**Lec.4 Impression for Complete**

 **Denture dr. makarem**

**Final impression**

**Special tray (Custom tray):** An individualized impression tray made from a cast recovered from primary impression. It is used in making a final impression.

**Advantage of special tray:**

1-more accurate impression (even thickness of material, minimize tissue displacement & dimensional changes of impression material).

2-comfortable to the patient because it is less bulky than stock tray, & easiest to control by the dentist.

3-econamy (used less impression material).

**Material used for special tray construction:**

1-Shellac base plate.

2-Cold cure acrylic .

3-Light cure acrylic.

4-Impression compound.

**Types of special trays:**

**1-Spaced tray:** a layer of base plate wax (1mm) thick is adapted over the cast to provide space for the final impression material. The borders of both casts are left uncovered by wax in order to place an additional stress on this area during final impression making. Acrylic resin is mixed & adapted over the wax spacer.

**2-Close fit:** only separating media applied on the cast then a mixture of acrylic resin adapted over the cast this type is used with metallic oxide material.

**Another technique of close fit tray (sprinkle on technique):** acrylic powder in a container with perforated top(like a salt shaker) sprinkled on particular area on the cast the liquid in a glass medicine dropper sprinkled over the powder(monomer polymerizes the polymer) this procedure continue over entire ridge & associated landmark. This technique provides ease of use with minimum wastage of material.

**Requirement of special tray:**

1-the tray must not impinge upon movable structure. The border must be under extended 2mm.

3-the posterior limits of the impression tray should be slightly overextended to ensure inclusion of the posterior detail for development of the post-dam area in upper tray.

4-the tray should be rigid & of sufficient thickness that it will not fracture during its use the thickness of the labial flange should be 2.5-3mm.

5-the handle must not interfere with functional movement of the oral structures.

6-the tray must be smooth on its exposed surfaces, & should have no sharp corner or edges which would injury the patient.

**Final impression:** the impression that represents the completion of the registration of the surface or object.

**Objectives:**

* To obtain an impression from which a retentive stable and comfortable denture base can be constructed.
* To record as accurately as possible the shape of the mucosa overlying the alveolar ridges and hard palate together with functional depth and width of sulci.

**Final impression must be poured with stone material to produce the master cast.**

**Material used for final impression**

1-Zinc oxide eugenol impression material.

2-Impressiom plaster.

3-Elastomerimpression material: **a-**polysulfide (rubber base) **b-**poly ether **c-**silicon impression material.

4-waxes.

1-Zinc oxide eugenol impression material:

* These materials are normally used to record the final impression of edentulous arches
* These materials are normaly supplied as two pastes which are mixed together on a paper pad or glass slab.
* The zinc oxide paste, typically being white and the eugeol

**Final impression techniques:**

**1-Mucostatic impression technique(non pressure technique):** the impression made with oral mucous membrane& the jaws in a normal, relaxed condition. Border molding is not done here. Result in stable denture but not retentive one.

**2-Mucocompressive(functional impression technique)(pressure technique):**record the tissue in their functional position, divided into two types 1-open mouth technique 2-close mouth technique.

**3-Selective pressure impression technique:** this technique confines the forces acting on the denture to the stress bearing areas & non stress bearing area are relieved.

 **Border molding:** is the process by which the shape of the border of the tray is made to conform accurately the contours of the buccal, labial,& lingual vestibule to ensure peripheral seal. custom tray should be reduced about 2mm shorter than the sulcus. Border molding of two types incremental technique(tracing compound) or one step technique (poly ether).

**Incremental technique:** stick tracing compound is added & molded along the border inside the patientۥs mouth.

A-the upper lip: it is elevated& extended outwards, downwards & inwards.

B-Buccal vestibule: check is elevated & then pulled outward, downward& inward& moved backward &forward to simulate movement of the upper buccal frenum.

C-Cronomaxillary area: ask the patient to do lateral jaw movement.

D-Lower lip: it is lifted outward & inward.

E-Alveololingual sulcus:

-sublingual anterior area: patient have to place his tongue in the anterior part of the palate & lick his upper lip with tip of his tongue.

-mylohoid area ask the patient to carry out side to side movement of the tongue.

-retromylohoid area: ask the patient to protrude the tongue.

**Boxing impression:** the enclose of an impression to produce the desired size & form of the base of the cast & to preserve desired details.

**Types of waxes used for boxing:**

**1-Beading wax:** a strip of wax that is attached all around the impression approximately (1-2mm)

**2-Boxing wax:** a sheet of wax that is used to made the vertical wall of the box & it is attached around the beading wax, the height of the boxing wax is about (10-15mm).

**3-Base plate wax:** a sheet of wax can be used to fill the tongue space in the lower impression that is sealed just below the lingual border of the impression.

**Advantage of boxing:**

1-To facilitate pouring the impression with plaster or stone.

2-Produce the desired size & form of the base of the cast.

3-Preserve the desired details & borders of the impression, in the lower reproduction of the lingual border & tongue space.

 **Common faults in impression making :**

1-not well fitted tray because of poor selection

2-insuffeicient material loaded in the tray.

3-incorrect position of the tray (uncentralized).

4-inadequate pressure applied when seating the impression in the patient mouth.

5- inadequate border molding.