**Special Impression Technique**

* Pick up impression technique
* Functional (dual ) impression technique
* Neutral zone impression technique
* Flappy ridge impression methods
* Unemployed ridge technique
* Admix technique

**Introduction**

Using of closed-fitted special tray with dentate patient will end with showing the tray through the impression ,plus the minimal thinkness of the material in the rest of areas , lead to have distorted model , which will effect the metal framework in negative way .

**Quick info**

*The amount of space that needed for :*

* Alginate : 3mm-6mm
* ZOE : 0.5-1.5mm
* Rubber : 2mm
* Compound : not less than 2mm
* Impression plaster : 1.0-1.5mm

All these spaces if it increase or decrease will lead to distortion of material .

*Mucostatic impression VS mucocompression impression*

* Mucostatic : register the tissue in their anatomical form , which means at rest ; the denture will be full fit , perfect occlusion ( maximum intercuspation of upper and lower ) but once the patient start function ; the tissue will compress and the occlusion change ,so the shape of tissue dose not mimic the denture fitting surface , fitness of dnture is less , occlusion less than perfect .
* Mucocompression : register the tissue under function by using compressed material ( compound , thin section of ZOE ) which means under function ; the denture fitting surface exactly like tissue under function , more stability , perfect occlusion . at rest ; the tissue will recall to it's anatomical form , if the comprssion is more -like in flabby ridge- the denture will displace from it's position at rest , but if it minimal compression plus good border seal then minimal movement of denture take place which won't displace the denture at rest but lead to have less than ideal occlusion , less than perfect fitting .

للمرضى الي اهم اشي عندهم ياكلوا بالطقم بس

*Tissue stops ( stoppers )*

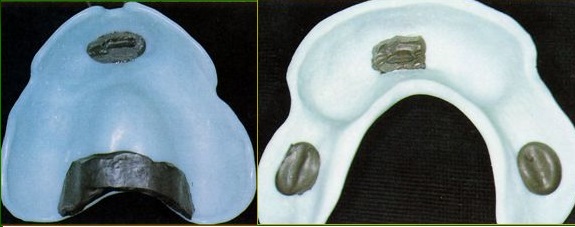
* Provide a space for impression material
* Should not be on the tooth that I prepare it ( abutment ) because ; \*I need on this area enough thickness of material for adequate record

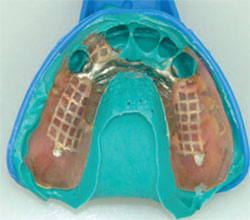
\*to avoid any error due to the distortion of thin impression

* Position of tissue stops : 2 options

\*1 anteriorly + 2 posteriorly

\* 1 anteriorly + 1 posteriorly on post dam area ( not preferable ; need an adequate record for post dam area ) . if the technician forget the tissue stop we can add it intraoral by using green stick and make our own stoppers



* Pick up impression technique
* For dentures repairing purposes
* The technique steps

\*Put denture inside patient mouth

\*Select a stock tray that will accommodate the arch +denture

\*Make an alginate impression for denture inside patient mouth

\*after set the material take it out, the denture picked up with impression

\*after pour the impression the denture will be seated on model

\*start do the repair procedure that we need

* Functional (dual ) impression technique

We have 2 types of RPD according to support :

* Tooth supported RPD ( bounded saddle ) ; use anatomical impression technique /mucostatic impression ; because we take the support from teeth/ by soft material ( alginate , light body silicon )
* Tooth-tissue supported RDP ( free end saddle ) ; use functional (dual ) impression technique ; because we take support from 2 different parts : mucosa which recorded by mucocompressive material , teeth which recorded by mucostatic material .

Technique steps :

\*Make primary compound impression with stock tray only for free end saddle with usual border movement

\*take the tray out ; part of it covered by compound (free end saddle ) and the rest of tray is empty ( make sure that no compound on teeth because it's rigid material and teeth have undercut ! )

\*dry the tray , spray an adhesive overall the tray and compound

\*mix alginate and load it overall the tray and compound , make the impression

Dual : 2 stages , 2 materials used

Functional : record functional form of tissue / primary impression / compound +alginate , stock tray

Example of functional impression : altered cast technique (done on secondary stage )

**Overall alginate impression ,**

وصف عامي للalginate impression

بنستخدمها مع CD وبسموها alginate wash

مش technique

**altered cast technique**

Apply a selective pressure

Increase the pressure on tissue more than normal functional load

Done on secondary stage

* Start with primary impression (dual impression )
* secondary impression ,secondary model
* laboratory steps which end with metal framework
* try in , check the framework
* back to the lab ( from this step the altered cast technique start )
* construct localized special tray for free end saddle area
* back to patient mouth , check the localized tray, border molding ( framework should be set in it’s correct position , apply a pressure on it during border molding ) , secondary impression with thin section of ZOE
* finally we will end with metal framework + localized special tray with border molding and secondary impression of free end saddle
* back to secondary model , cut the free end saddle area , through it out ,reseat the framework on model == bead and box the localized tray , pour it
* clean the model and framework

with this new model all our later work will be on it , the idea of this technique that we use a material that compress the tissue by 0.5mm by thin section of ZOE , which make a difference , it's prevent the denture from being a bove thick mucosa in the future , because under function if the mucosa was thick in the saddle area ;

* the denture will displace from the anterior part , loss the stability and the retention of denture
* rotational effect on abutment , which by time will destroy and lead to periodontal problem , in this case we record the mucosa in it's functional form

so under the function there will be better occlusion , better fitting on localized area but what prevent the denture from displaced at rest is the denture clasps (which must be put in it's correct place ; under the tooth under cut ).

**What the compression that I put it on tissue during impression making while I just hold the metal in it’s place ?!**

when we use ZOE in thin section 0.5-1.5mm will work as mucocompression material ( like compound but with more details )on other hand we put slight pressure on metal to hold it in it's correct position while we take the impression . if the thickness of ZOE increase more than 1.5 , the registration will be for tissue in it's anatomical form (not functional one ).

Advantages of altered cast technique ( **viva Question** )

* improve support
* redefine of free end saddle area
* distribute the support between the teeth and mucosa
* reduce stress on abutment
* neutral zone technique
* *Neutral zone* : it's the place where the teeth set , where the forces exerted by the muscles of the lips, cheek and tongue are in balance , in this area the net fore = zero , no effect of lips , cheek and tongue on the things ( teeth) in it .
* so if we set the teeth more buccally ,the force from cheek will be more , result in push the denture toward the tongue , so displaced the denture , less stability .
* this technique done with lower denture ( **viva question** )
* indications :
* with flat ridge , bone resorption , atrophic ridge
* Parkinson disease ( difficulties of neuromuscular control )
* Post extraction + Long edentulous period
* Old denture ( wear of it's teeth )
* Resection of mandible , due to tumor ( changes of neuromuscular part , so we can't put teeth any where )
* Importance of this technique :
* Better retention and stability
* Better esthetic , good support for lips /cheek
* Better phonetics
* Avoid the **Doberman** appearance (الكلب ابو لغاليغ ) which result from trapping of food labially between the denture and cheek
* Disadvantages
* Technique sensitive
* Cooperative patient
* Increase chair side time
* Increase cost
* Technique steps :

This technique done by 2 methods ( \*occlusal rim on jaw registration stage , \*making neutral zone impression / more accurate )

* *Occlusal rim technique*

\*Primary , secondary impression as usual , until reach the jaw registration stage ( upper recording block , lower recording block ).

\* determine the vertical dimension at rest and at occlusion , get the centric relation , do mounting , set the upper teeth only .

\*try in the upper denture with it's teeth , for lower occlusal rim trim from it ( for example if it’s width = 1 cm trim 3mm from inside , 3mm outside )

\* load one of these material above wax rim from the area where we trim the wax ( viscogel , tissue conditioner , rubber material )

\* the upper and lower ( with impression ) wax denture in patient mouth then ask patient to talk , swallow , move tongue , rinse , touch his lip by his tongue ,,

\*at the end there will be a space between the 2 impression parts where we will set the teeth on lower denture

\* reset the upper according to lower teeth

* *Neutral zone impression technique*

\* do all the steps as usual until reach the occlusal record blocks ; for upper , jaw registration plus setting of teeth , for lower contract a baseplate without wax rim and put 2 point of green stick or acrylic on both side posteriorly

\* on clinic or on articulator -after mount the dentures – increase or decrease these point until reach an adequate vertical dimension , anteriorly we put a wire for purpose of retention of impression material on it ( in occlusal rim technique we have wax for this issue

\* now we have upper wax denture + lower base plate ( for neutral zone technique )

\*mix the impression material ( tissue conditioner , viscogel , rubber material )

\* load the impression above lower base plate (which will hold by wire anteriorly , green stick or acrylic posteriorly )

\* seat it in patient mouth with upper wax denture , ask patient to bite , swallow , move tongue , rinse ,, for few minutes ( tissue conditioner usually takes 5-10min to give you final set to deal with material )

\* back to lab do an indices from tongue side and cheek side by plaster or rubber ( don't use it for indices if it was your impression )

\* remove the impression and green stick point , start set the teeth according to indices until reach the final setting

\* reset the upper according to lower teeth .

Dr show us Pictures for 2 lower dentures for the same patient done with different techniques , (conventional technique , neutral zone technique ), in **neutral zone technique** the teeth were trimmed lingually and positioned in way that respect the neutral zone , so there is an adequate space for both tongue and cheek , in **conventional technique** the teeth were huge so any movement will displace the denture .

* Flabby ridge impression methods :
* **Conventional method** , minimal flabbiness , use a spacer which give enough space for flabby tissue to construct then make impression as usual
* **Splint method** , sever flabbiness , anatomic impression , use impression plaster , put it on flabby area ( مثل الجبيرة ) , use large stock tray or special tray , make the impression , after the setting , the plaster layer will take out with impression , pour it to get a new model that all your next work will be on it .
* **Open window technique** , make a window on special tray at the flabby area then make secondary impression allover by ZOE except for window , with usual border molding , reseat the tray with impression inside patient mouth , inject an alginate or ( light body , plaster ) on window area or by using a large stock tray make an alginate impression overall
* **Selective displacive technique** , not used any more
* Primary impression with alginate
* Pour it , make special tray with spacer by 2mm
* In lab/ make a compound impression by special tray for model
* In patient mouth/ special tray full of compound ,reheat the border and correct it according to patient anatomy , use cobia pen to locate the flabby area on patient mouth , re-enter the impression so the cobia pen will copy on compound
* Reheat all the compound except flabby ridge area
* Remake impression , push it gently , make border movement , leave it and wait ( بهاي الطريقه احنا بنضغط ال flabby tissue وبنمنعها تتحرك يمين او يسار )
* Unemployed ridge technique
* For the patient with resorbed ridge -crest- ( slopes and buccal shelves do not resorb ) , after resorption there will be a space between denture and crest of ridge accommodated by soft tissue –cord like
* Procedure :
* Special tray , green stick impression
* Carve the cord like area
* Overall ZOE or light body impression to record the cord like area , so we make a mucostatic impression with ZOE or light body for cord like area and mucocompression impression by green stick for the rest , denture will be relive in cord like area
* Admix technique
* Flat ridge with mucosa مجعدة
* 3 compound cakes +7 green sticks = new material with new consistence that give maximum record for support area , بتشد الانسجه
* Procedure :

Primary alginate ,, special tray (spacer 2mm ) ,, secondary impression by the new mixture (3 compounds +7 green sticks ).

NOTE : I change the Dr sequence just to make it easy to understand

GOOD LUCK FUTURE DOCTORS ^\_\*