**Denture Copying:**

* With increasing age 🡪 loss of elements in the CNS --» decreases the ability to learn new patterns of muscular.
* Therefore elderly people have difficulty in controlling a new denture with a new polished surface.

\*Indications :

1. When the pt. Requests a new set.
2. V.old pt. With v.old denture.
3. Wear of the occlusal surface.
4. Pts having problems with previous denture.

**\*Category A**( all the surfaces are OK ) 🡪 the pt. Wants a “spare set “ 🡪 Denture duplication.

**\*Category B**( only the fitting is Not OK ) 🡪 Relining and rebasing.

**\*Category C**( only the occlusal is Not OK ) 🡪 if the complaint is localized to a small defect 🡪 simple occlusal adjustment.

If the defect is “ general occlusal wear of the posterior teeth “ we avoid making new denture, and we replace the teeth with new ones positioned in the correct occlusal relationship using cold-cure resin.

* Providing a new denture is only one of the treatment options as well.

**\*Category D**( only the polished is Ok ) 🡪 the most common category, we retain the polished surface and copy the occlusal and fitting surfaces.

**\*Category E**( all the surfaces are not Ok) 🡪 this category is Not an indication for copying the denture 🡪 make a New denture.

**\*Methods for denture duplication:**

1. Choose an appropriate soap box.

2. A window is cut to provide an exit for sprues.

3. A. Mix an alginate to obtain an impression for the polished and occlusal surfaces.

B. Trim the alginate at the level of the upper border of the box and just below the denture periphery.

4. Put a layer of Vaseline( petroleum jelly ) on the alginate to facilitate removal of the two halves of the alginate.

5. Mix alginate to obtain a record of the impression surface.

6. Soap box is closed.

7. Denture is removed when the alginate sets.

8. Sprue channels are cut with wax knife into heels of polished surface impression.

9. Wax poured to above level of ginigval margin.

10. Mould closed and held together with rubber dam.

11. Base poured in a fluid mix of cold-cure acrylic resin.

- Usingthis technique gives us accurate copies.

- The max. Dimensional changes 2.12%

**\*Modification of copy dentures:**

-the most complex situation is when the fitting and occlusal surfaces of upper and lower dentures are to be modified.

-the technical and clinical stages are similar when constructing dentures in the conventional manner, we can undertake more than one clinical stage at the same appointment.

-Avoid the bite registration step if the occlusal surface is not to be altered and the copies could be interdigitated accurately.

-we use a low viscosity impression material during the try-in stage (closed mouth).

-if the duplication includes modifying the occlusal surface 🡪 bite registration and wash impression at the same appointment or at the try-in stage.

-the lower denture is more critical than the upper, and features such as the polished surface and the tongue space should be carried through to the replacement.

-the lower copy controls the arch shape of the upper, that is constructed at the same time and the upper occlusal rim should be carved carefully against the lower.

**Partial Denture Relining:**

* The main problem we're trying to treat is the “ loss of function “.
* The bite force in human is 25kg for each cm.
* When the support in the partial denture is provided by teeth (tooth-borne denture; class III & IV) 🡪 we don’t need to reline or rebase the rpd.
* Dentures that are class I or II (tooth-tissue borne), the saddle bears the load from the opposing arch 🡪 with time, the ridge resorbs 🡪 the support decreases 🡪 the denture will sink down gradually either from one side/both because of the space created between the periosteum and the fitting surface of the denture 🡪 the occlusal plane will go down as we go posteriorly 🡪 open contact between the artificial teeth of the rpd and teeth in the maxilla 🡪 the pt.'s chief complain will be “ inefficient mastication”.
* The partial denture saddle sinks down and the inferior border of the major connector will go forward and labially into the sublingual tissue causing trauma to the periodontium 🡪 retrograde pulpitis will cause mobility to the anterior teeth that are providing esthetics and might be included in the design to provide indirect retention.
* Trauma and laceration 🡪 ulcer 🡪 retrograde pulpitis 🡪 bone resorption.
  + How to correct this problem:
* We will use the denture's saddle as a special tray to make the new impression.
* Wo modify the fitting surface 🡪 eliminate the undercuts and remove 1mm layer to create space to hold the impression material.
* We keep removing until we reach the tissue stopper (space for the acrylic base 🡪 gives sufficient material and uniform thickness).
* Only if the borders are deficient we use low fusing compound to record the functional dimension (this is v.imp in the buccal shelf area because it’s a primary load bearing area).
* The final imp. Is either with ZoE or elastomeric material (polyether, polysulfide, silicone).
* Return the rpd to the pt.'s mouth, make sure it’s fully seated, press and hold any rigid component but not the saddle, and do Not let the pt. Close his mouth (this is Not a closed mouth technique).
* Take the impression out, make sure there’s no impression material underneath the major connector, rests or clasps because later on it will be converted to acrylic so it will traumatize the pt. And it wont fit into it’s terminal position.
* Make sure that these landmarks are there:

1. Mylohyoid ridge groove.
2. Buccal shelf.
3. Retromolar pad (impression).

* Return it back to the pt.'s mouth and take an overall alginate pick-up impression using a large stock tray.
* Alginate should be creamy and not too thick, to make sure that it stays in it’s place while gelation takes place.
* Pour it with stone 🡪 setting 🡪 separate the alginate 🡪 the mould that we get have the rpd setting in it’s exact position and relation to the abutment and neighboring soft tissues and structures 🡪 we flask it immediately 🡪 during flasking we take out the ZoE impression and make sure that everything is in it’s place (the technician then continues).
* Try it in the pt.'s mouth (1. Won’t sink, 2. In occlusion with opposing teeth, 3. Occlusal plane is at one level, 4. Efficient mastication is back to normal, 5. Clasps, rests and major connector are in their positions and are not causing harm anymore).

**\*Note:** when we remove from the fitting surface, we’re making it more reactive with the newly mixed acrylic.

**Single Denture I:**

* The single denture : when any patient comes to you with one edentulous arch that needs to be restored opposed with non-edentulous.
* In your trt plan you have to preserve what the pt. Already have before you have to preserve what the pt. Already have before you start replacing what is missing.
* Mandibular canine is the most commonly retained, then the mandibular incisors.
* We usually see edentulousm in the maxillary arch more.
* 4 cases of single dentures :

1. Opposed by teeth.
2. Fixed restoration (bridge).
3. Rpd.
4. Upper complete (requests lower denture).

* Single denture is more difficult than complete dentures.

**\*Biological challenges :**

1. Caries.

2. Perio diseases.

3. Residual ridge resorption (accelerated when the force is not even; edentulous arch facing dentate 🡪 increases resorption + flabby ridge).

**\*Biomechanical challenges:**

1. Due to bone resorption the maxilla will go up and become narrower and the mandible will become wider 🡪 jaw relation extremes 🡪 crossbite/pseudo class III

2. The difference in force between natural and artificial teeth, the natural teeth generate greater force due to the PDL and the proprioceptive feedback so we’ll end up with flabby ridge and more resorption in the edentulous arch.

3. Irregular occlusal plane (supra-eruption, loss of interocclusal space, rotation, drifting).

4. Acrylic teeth are smaller than natural teeth (even the largest size is smaller) 🡪 smaller occlusal table (easier in mastication + less force on the tissues).

5. Lower dentate and upper denture 🡪 extreme forces 🡪 fracture (to overcome this we reinforce it with metal).

**\*Treatment Planning:**

1. Patient’s expectations (usually fixed prosthesis are better accepted than removable)

- The more you manage the expectations the more the successful the trt is.

(Even if you do the best denture you didn’t fulfil the pt.'s expectations 🡪 failure and vice versa).

2. Achieve the basics; A. appropriate occlusal distance.

B. Occlusion at CR.

C. Reorganization of the occlusion.

D. Forces directed with the long axis of the teeth.

E. Avoid any interference in the lateral movements (interference 🡪 dislodge/fracture + soreness of the gingiva 🡪 smooth anterior guidance).

- Pt.'s with supra-erupted teeth are difficult to achieve (proper VD + bilateral contact + making the force with the long axis of the teeth).

**\*Single Opposing Natural Teeth:**

- If the occlusal plane was not even due to supra-erupted teeth, we either leave it as it is or reorganize it, usually we reorganize because it is difficult to achieve anterior guidance in this case.

- Upper complete denture opposing lower natural is easier than lower complete opposing upper because the upper have less resorption, more support and retention and more peripheral seal, plus the mandible is more movable because of the tongue.

- Most clinical situation (lower natural with upper complete) most common error (accepting the occlusal plane).

- The reason that patients retain the lower anterior teeth is because they’re easier to clean and the saliva comes lingually plus the upper teeth are easier to extract.

- It’s contraindicated to construct a lower denture with upper natural teeth, it will be unretentive, unsupportive, the force will be too much and the pt. Won’t be happy, so the trt options are; either implants(sometimes pt.s cannot afford it) or extract the upper teeth (but we don’t want to extract only because we want to extract only for making denture) 🡪 so we try to make the best denture we can (flat occlusal plane with good retention).

**\*Single Opposing Fixed:**

- Either already present or we’re replacing the missing teeth with fixed prosthesis.

- It is easy and simple as if it’s a natural dentition, and it’s a chance to fix the pt.'s occlusion

**\*Single Opposed by Existing Denture:**

- Make sure that the existing one is good.

- Usually we keep the upper and do the lower.

- Always remember it’s easier to construct both dentures rather than one.

- We take the upper out of the pt.'s mouth, take an impression, pour it, and set the lower teeth accordingly.

**\*Clinical Steps for 2 cases:**

Perio, Endo, Extractions.

* + **First Case (Single Upper Opposing Natural);**

1° impression 🡪 2° impression (medium body with light body silicone) 🡪 jaw relation 🡪 setting of teeth 🡪 make decision about the occlusal plane (in this case we do selective grinding to make it as even as possible), it’s easier to adjust the acrylic teeth, slightly compromised occlusion accept it, changes done first on the cast then duplicate it in the pt.'s mouth (natural teeth).

* + **Second Case (Single Opposed by Fixed):**
* Options for modifying a tooth (enameloplasty, crown, onlay, composite…)
* A case with upper edentulous except for the 8's and the lower needs a bridge; either do an overdenture or extract.
* The pt.'s were eroded according to the shape of the wear.
  + Always when someone asks about the cause of the tooth wear say it’s multifactorial then say the most prominent cause.

🡪Treatment: determine the cause of the tooth wear 🡪 stop it 🡪 splint.

* We can make crown lengthening/implant (the pt. Cannot afford it)/resin bonded bridge (not a good idea).
* We’re going to make a bridge; 1° impression 🡪 border molding 🡪 2° impression 🡪 jaw relation with facebow 🡪 wax up (to visualize the end result) 🡪 impression for the lower 🡪 put the pt. In the CR