RELINING AND REBASING OF COMPLETE DENTURES
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Among the most annoying and difficult problem in prosthetic dentistry is prolonging the life of dentures. Procedure of relining the complete dentures perhaps more difficult than any single step in fabrication of complete denture.
The main purpose for either Relining or Rebasing is to -

- Reestablish adequate adaptation of the denture
- Re-establish the original jaw relation
Definition of Relining

(GPT-8): The procedure used to resurface the tissue side of a removable dental prosthesis with a new base material, thus producing an accurate adaptation to the denture foundation area.

Winkler – the process of adding some material to the tissue side of a denture to fill the space between the tissue and the denture base to improve the fit of the denture.
Indications:

1) When the residual alveolar ridges have resorbed causing changes in the denture bearing area.

- Loss of retention and stability
- Loss of vertical dimension
- Loss of support for facial tissues
- Incorrect occlusal relationship
- Reorientation of occlusal plane
2) Immediate denture of 3-6 months after the original construction.

3) When patient cannot afford for new dentures.

4) Geriatric or chronically ill patients who cannot take the stress of too many appointments.

5) A new denture which doesn’t have the expected fit at the time of delivery.
Contraindications:

- Dentures should not be relined or rebased under the following conditions.
  - When excessive amount of resorption has taken place
  - When abused soft tissues are present.
  - Temperomandibular joint problems
When the denture base itself is in poor condition or of poor quality.

Poor teeth arrangements (poor esthetics)

Unsatisfactory jaw relationship

Severe bone undercuts.
Relining can be accomplished by

- Clinical procedures and
- Laboratory procedures
Relining procedure

1. Static methods
   - closed-mouth technique
   - Open-mouth Technique (Bouchers)

2. Functional method

3. Chair-side technique

Clinical procedure

Laboratory procedure

1. Articulator method
2. Jig method
3. Flask method
Tissue preparation

- Hypertrophic tissues are removed surgically
- Dentures are left out of the mouth 2-3 days before making the final impression.
- Daily massage of the tissue
- Use of tissue conditioners
Denture preparation

- Pressure areas are relieved
- Occlusal disharmonies are corrected
- The tissue side is relieved by 1.5-2mm
- The denture periphery is shortened too to create a flat border
Impression techniques

1. Static impression techniques
   - Closed mouth impression
   - Open mouth impression

2. Functional impression techniques
   - Using a tissue conditioner
Relining procedure

Clinical procedure

1. Static methods
   - closed-mouth technique
   - Open-mouth Technique (Bouchers)

2. Functional method

3. Chair-side technique

Laboratory procedure

1. Articulator method
2. Jig method
3. Flask method
1) Static impression techniques

- **Closed mouth impression**

- **Technique A**
  - *Centric relation*: existing centric relation is recorded

  *Denture preparation*: all the undercuts are relieved and 1.5-2mm except in the posterior border
Special suggestion: palatal portion of the maxillary denture is removed.

Border molding: reformed to their functional contours.
Impression making

↓

zinc-oxide eugenol impression paste.

↓

patient closes lightly into the premade interocclusal record.

↓

Exposed part impression made with quick-setting plaster.
Advantages of Technique A

The opening of the palatal portion

- Allow better seating of the maxillary denture
- Alleviate the increase in vertical dimension

- The premade interocclusal record helps
  - To position the dentures during the impression making
  - To orient the dentures on the articulator
Disadvantages:

• The possibility of moving the maxillary denture forward

• No solution for difficulties of relining both dentures at the same time.
Technique B:

- **Centric relation**: existing centric occlusion and intercuspation are used as a means to seat the denture.

- **Denture preparation**: same as that of technique A.
• **Special suggestions:**
  palatal portion is deepened on the polished surface up to half the thickness of the denture base

Holes are drilled at 5 to 6mm intervals inside this groove.

This helps in easy removal of the palatal portion during packing and processing.

• **Border molding:** *green stick compound*
Impression:

**IOWA wax** is the material of choice.

The impression is made in two steps.

- The impression of the labial flange
- The crest of the alveolar ridge between the canines is made as a second step
• **Advantage:**

  - Reduce the possibility of extreme forward movement of the maxillary denture.

• **Disadvantages:**

  - possibility of distortion

  Errors of existing centric occlusion can produce on inaccurate impression.
Technique C:

- **Centric relation** - Existing centric relation and intercuspation

- **Denture preparation** - same as in techniques A and B

- **Special suggestions**: the labial and palatal flanges of denture are perforated.
• **Border molding** - Green stick compound

• **Impression** - no specific impression material recommended.

• **Advantages** - nothing to be emphasized.

• **Disadvantages** - the same as in technique A and B.
Technique D –

- **Centric relation**: existing centric occlusion is used to seat the maxillary denture.

- **Denture preparation**: Same as in other techniques
• **Special suggestions:**

- Large opening should be made in the palatal portion of the maxillary denture.
- Adhesive tape is attached over the buccal and labial surfaces.
- A fairly deep groove should be cut into the buccal and labial surfaces of the dentures.
- This is done at the junction of impression material and is filled with baseplate wax.
• **Border molding** - not suggested

• **Impression** - plaster of Paris or zinc oxide - eugenol for the first step,
  plaster of Paris for the second step (palatal portion)

• **Advantage** - same as technique A

• **Disadvantage** - pressure points and a faulty impression can result due to errors in centric occlusion.
Closed-mouth relining technique – mandibular denture

• Hazards in relining a maxillary complete denture are greater than relining a mandibular complete denture
Technique E:

• **Centric relation** – the existing centric occlusion (intercuspatation)

• **Denture preparation** – not specified
Special suggestion:

- Loss of vertical dimension is corrected by luting softened modeling compound to the occlusal surfaces of the posterior teeth.

- The patient is directed to repeatedly pronounce the letter ‘m’.

- The record is chilled, trimmed, and slightly heated before returning it to the patient’s mouth.
Than a lower work impression is made, impression poured

Than mounted on articulator and denture is removed and cleaned

Excessive undercuts should be removed.

The denture is luted to the maxillary denture in maximum intercuspsation.
Open-mouth impression technique (Boucher’s technique)

- In this technique the maxillary and mandibular dentures are relined at the same time.

- Impressions are made independently.

- The dentures are used as special trays.

- After impressions are made, a new centric relation record is accomplished.
Technique F : Boucher’s Technique

• A posterior palatal seal is formed in modeling compound.

• The borders are shortened and 1mm of space is provided on the tissue side.

• A modeling compound handle is attached for the lower denture.

• Adhesive tape is placed over the polished surfaces.
• Border molding is done with green stick compound.

• Final impressions are made with zinc oxide eugenol or elastomers.

• A centric record is made using the impressions as record bases.
Functional impression technique with tissue conditioner

- Tissue conditioner (temporary soft liner) is used as a functional impression (material).

- Centric records are made first using compound or wax.

- The denture preparation is similar to other techniques.
Border molding is done whenever flanges are under extended.

The tissue conditioner is placed, the excess trimmed and the patient is dismissed.

After 3 to 5 days the denture is examined and tissue conditioner is reapplied.

The patient is reviewed periodically
When tissue has returned to a clinically healthy state, tissue conditioner is removed and new impression is made with new tissue conditioning material.

Impression can also be made with ZOE or elastomer.

The patient is asked to wear it for 30 minutes. It is then removed and a cast is poured immediately.
Laboratory procedure:

The laboratory procedures of relining a denture include:

- Articulator method
- Jig method
- Flask method
Rebasing:

GPT 8 - “A process of refitting a denture by the replacement of the denture base material”

Sharry defined as “it consists of replacing all of the denture base material with new material.

Winkler - “the process of replacing all the base material of a denture without changing the occlusal relationship”
• Rebasing is similar to relining except that there is extensive replacement of the denture base material.

  – The clinical procedure is similar to that of relining.

  – Denture is prepared and border molding is done as described in relining.

  – A new vertical and centric relation should be recorded.
Difference between Relining and Rebasing

- The only difference is that only a layer of acrylic is removed before wax-up in relining but is rebasing the entire denture base is removed prior to wax up.
Indications:

- It is done if the observed clinical changes are moderate to minimal.
- When the denture base has to be changed due to some processing defects e.g. - due to discoloration, porosity etc.
- Denture teeth should be in good condition.
- When porcelain teeth have been used.