**Lec: Prosthodontic د.حكمت جميل Relining Complete Dentures**

Patients often present with existing complete dentures that, while still structurally sound, are not retentive or stable because they no longer properly fit the soft tissues and residual ridges. These patients often present with obvious occlusal and/or facial changes. They may exhibit poor esthetics because excessive bone loss under the prostheses has resulted in a loss of face height or repositioning of the anterior teeth.

Their occluding vertical dimension (OVD) and their occlusion may also be compromised because the dramatic tissue changes have caused the dentures to lose their proper ridge orientation. The tissue underlying the dentures is frequently abused and irritated. Most of these changes are the result of poorly fitting dentures. If these changes are not too great, and the dentures are still in reasonably good condition, these problems may he corrected by relining the dentures.

Relining is a procedure to resurface the tissue (intaglio) surface of an existing denture with new denture base material. Other indications for relining may have to do with flange length problems or non displaced fractures of existing dentures.

If conditions have led to abused support tissues, some corrective actions must he

taken prior to the relining procedures. A tissue conditioning material is often used in

conjunction with other procedures (such as surgery) to return abused oral tissues to a healthy state. Because tissue conditioning material has a short, usable, functional life, both the tissues and material must be examined frequently, with the material being replaced as necessary.

**The decision to reline an existing denture is based on a number of factors:**

1. The occluding vertical dimension must be correct or it must be able to be corrected during the impression procedure for the reline.

2. The patient's centric relation occlusal position must be stable or correctable through occlusal adjustment.

3. The general appearance of the teeth must be satisfactory to the patient, and there should not be severe occlusal wear.

4. Speech patterns should also be satisfactory. As stated previously, the soft tissue must be healthy or correctable.



Making the impression for a reline is much like the conventional final impression

technique. However, there are some differences and several additional objectives that must be achieved simultaneously when making the impression for relining a denture,

The most obvious difference is that an existing denture is used in place of the custom impression tray. A second and significant difference is that, when relining a denture, the final impression must be completed while maintaining the correct occlusal vertical dimension and making sure that the patient remains in the centric relation position through the border molding procedures and the final set of the impression material.

Maintaining the occluding vertical dimension and the centric relation position is not a consideration when making a conventional final impression. This may be a difficult procedure on some patients, and a poor occlusal scheme may complicate this endeavor. An occlusal equilibration of the existing dentures may be necessary before the reline procedure to insure adequate positioning of the dentures during the impression procedures.



Dentures demonstrating simple looseness without apparent occlusal disharmony,

and without noticeable changes in the vertical dimension of occlusion or appearance,

are ideal candidates for being relined. However, because these dentures fit closely to the underling tissues, an extra step is necessary prior to making the final impression. The viscosity of the impression material can prevent a denture from being properly seated when attempting the impression, if insufficient space or sufficient relief exists for the impression material. Additionally, even if tissue conditioning was done, some areas of the denture may be placing unacceptable forces on the underlying tissues. Therefore approximately 1.5 mm of resin must be removed from the tissue side of the denture prior to making the impression. This may be difficult or impossible in those dentures whose base may be little more than 1 mm in thickness.

Both the maxillary and mandibular denture for some patients may require relining.

When both dentures must be relined, one denture at a time is relined rather than

attempting to complete opposing relines simultaneously.

When deciding which denture to reline first, usually the less stable of the two is relined first. If there is no significant difference between the stability- or retention of the opposing dentures, then the maxillary denture is often selected. Once relined, it will provide a stable opposing arch when relining the mandibular denture.

Dentures may be relined using either a "closed-" or "open-" mouth technique.

Because one of the primary objectives of a denture reline is maintaining the proper

occlusion, many clinicians select the closed-mouth technique.

The primary difference is that with the closed-mouth technique, the patient is required to close and maintain the dentures in proper occlusion at the correct OVD while the impression material sets.

With the open-mouth technique, the patient is not allowed to maintain occlusal contact. The open mouth technique usually requires extensive occlusal equilibration at insertion and can even allow the denture to be misaligned in its proper relationship to the residual ridges.

**Impression Technique**

The denture flanges are reduced so that 2-3 mm of space exists between the flanges and the depth of the vestibules to provide space for the border molding material.



To allow the laboratory technicians to remove the denture from the master cast

during processing, enough resin is removed from the tissue side of the denture to eliminate all resin undercuts on the denture base.

Next, to create space for the impression material, reduce at least one millimeter of

the remaining unreduced denture base material over the entire tissue surface. At this point, space for the impression material has been created but, the plane of

occlusion has been changed and the vertical dimension of occlusion has been overly

reduced by approximately 1—1.5mm. This loss can be regained by adding 4 "stops." Small tissue stops are created with spots of heavy-bodied vinyl polysiloxane material about 3 mm in diameter.



The stops are placed in the canine and second molar areas, the denture

is gently seated, and the patient is closed into the CR position at the proper OVD. A small dot of adhesive will be needed to keep the VPS material in position. If the denture cannot be positioned properly by creating these stops, it may be necessary to reevaluate the reline procedure as a treatment option. Border molding is now completed, as with a conventional impression, with the exception that the vertical dimension of occlusion and centric occlusion positions must not be compromised.

The occlusion is continuously evaluated to make sure no changes in denture position have occurred.



Four to six holes are placed into the maxillary denture, spaced approximately 12

mm (half inch) apart through the palate of the denture with a round bur (#6). These

holes provide escape vents to minimize hydraulic pressure buildup during the wash

impression. Three holes are generally placed following the midline raphe, beginning

with one hole at the incisive foramen. Two holes are cut on each side lateral to the

midline, in approximately the canine areas. Care should be exercised to avoid making these holes through the existing denture teeth.

Generally, unless the denture is very large, no holes are required on the mandibular arch—unless the ridges are massive and there is concern about hydraulic pressures within the impression material that may prevent the complete seating of the denture. When required, holes may be placed approximately 12 mm (half inch) apart.

The impression material is mixed and loaded uniformly inside the denture. For the

maxillary denture, the denture is seated onto the ridges by exerting gentle pressure

upward and backward. The patient is instructed to close into the centric occlusion position, and the clinician must manipulate the denture until the desired occlusion is

achieved at the-correct vertical dimension of occlusion.



While maintaining the correct occlusal position the musculature of the mouth is border molded in same manner as a conventional complete denture impression. Centric occlusion, occluding vertical dimension and denture position are all examined for correctness at this time. The impression material is allowed to set according to the manufacturer's instructions.

After the impression material has set, the denture is removed from the mouth, and

the excess impression material is trimmed from the denture and surfaces of the teeth

The vertical dimension of occlusion and centric occlusion are reconfirmed. If they are acceptable and retention and stability is adequate, the denture is then ready for the laboratory procedures.



If the clinician or staff pours the final impression in dental stone, it is essential that

the denture not be removed from the cast prior to submission to the laboratory. If

removed, it may be impossible for the laboratory technician to properly reseat the

denture on the cast and the proper cast/occlusion orientation will be lost.

The laboratory technicians will invest the denture in a processing flask prior to removing it from the cast. If any resin undercuts were not removed prior to making the impression, it may be impossible for the technician to remove the denture from the cast without breaking the cast. That is why it was important to remove all resin undercuts prior to making the impression. If a posterior palatal seal is required it is usually cut into the cast just before processing the denture.



The denture is returned from the laboratory just as if it were any other new denture,

Insertion, adjustment, and post-insertion procedures are followed, just as

for a conventional denture. Because there was no face bow made, the relined dentures will have remount casts but no index to place the maxillary remount cast/denture on the articulator in the proper relationship to the condyles. A facebow recording and a centric relation record may be necessary for extensive occlusal equilibration.