Prosthetic IV.

Removable dentures I.

Removable dentures I.

Removable partial dentures

Complete denture

Removable dentures I.

- Patient can remove the denture
- Care for the denture: cleaning
- These dentures can be anchored on the teeth or implants
- The teeth can transfer the masticatory forces or be only for retention of the denture
- Retention of complete denture – adhesion on mucosa

Classification of pilots (abutment teeth)

Pilots I. class

Canines

Molars (1st, 2nd)

Classification of pilots (abutment teeth)

Pilots II. st class

Incisors - maxillary incosors, pemolars

Classification of pilots (abutment teeth)

Pilots III. class

Mandibular incisors, third molars, all teethe with bad biological factor

Biological factor

- Caries
- Pulp vitality
- Level of the endodontic treatment
- Level of the resorption of the alveolar bone
- Periodontium
- Relationship to antagonists
- Relationship to neihgbour teeth

Classification of defects Voldřich

I. Class

One or more teeth are missing

Small gaps – 1 – 2 teeth

Big gaps 3 – 4 teeth at most. This big gaps must be demarcated by pilot of the best quality. (canine, 1st or second molars – pilots of 1st class or their equivalents)

Way of the transfer of masticatory forces

- Tooth
- Tooth and oral mucosa
- Oral mucosa
- Implants

Tooth and/or oral mucosa/Implants

bone

Classification of defects Voldřich

II. Class

Reduced dental arch, thenlast tooth is the second molar.

With gaps

Without gaps

Bilateral

Unilateral

Classification of defects Voldřich

III. Class

Individual teeth or small groups of teeth

Classification of defects Voldřich

IV. Class

Edentulous dental arch

Removable partial dentures

Class I.
Dental arch with gaps (interruptions)
Teeth supported (borne) dentures

Class II.
Reduced (shortened) dental arch
Teeth and tissue supported (borne) dentures

Components

- **Base** –replaces missing part of alveol and supports arteficial teeth.

Base (basis)

- Supports the supplied teeth and effects the transfer of occlusal stresses to the supporting oral structures.

Different materials – metal framework

+ resin (attached to the metal framework)

Or resin only

Base

- Accuracy of adaptaion to the tissues with low volume change
- Dense, non irritating surface that is capable of receiving and maintaining a good finish
- Low thermal conductivity
- Low specific gravity
- Sufficient strength – resitance to fracture
- Easily kept clean
- Aesthetics acceptability
- Potential for future relining
- Low initial cost

The materiál for base: Methylmetacrylate

Components

- **Elements of anchorage**

Clasps– casted clasps, wire clasps, combined clasps.

Anchorage supporting bar

Attachements

Telescope crowns

Clasps

Surface retainers – they lie on the surface of teeth

Arms – one, two or three arms

Clasps

- One armed

Clasps

- Two armed

Clasps

- Three armed clasp

Components

- Teeth – acrylic teeth
  - porcelain teeth

Clasps

- One arm made of wire

- Simple retainer, only in simply temporary prothesis.
- It can damage the tooth because no stabilization (bracing)

Clasps

- Two arms clasps

One arm for retention (wire)

One arm for stabilization against horizontal forces

Clasps

- Three arms clasps

One arm for retention (wire)

One arm for stabilization (bracing) against horizontal forces

On arm for transmission of occlusal forces

Classification of the clasps ass to the material

- Clasp made of wire and a cast part - combined
- Clasp completely cast

Clasps

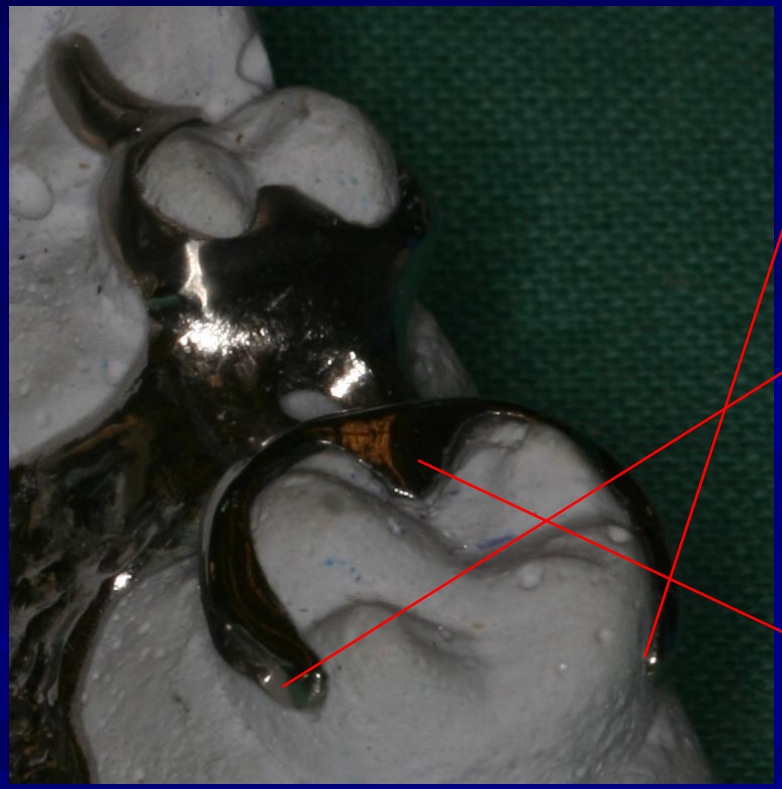
- Three arms clasps

One part for retention (going under the maximal convexity)

One part for stabilization against horizontal forces (upon the maximal convexity)

On arm for transmission of occlusal forces the rest)

Clasp – three armed cast



One part for retention (going under the maximal convexity)

One part for stabilization against horizontal forces (upon the maximal convexity)

On arm for transmission of occlusal forces (the rest)

Rests

- Any unit of a partial denture that rests upon a tooth surface to provide vertical support to the denture is called a rest

Upon the occlusal surface (premolar, molar)

Upon the lingual surface (prepared) of anterior teeth

Rests

- Transmitted forces parallel to the long axis of the tooth will prevent movement in a cervical direction.

Other elements of anchorage

Anchorage supporting bar

Attachements

Telescope crowns

Anchorage supporting bar

Attachements

Patrix – male part

Matrix – female part

Attachements on implants

Telescope crowns

Components

- Connectors
- Major
- Minor

Connect the parts of denture

Major connector

- Connect the parts of the prothesis
- All other parts are directly or indirectly attached to it
- Musí be rrgid – stresses may be effectively distributed over the entire are

Mandibular major connector

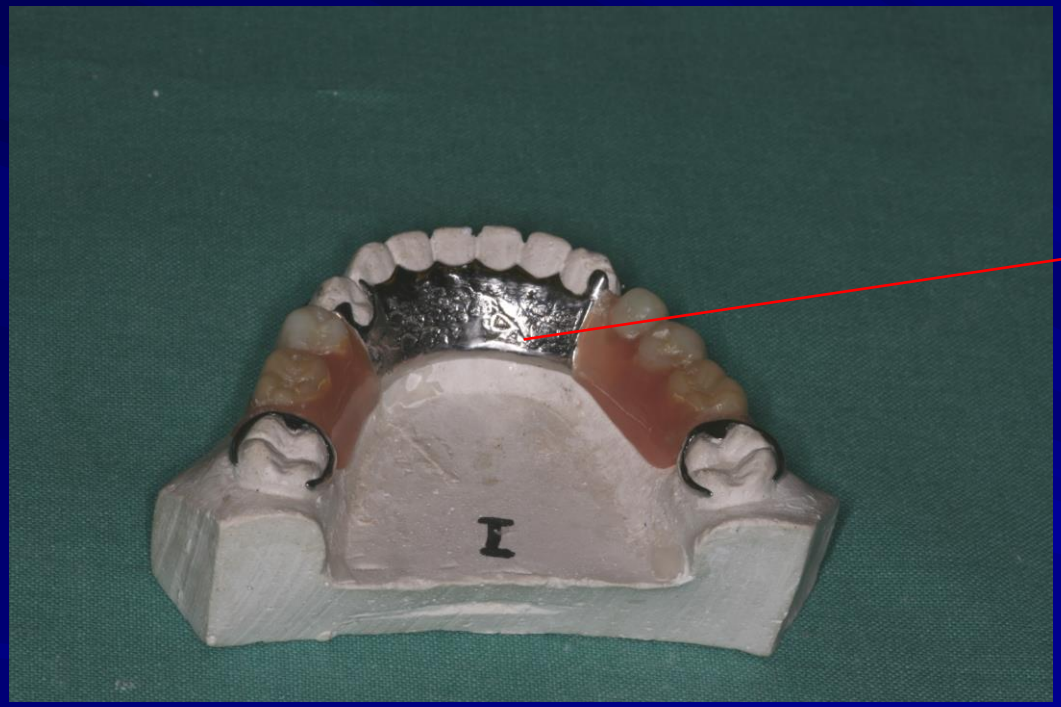
- Lingual bar
- Lingual plate (continouos bar retainer and lingual bar)

Maxillary major connector

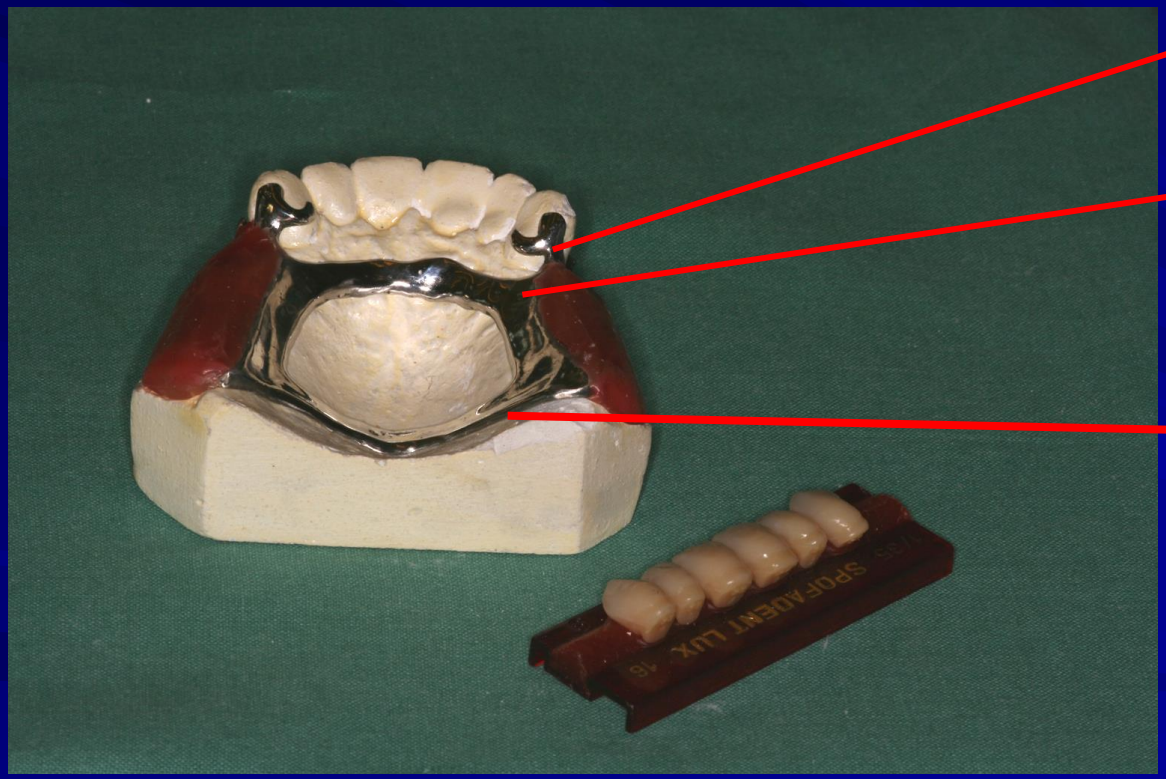
- Anterior and posterior palatal bar
- U- shaped palatal connector
- Palatal plate - type connector

Minor connectors

- Arising from the major connector – join the major connector with other parts of the denture.
- Placed not on a convex surface of the abutment teeth but in embarasure



Lingual plate



Minor connector

Anterior palatal bar

Posterior palatal bar

Palatal plate

Lingual bar

Removable dentures I. and II.

Dentures with metal framework

Removable dentures – classes

- **Class I.**
- Dental arch with gaps (interruptions)
- Teeth supported (borne) dentures
- **Class II.**
- Reduced (shortened) dental arch
- Teeth and tissue supported (borne) dentures

Removable dentures – classes

Class III.

Single teeth

Loss of the most important abutment teeth (big gaps – more than 4 teeth)

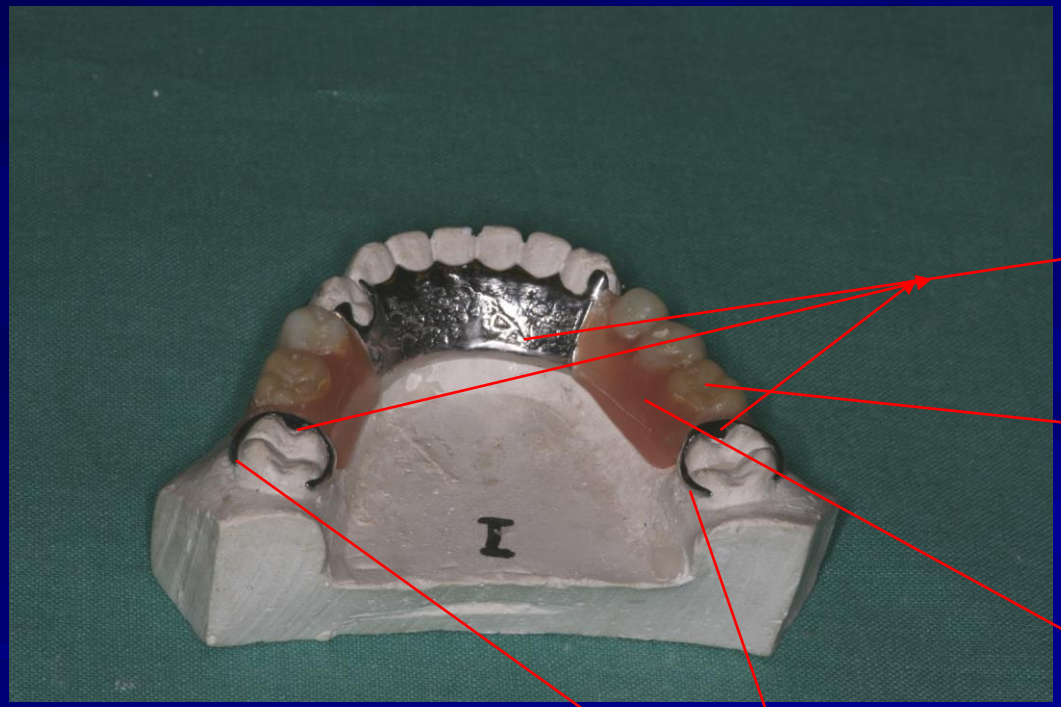
Mostly tissue (borne) dentures, sometimes teeth supported additionally

Class IV.

Complete denture

Tissue supported (borne)

Class I and II dentures with the metal framework



Class I. denture Components:

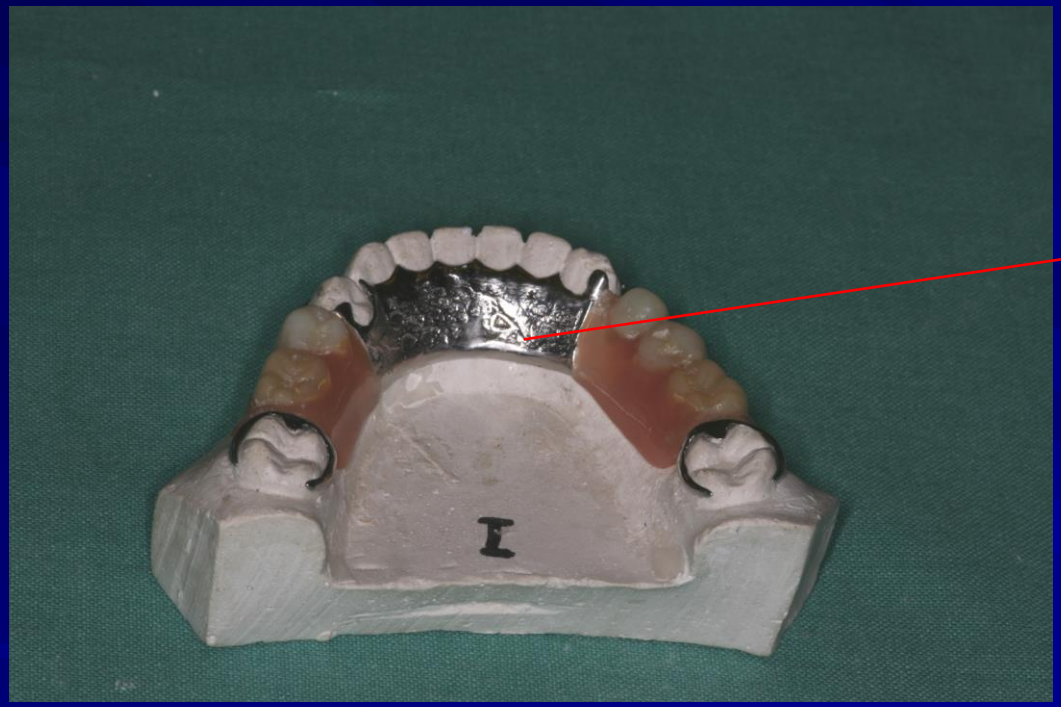
Metal framework

Arteficial teeth

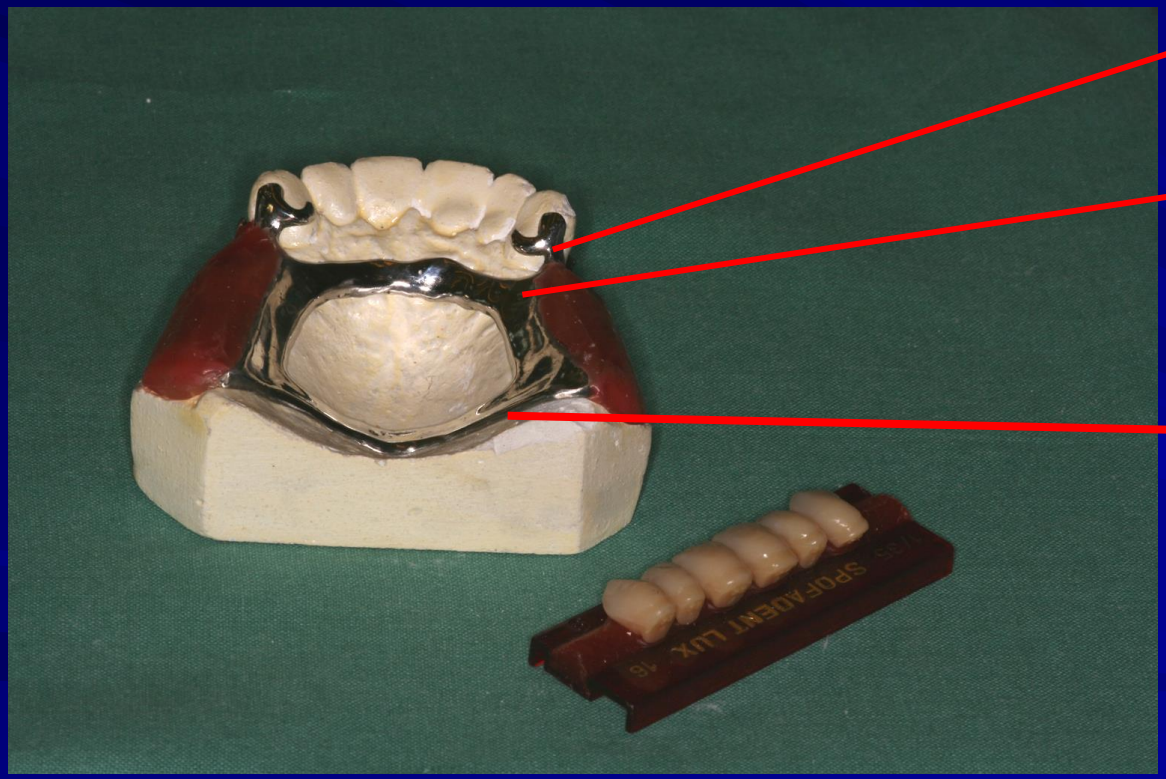
Base

Clasps

Class I and II dentures with the metal framework

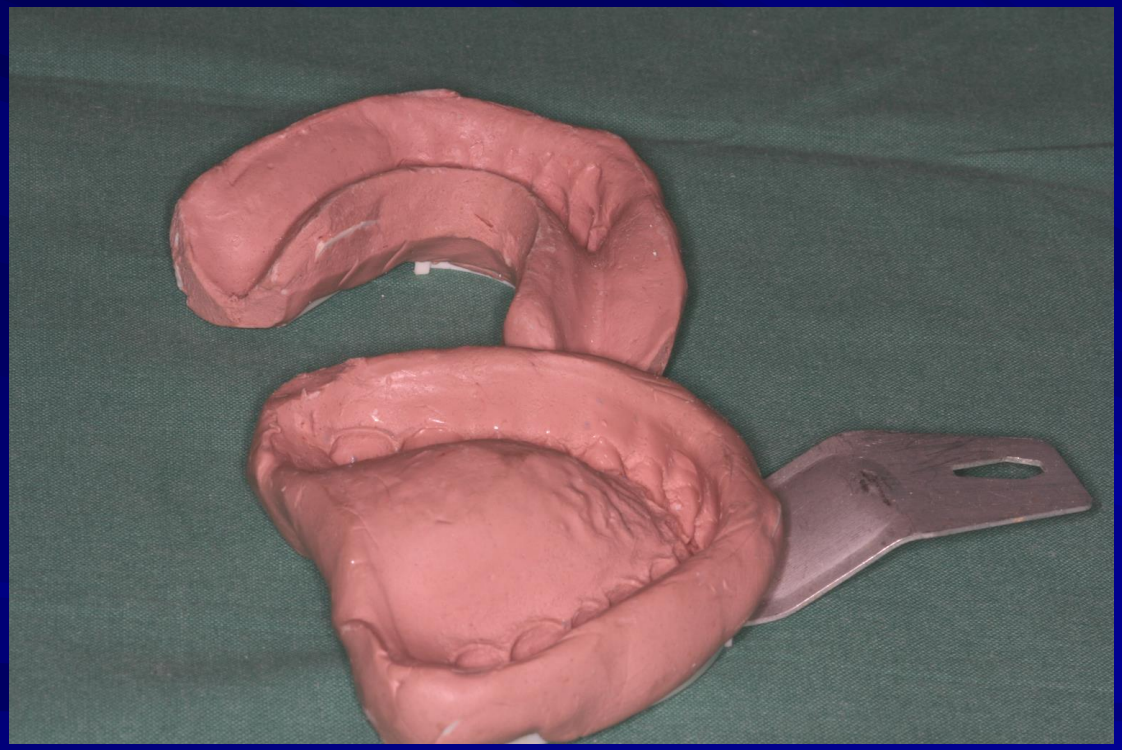


Class I and II dentures with the metal framework



Sequences of operations

Taking impressions (alginate.



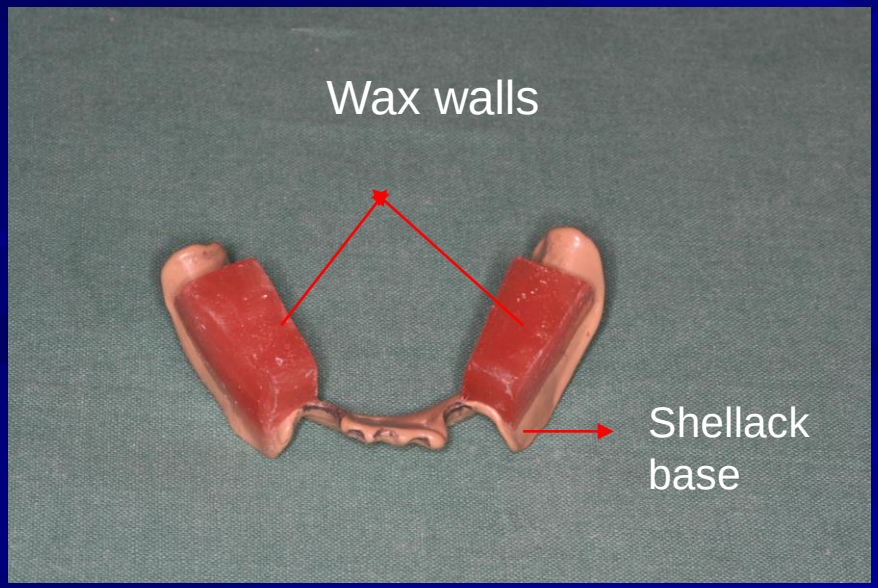
Both jaws always !

Sequences of operations

Pouring – gypsum models.

Fabrication of the individual impression tray if necessary.

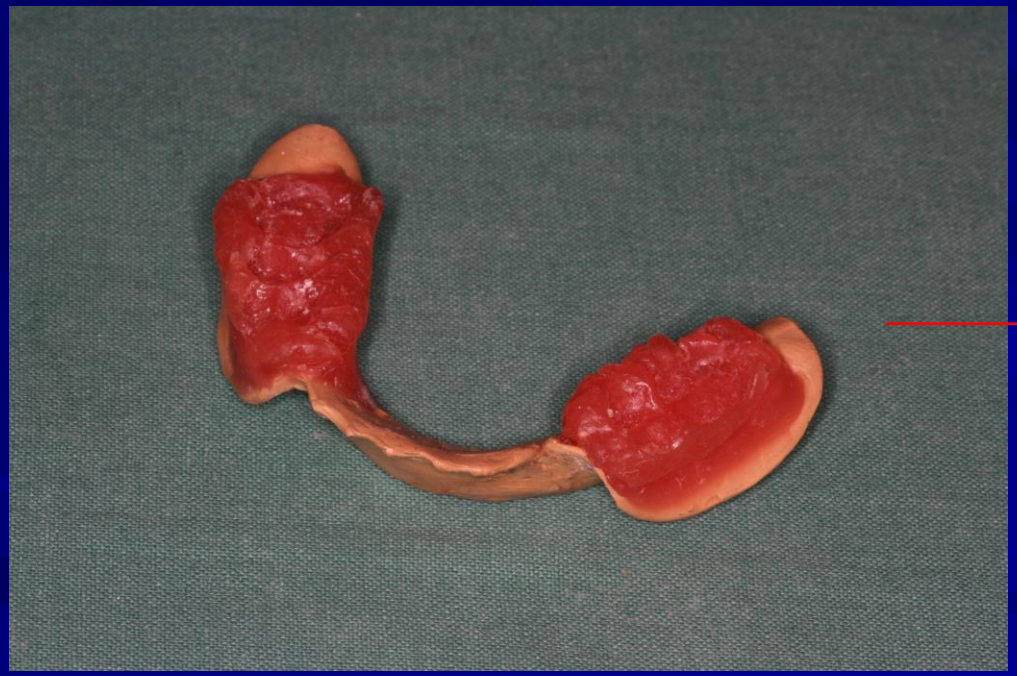
If not, fabrication of the bite template:



The bite template is necessary for The registration of the intermaxillary Relationship.
It consist of the shellack base and the wax walls.

Sequences of operation

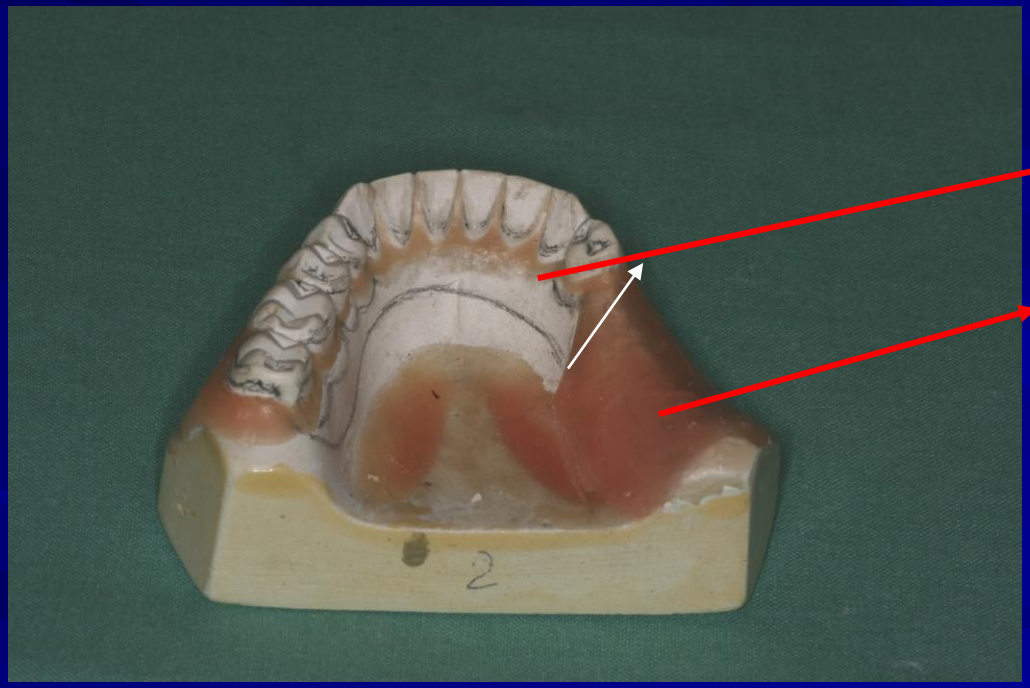
- Registration of the intermaxillary relationship.



The registrate

Sequences of operation

- Preparation of the model for backup.



All undercuts are blocked out

Also the space
under the future framework

Using heated wax

Sequences of operations

- Backup using the reversibile impression agar based material in a special flask
- Pouring of this impression with -the investing material – casting model

Sequences of operations

- Fabrication of the wax pattern of the metal framework.

Sequences of operations

- Investment with the same investing material –a special flask.

The wax is burnt out and the form is heated in a special oven.

After that the casting process is performed using a special casting machine.

Sequences of operation

- After casting and cooling the framework is taken out, the inflow system must be cut off.

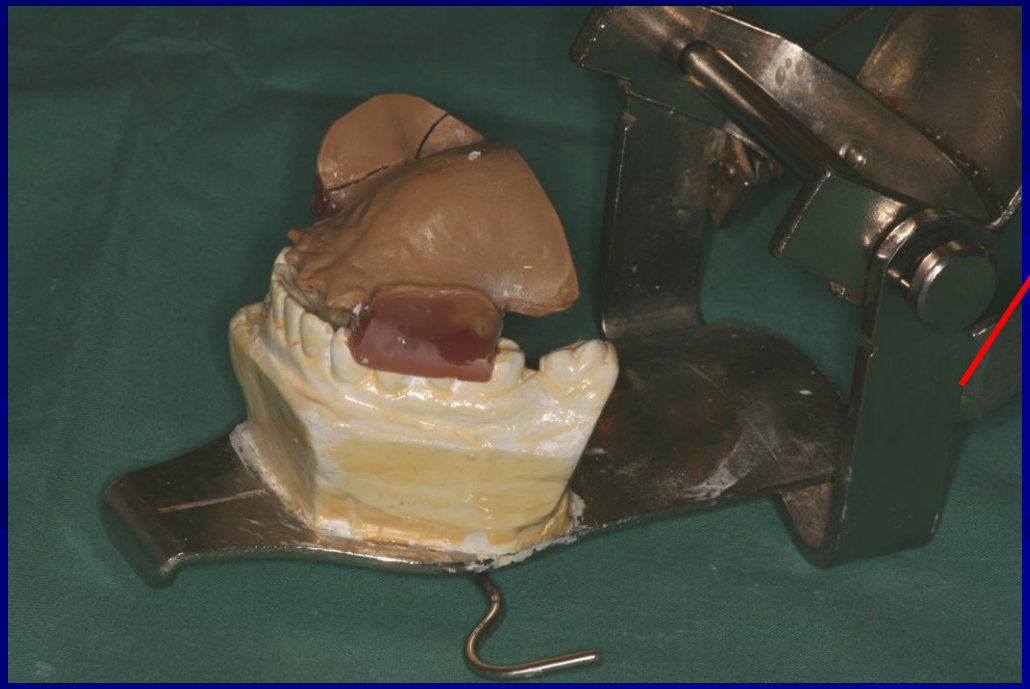
Sequences of operation

- The cast is grinded, polished and adapted on the former gypsum model

The final framework is tried out

Sequences of operation

- The arteficial teeth will be applied acc. to intermaxillary registrate in articulator.



Arteficial teeth
- acrylic

Sequences of operation

- After trying out of the denture with wax base and teeth the denture is completed

The framework with the wax pattern of the base and teeth has been put into a flask, the wax has removed and replaced with a resin dought. The resin base is polymerized using heating.

Sequences of operation

- The denture is finished, polished and tried in.

Feedback

- For which classes of removable dentures is necessary to fabricate the metal framework?
- On which model is the wax pattern of the framework made?
- What is the method of „lost wax“ ?

Feedback

- Which parts does the partial removable denture consist of?
- Describe the sequences of operations of these dentures. Explain the main difference between class I. and II. removable dentures.
- What is the purpose of the bite template? Which part does it consist of?
- Explain the term „investment“ .