

# PROSTHODONTICS

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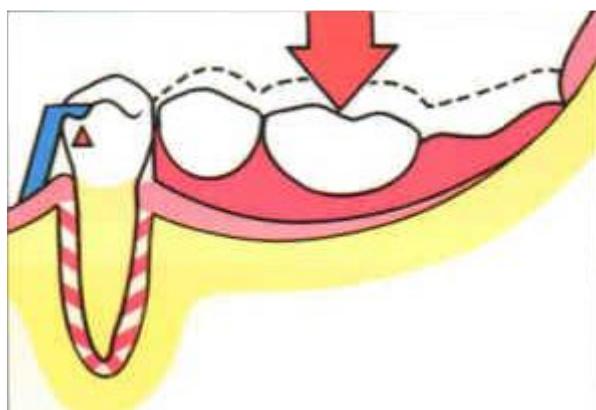
المرحلة الرابعة

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## Altered cast technique

### (Corrected cast)

**Definition:** It is a cast made from a master cast in which the residual ridges have been recorded by means of a functional impression technique, this functional corrected impression is made for the purpose of recording the residual ridges in their functional form and recording the optimum length and width of the flanges of the denture base, the functional impression is usually made for distal extension base; whereas the master cast is adequate for most tooth supported edentulous areas. Free end saddle is liable to be displaced under occlusal pressure (anteroposterior rocking around the abutment tooth which acts as a pivot), this is as a result of the displaceability of the mucosa, See (**Figure -1-** ).



(Figure -1- )

The altered cast technique is employed to prevent this by making a compressive impression of the mucosa (impression made under controlled pressure) under conditions which mimic to functional loading, the distribution of the load from the denture to the residual ridge is thus improved and the denture is more stable.

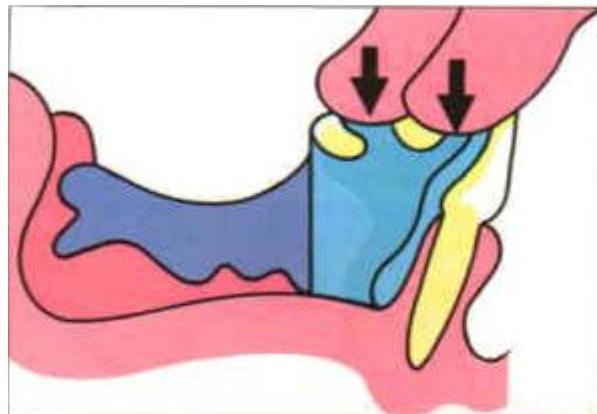
## **Procedure:**

- 1-** Acrylic resin tray material is added to the framework of the RPD to form a base which covers the relevant edentulous area; it must be of sufficient thickness to be rigid. At the chair side the periphery of the base is inspected for under or overextension and adjusted accordingly, any undercuts in the impression surface are removed. This surface is dried and zinc oxide impression paste or medium viscosity silicone impression material is applied, See (**Figure -2-** ).



**(Figure -2- )**

- 2-** The framework is placed in the mouth and great care must be taken to ensure that it is seated on the teeth by pressure on the occlusal rests and indirect retainers only, no finger pressure is applied to the base area and the teeth are not occluded. Once the framework is fully seated, border molding is carried out, See (Figure -3- ).



(Figure -3- )

- 3- Outline the master cast for removal of ridge areas by drawing a line approximately 1mm distal to the last abutment tooth and running from the outer edge of the cast crossing the ridge to a point approximately (5mm) lingual to the ridge.
- 4- Remove the residual ridge areas from the master cast and putting the mechanical retentive means into the cast with a round spiral saw, see (Figure -4- ).



(Figure -4- )

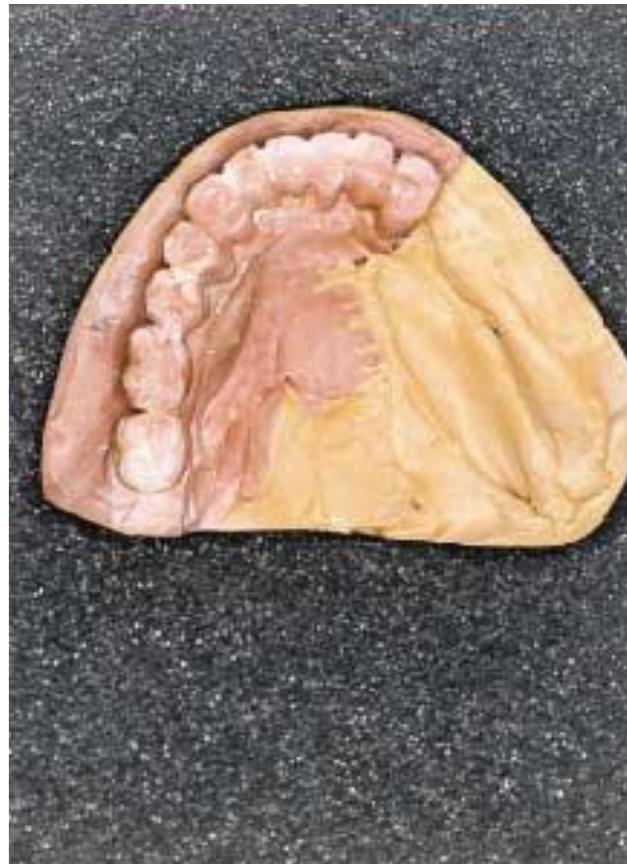
- 5-** Place the framework with its impression on the master cast and lute, it should be inspected to make certain that rests are completely seated, functional impression must not contact the cast, and this framework is securely luted to the cast using modeling plaster or sticky wax, see (Figure-4-).
- 6-** A strip of boxing wax is adapted around the cast. A hot No.7 spatula is used to seal the wax to the cast, see (Figure -5- ).



**(Figure -5- )**

- 7-** A stone is poured into the boxed impression and allowed to remain for 5 minute to thoroughly wet the cast. A critical step for preventing the movement of the framework during boxing and pouring procedures.
- 8-** Small amounts of stone are added at a time to flow into retention areas of the original cast to avoid entrapment of air.
- 9-** When the stone is set, remove the boxing wax, see (Figure-6- ).

**The principle problems:** The problems associated with this functional procedure are related to incorrect or incomplete seating of the framework in the mouth or on the cast. Such problems may occur when making the impression or boxing the impression and pouring the cast. Other problems may occur if the proper procedures are not followed when using plaster /pumice mixture.



(Figure-6- )