**Sheet no : 11**

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.

We had talked about Denture Try in and today we are going to talk about Denture Delivery.

**Armamentarium** that we need before we get to the session of insertion are patient file, articulator, pressure indicating paste (PIP), denture bowel, mouth wash, hand mirror, completed dentures and study casts, straight hand piece and burs, and occlusal indicating wax or articulating paper.

\*We need the articulator to make clinical remount.

**Steps of denture insertion**

We should clean the denture and inspect it visually and palpate it all around with our fingers on the polish and fitting surfaces and on the flanges to make sure there are no sharp edges or rough areas and **relief** it before putting it in the patients mouth.

\*Imagine if the patient is a first time denture wearer and his very first encounter with the denture was that something was sharp and hurt him. All the experience of denture expectation will be compromised!

Ideally the patient is instructed to keep his previous denture out of the mouth for 12 or 24 hours because there is a high possibility that the old denture is ill-fitting and it is harming the tissues in a way or another so we have to make sure that the tissues are in a relaxed and undistorted state. If the old denture is making distortion to the tissues, the new one will not seat perfectly even if they fit perfectly. It will give you the impression that if the denture has something wrong with the occlusal or fitting surface although it could be a good denture.

**Next step** is to use pressure indicating paste to relief any pressure area or point and that will reduce the patients complains from ulcers in the post insertion sessions. When using PIP you will see which areas are causing pressure or interference so you can adjust it in the day of insertion and make sure your patients will come to the post insertion session with minimal complains.

PIP comes with disposable brushes that you should throw it after usage. Put enough material of PIP on a slab (so you won’t contaminate the whole bottle if you take from it more than one time) and start putting it on the denture using the brush.

\*PIP is especially helpful when you have bilateral undercuts on the residual ridge that interfere with initial placement of dentures.

How to use PIP?

Start side by side and put thin layer all over so it will cover the surface completely so there are no show through areas of acrylic then insert in the patient mouth and take it out. You will see then a show through areas which means there is a high point that should be relieved with the acrylic bur. Then put another layer of PIP and put it in the patient mouth again to make sure that now we don’t have the pressure areas anymore.

\*We start side by side to prevent any wash of the material while inserting it in the patient mouth and this will give you a false idea that it is a pressure area.

\*Most commonly you will find the pressure areas or undercuts in the maxilla **posteriorly around the tuberosity** and in the mandible **lingually posteriorly.**

\*We start first with areas we know there are undercuts in it in the patient mouth then we move on to the other areas

\*It is essential to put PIP in incremental layers on denture borders to prevent accidental wash out of the material.

Once we finished with PIP and made sure there are no pressure areas we start checking **support,** **stability** and **retention.**

-We check support by applying vertical pressure toward the tissues on one side then the other one so we make sure the denture is not sinking in the tissues. Of course it will sink if **all** the tissues are flabby.

-Stability is resistance to lateral forces. We check it by applying pressure on one side and check if the denture is moving from the other side and then try to apply lateral force to the denture on the lingual and buccal surfaces and see if the denture will be dislodged.

\*Something important about stability is that in the lower denture it should not extend to the ascending ramus, otherwise occlusal pressure will dislodge it. So as we said before we usually cover only two-thirds of the retromolar pad area.

-Retention: we check retention in the upper denture anteriorly and posteriorly. Anteriorly, we just hold the central incisors and try to put them down. If there is a resistance, this means we have a good peripheral seal in the anterior area. To check posteriorly the post dam area, we place our finger on the lingual of the upper centrals and try to push it outwards. If it comes out, this means the post dam area is not making good contact and proper seat between the denture and the post dam area.

In the lower we simply hold the lower centrals and try to pull it up. If there is resistance there is a good retention.

After checking support, stability and retention, we should check again **esthetics** to make sure that teeth are in the same position we left them in try in. Check also **midline** and **orientation of occlusal plane.** After that, we check **phonetics** to make sure phonetics are proper and the free way space is enough.

Last thing to check is **occlusal relationship** because it might change after try in because of the polymerization shrinkage of polymethyl methacrylate that could lead to occlusal discrepancies. So every denture needs occlusal adjustment but it differs in the amount of discrepancy.

Usually, laboratory remount eliminate the problem, however occlusal errors might still be present if mistakes in bite registration went unnoticed in the try in stage.

Errors could be small, moderate or severe. Small ones are solved with chair side adjustment. Moderate ones need clinical remount and gross errors need to re-do one or both of the dentures.

\*small errors are adjusted in the clinic by using articulating paper (dry the teeth with gauze after denture insertion so that saliva won’t interfere with the actual points) and grinding high points and inclines. The heaviness of the carbon should be even on all functional areas of the teeth and contacts are equally distributed. Remember that there should be no contact on anterior teeth in centric relation. If there is interference on protrusion on the anterior teeth as the case the doctor showed us, we can grind the edge of the lower incisors or the palatal surface of upper incisors so we don’t compromise esthetics.(remember there should be contact on posteriors and anteriors on protrusion in complete dentures).

\*Moderate errors need clinical remount. We transfer the denture to an articulator. This has several advantages including extaoral occlusal adjustment which means easier and cleaner. You will have no saliva while dealing with the articulator because when the saliva is spread on the teeth it is difficult to get the proper marks on the acrylic teeth. So clinical remount eliminates the continual removal and replacement of the denture and it is more accurate because you can see all the aspects of teeth including the lingual surfaces. Also if you are using the articulating paper inside the patient mouth, the patient could be biting with a small shift that could change all the occlusion so clinical remount is better and it also reduces complains in post insertion appointment. It also saves time and avoids any reflexes caused by pain or instability of the dentures.

To make Clinical remount, we should record the pre-centric relation. We put pieces of wax bilaterally only on the posterior teeth and guide the patient to bite in centric relation till the first interference starts so that we will have indentation in the wax sheet not perforations .so we are able in this way to capture any premature contact.

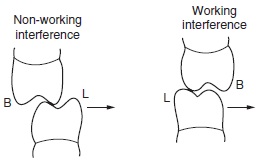
\*We can use the pink wax we have in the clinic. We roll it as double layer and then do the procedure.

After that we go to the articulator. We mount the upper denture on the mounting table. We should fill any undercut in the denture with cotton or gauze so it would be easy to separate the denture from the plaster later on. After that we put Vaseline on the fitting surface then use the regular plaster to mount the upper denture. After that we mount the lower denture according to the bite we have taken.

Now we have the denture on the articulator. We start adjustment in **centric relation** then **lateral** movement then **protrusive.** Starting with the *centric relation*, we put the articulating paper between the upper and lower dentures and start opening and closing several times. After that we flip the articulating paper so we change the color between red and blue and begin making lateral movement. Then we inspect the teeth. Any cusp that has two colors on it (interference in centric and lateral movements) we make grinding for it regardless it is functional cusp or not. Any cusp with one color (interference only in centric), we make deepening for the opposing fossa, not grinding. Repeat the procedure many times till you have even contact on all posterior teeth.

Now after finishing the centric we move on to check *lateral movement*. From now on, it is unacceptable to touch any functional cusp. On the **working** side, we use the BULL rule which is Buccal upper, Lingual lower. So any interference on the working side, we remove from the lingual incline of the upper buccal cusp and from the buccal incline of the lower lingual cusp. On the **balancing** side we grind from the inner inclines of the upper lingual cusps or lower buccal cusps. It is preferable to grind form the lowers for esthetic sake.

Revision: The contact on the working side is between the buccal cusps of the upper and lower and lingual cusps of the upper and lower (buccal with buccal and lingual with lingual). The contact on the balancing side is between the upper lingual cusp and lower buccal cusp.



Moving to *Protrusion,* we have two scenarios. Either premature contact posteriorly and openbite anteriorly, or premature contact on anterior teeth. In posterior interference we reduce the distal of the upper and the mesial of the lower. In anterior interference, we adjust the labial surface of lower anteriors or the palatal surface of the upper incisors

\*Make sure you have no anterior contact in centric relation, uniform simultaneous bilateral centric contact, and smooth excurtive movements (there is no jump when you move laterally on the articulator). Make sure there is balancing contacts that are not heavier than the working contacts, and light grazing contact of the anterior teeth in excurtions.

After all that dismount the denture, polish it and put it intraorally. You should remember how was the contact on the articulator so it is the same in the patient mouth. Stabilize the mandibular denture and use the articulating paper inside the patient mouth to make sure everything is ok.

\*It is preferable to take two pre-centric bites to make sure the bite is correct.

Question from a student and the doctor answer is that after remounting the lower to the upper according to the bite we took, we remove the articulator pin so the teeth will close on each other. It is not our aim here to preserve vertical dimension because it will change just by touching the first functional cusp.

Any area you did grinding to it should be polished with pumice on a **wet** track wheel (use sterile water). After pumice which is coarse, we use a softer material which is tin oxide.

Always sterilize your denture (soak it in the liquid which is available now in the clinics for 10 minutes) before polishing so you won’t contaminate the pumice and the wheel. You could also mix the pumice with chlorhexidine to get more disinfection.

Instructions to give the patient before he leave:

You should consider the individuality of each patient. By the end of your treatment you know your patient better like if he is philosophic or nagging or if he is going to clean his denture so you customize your instructions according to your patient.

Tell the patient to start eating soft diet and small pieces of food in the first month and to masticate bilaterally to stabilize the denture. After they got used to the denture they can eat harder diets.

Reassure your patient that his speech will not be perfect in from the first day. Advise him to practice and to read anything in a loud voice so he will adapt faster.

Stress on cleaning the denture daily with a soft brush on the polish and fitting surface as well as brushing their residual ridges with that soft brush. Tell them to get the denture out during night time or if he wants to sleep with the denture tell him that he should remove it minimum for 8 hours daily so you will give the tissues a rest.

Thank you