

Prosthetic III.

Fixed dentures

Fixed dentures

Inlays /onlays

Crowns

Bridges

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 (pathological)
 - 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

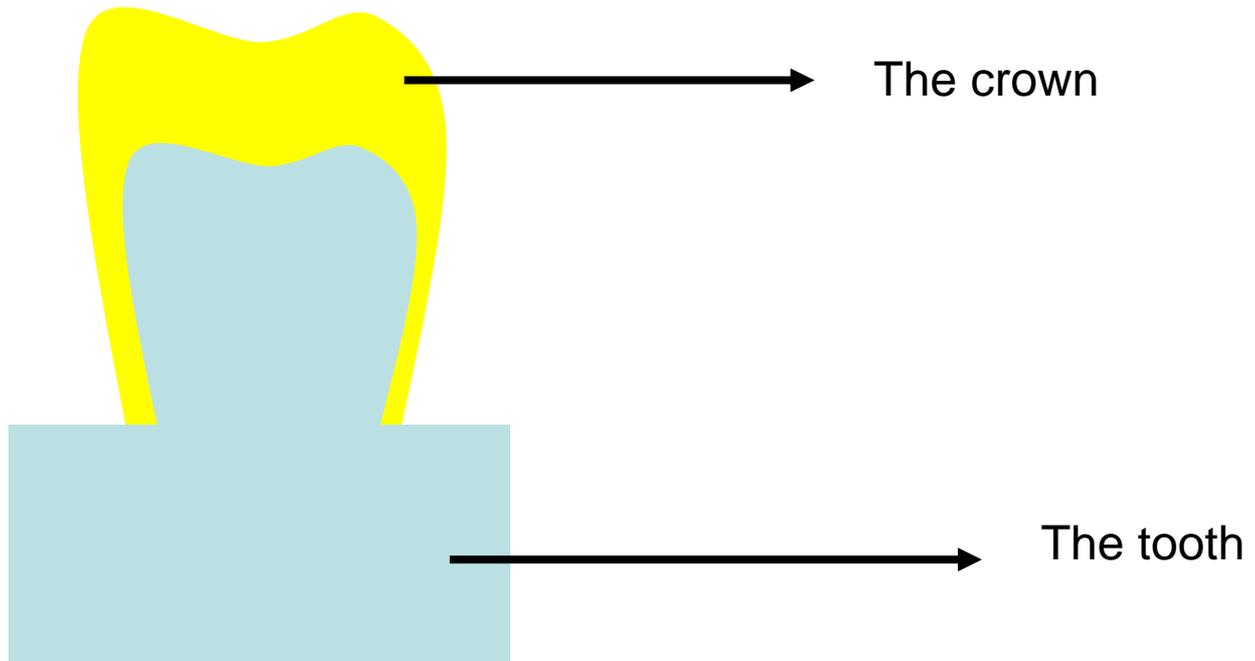
Combination of materials

Metal alloy –resin

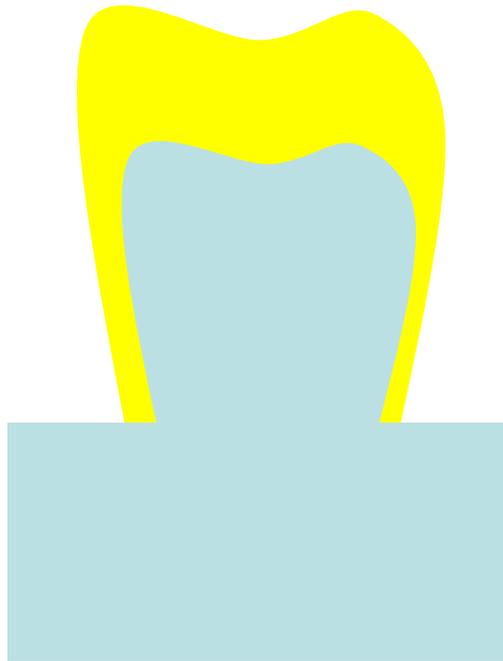
Metal alloy – ceramics

Partially / full covered

Full crown

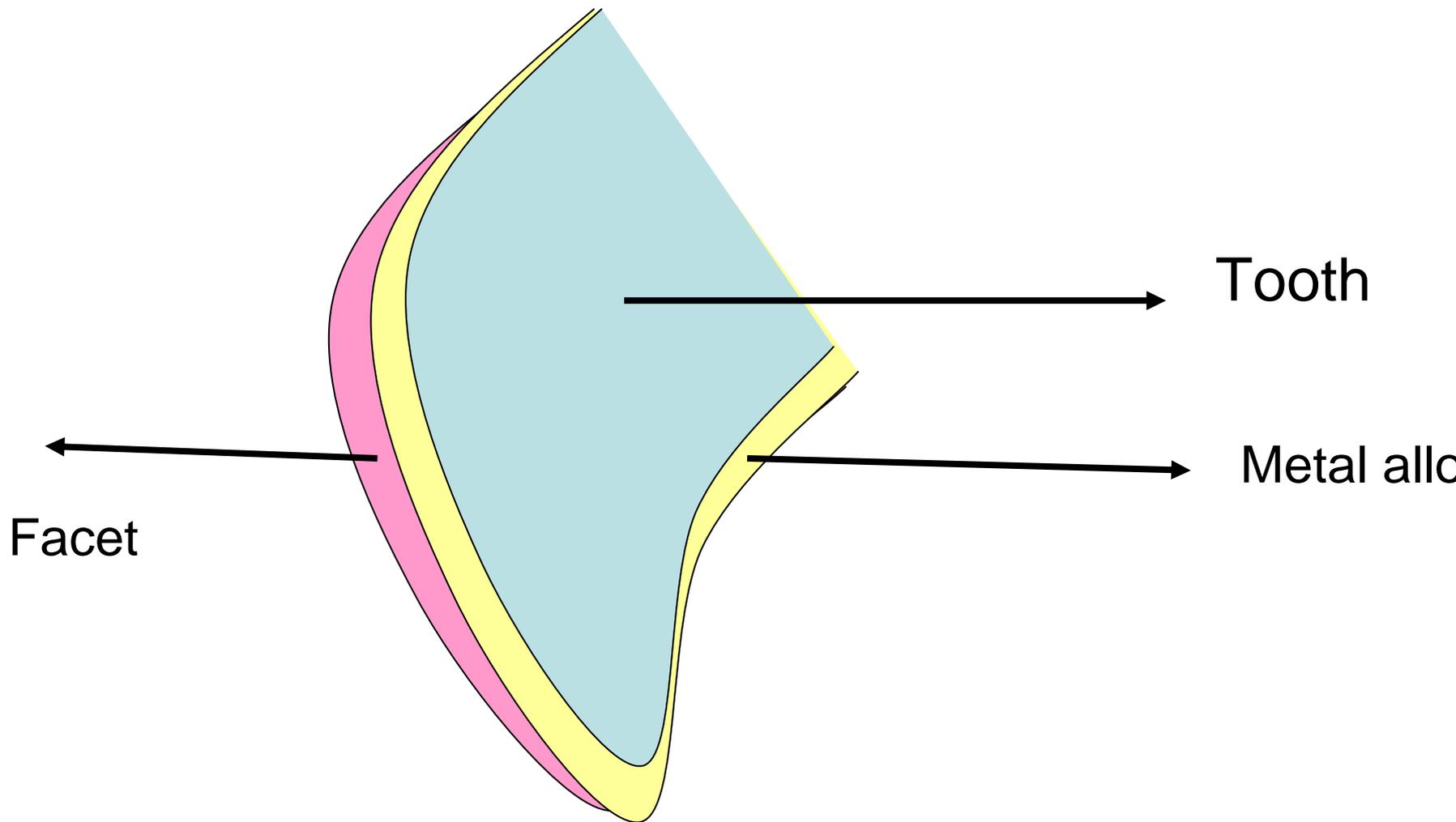


Full crown

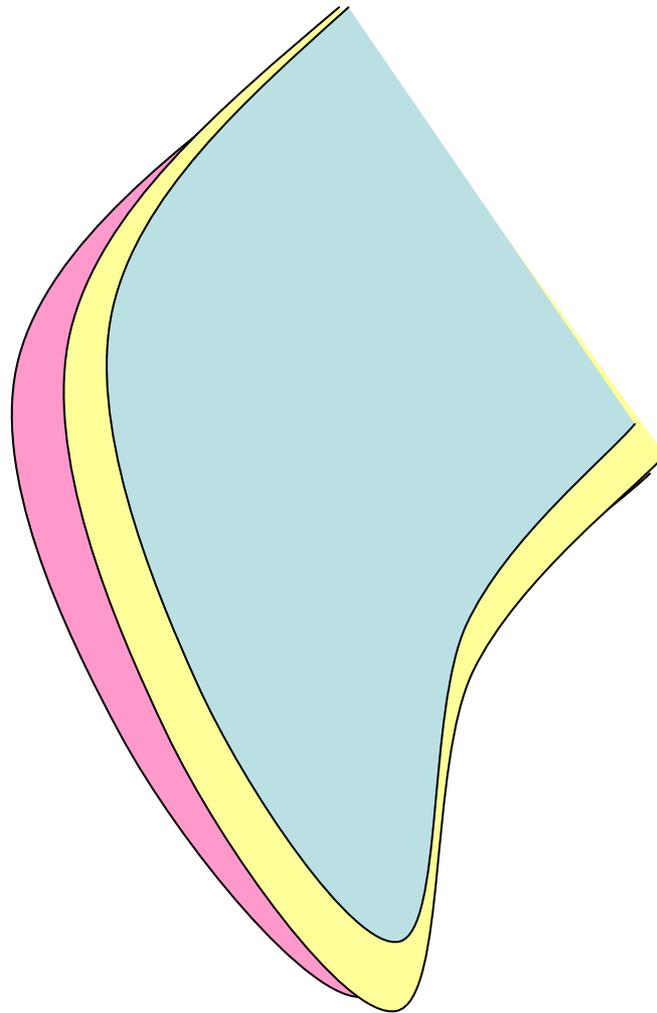


Posterior teeth

Facet crown

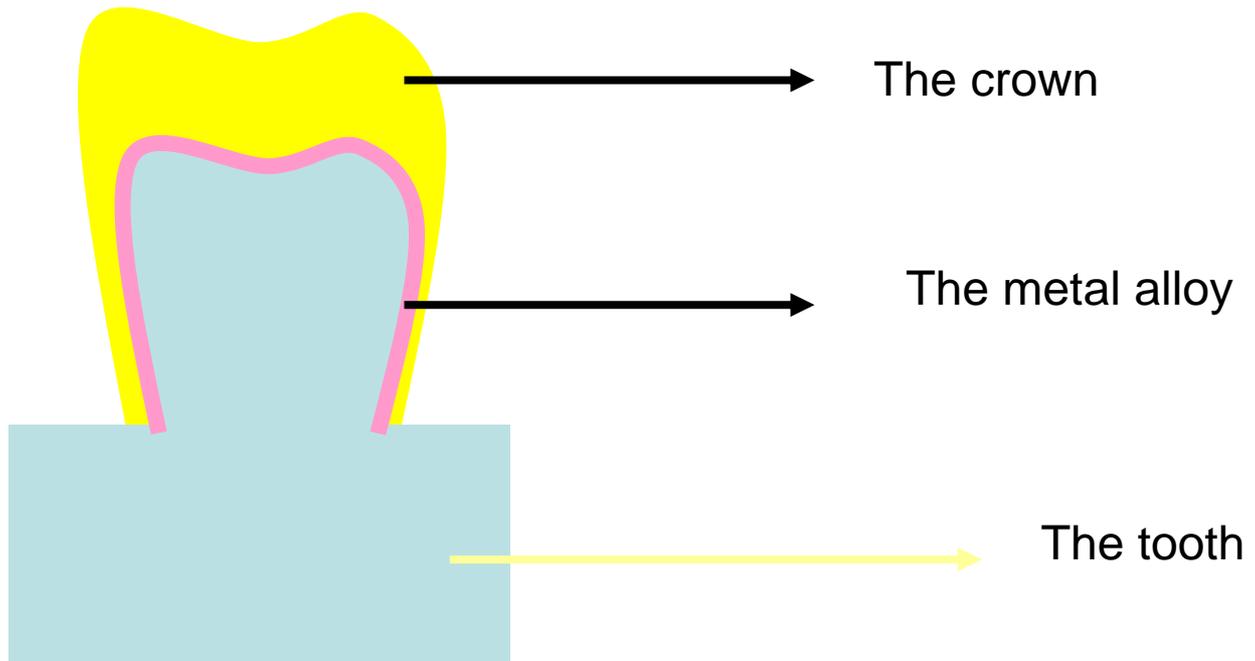


Facet crown

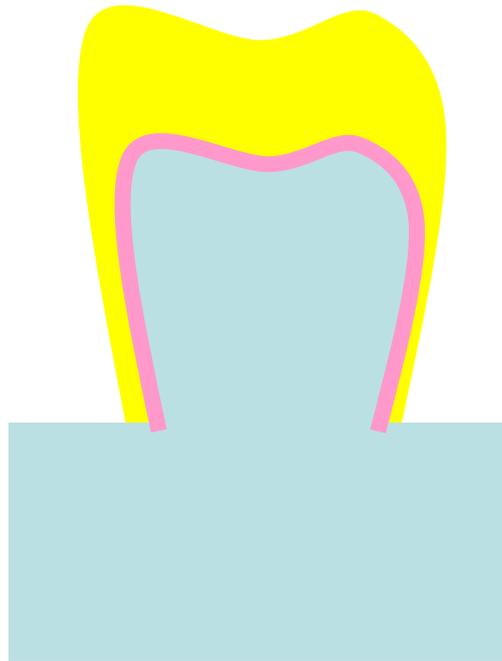


Anterior teeth

Metalceramic

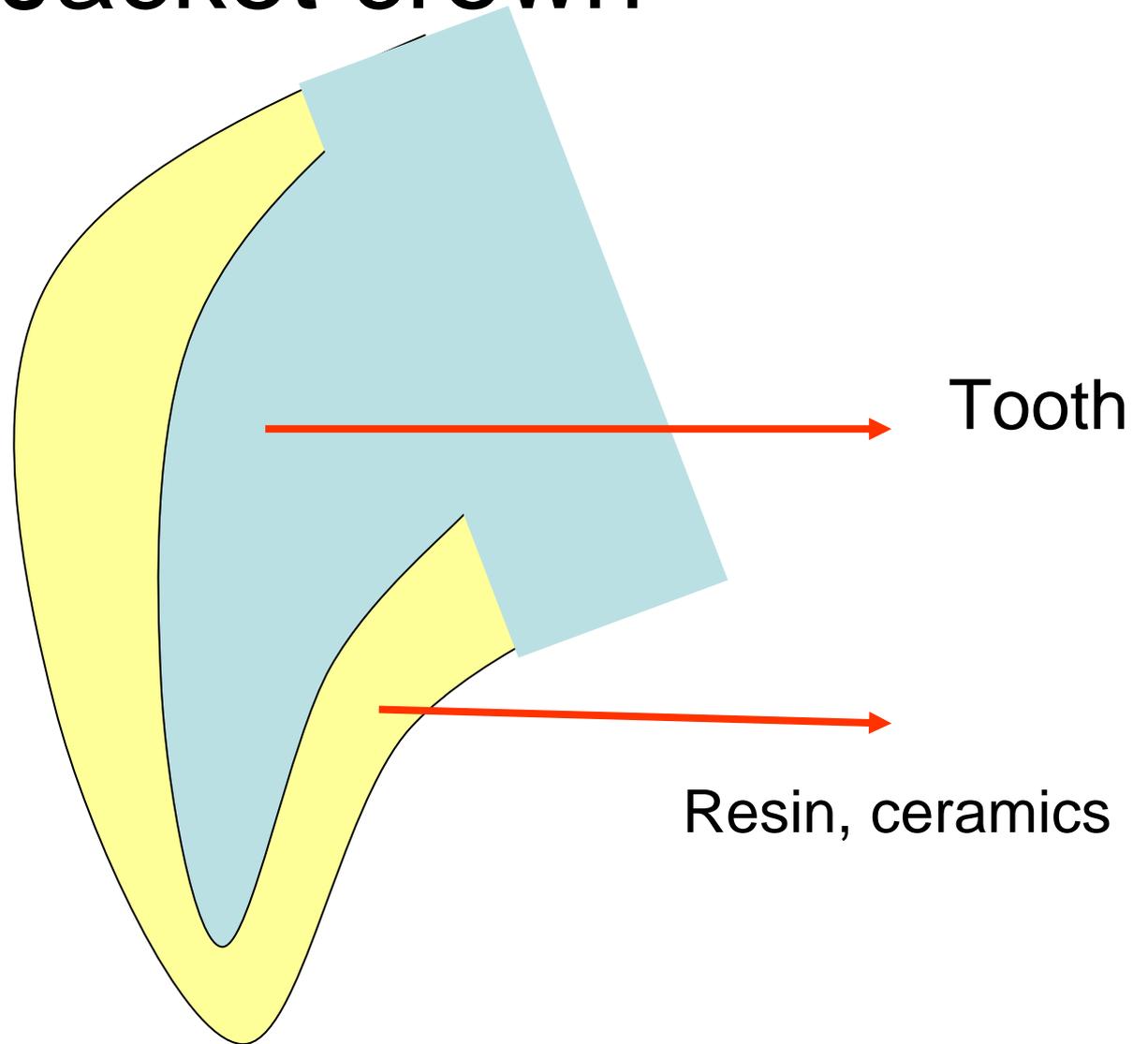


Metalceramic



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)
- Round shoulder

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

Bridges

- Abutments
- Pontic

Various size:

3 members bridges, 4 members bridges, 5 members... tce

The member: abutment or pontic.

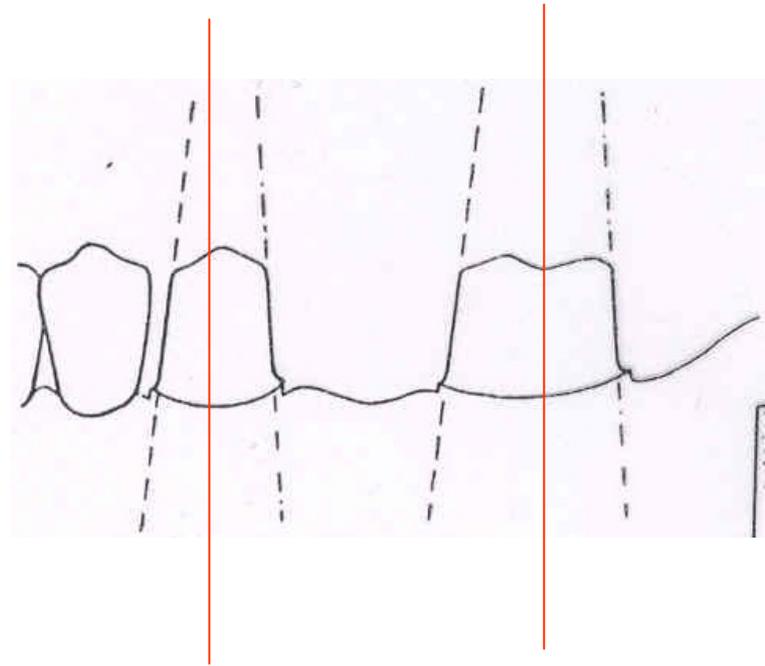
Bridges

- Abutments

Full metal crown

Facet crown

Metalceramic crown



The axis must be parallel

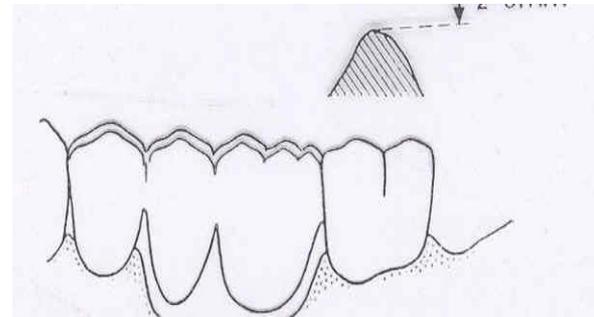
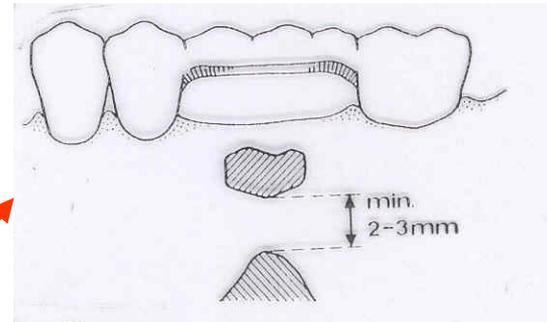
Bridges

- Pontic

Full metal

Facet

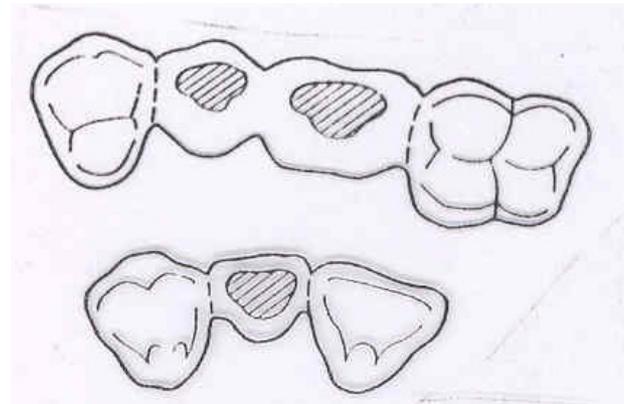
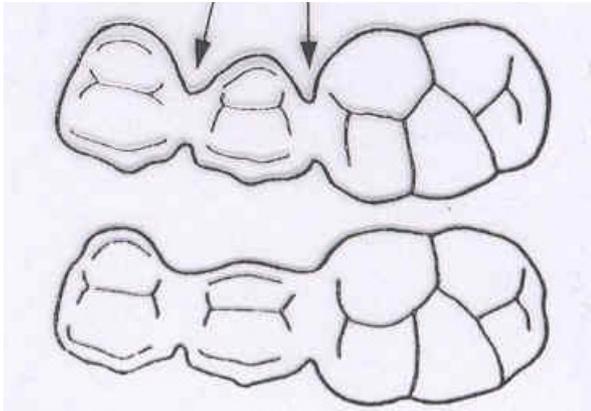
Metalceramic

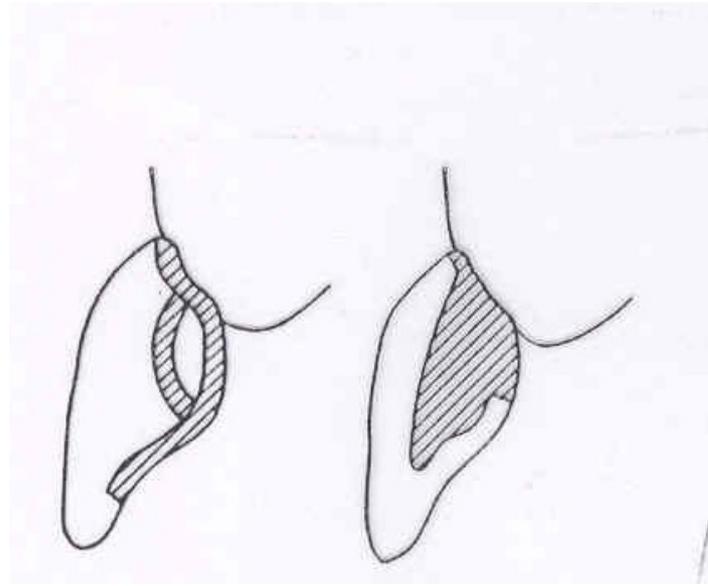
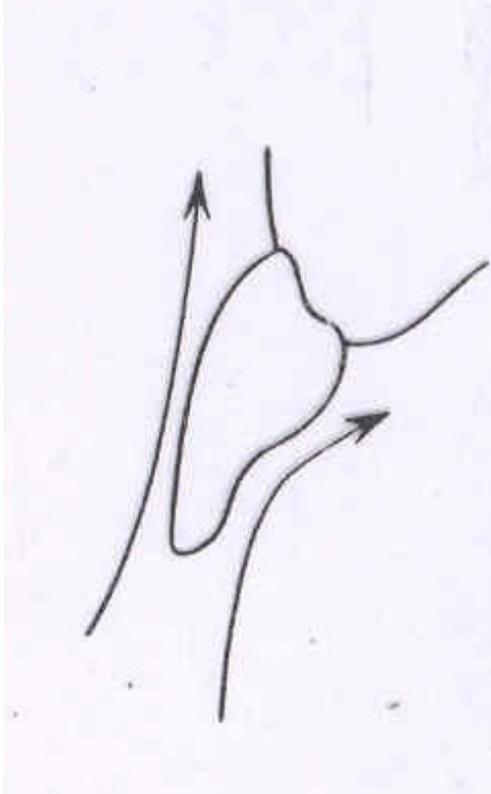


Self cleaning bridge (sanitary bridge)

Contact pontic

Reduction - the area that is in contact with gingiva $\frac{1}{3}$ of the occlusal size.
Occlusal reduction depends on the magnitude from 10 – 30% reduction.





Preparation

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

Manufacturing procedure

1.st phase in dental office

- 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 manufactured
- Casted (the method of lost wax)
- Adapted on the model

Manufacturing procedure

2.nd phase in dental office

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

Manufacturing procedure 2.nd phase in dental lab

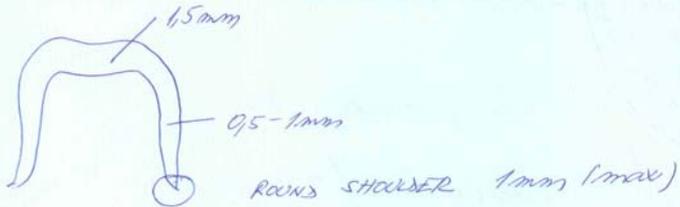
The veneering material is applied on the framework and polymerized or burnt out (ceramics).

Manufacturing procedure

3.rd phase in dental office

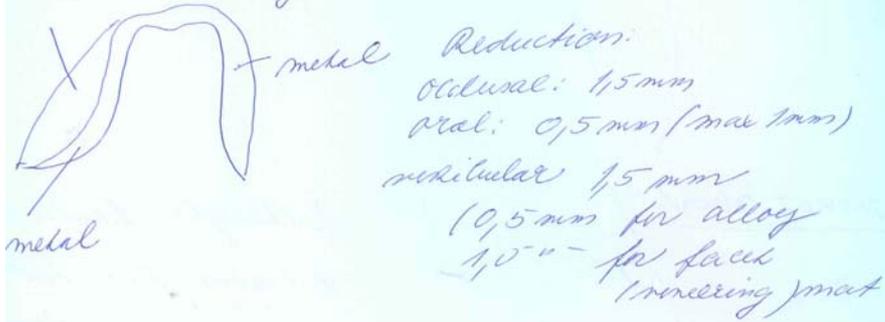
- The denture is tried out
- Cemented
- (zinkoxidphosphate cement, glasionomer or composite)

FULL METAL CROWN

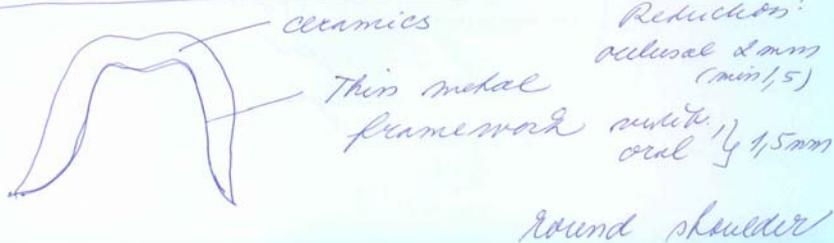


FACET CROWN

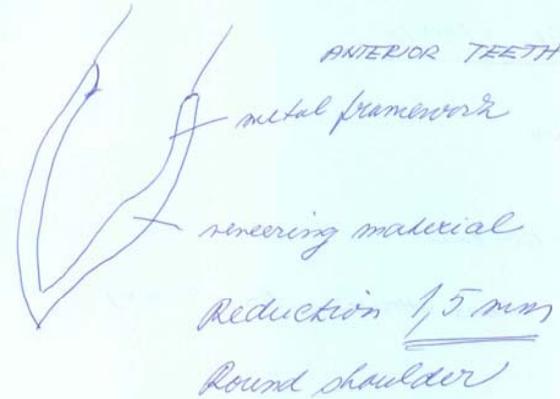
Facet - veneering material



METAL CERAMIC CROWN



METAL CERAMIC CROWN



JACKET CROWN

