ

Material

- Acrylic resin – dental lab
- Special resins for direct fabrication in oral cavity

Sequence of operations I.st phase in dental office

- Taking the imppression using the alginate impression material (both dental arches)
- Intermaxillary relations - wax

I.st phase in dental lab

- Pouring the impressions
- Plaster /mix of plaster and stone
- Modellation of the temporary of the wax (pink modellation wax)
- Putting of the wax pattern into the flask
- Replacement the wax with resin dought
- Polymerization

II.nd phase in dental office

- Cementation using the temporary cement

Direct fabrication of the temporary crown or bridge

- Impression before the preparation
- Preparation
- Mixing of the special resin
- Filling of the impression
- Application os prepared teetrh – the temporary is being formed
- Finishing and polishing
- Cementation using the temporary cement