

Material used for primary ,secondary and boxing(lec4)

**Complete dental impression:** It's a negative registration of the entire denture bearing, stabilizing & seal area of either the maxilla or the mandible

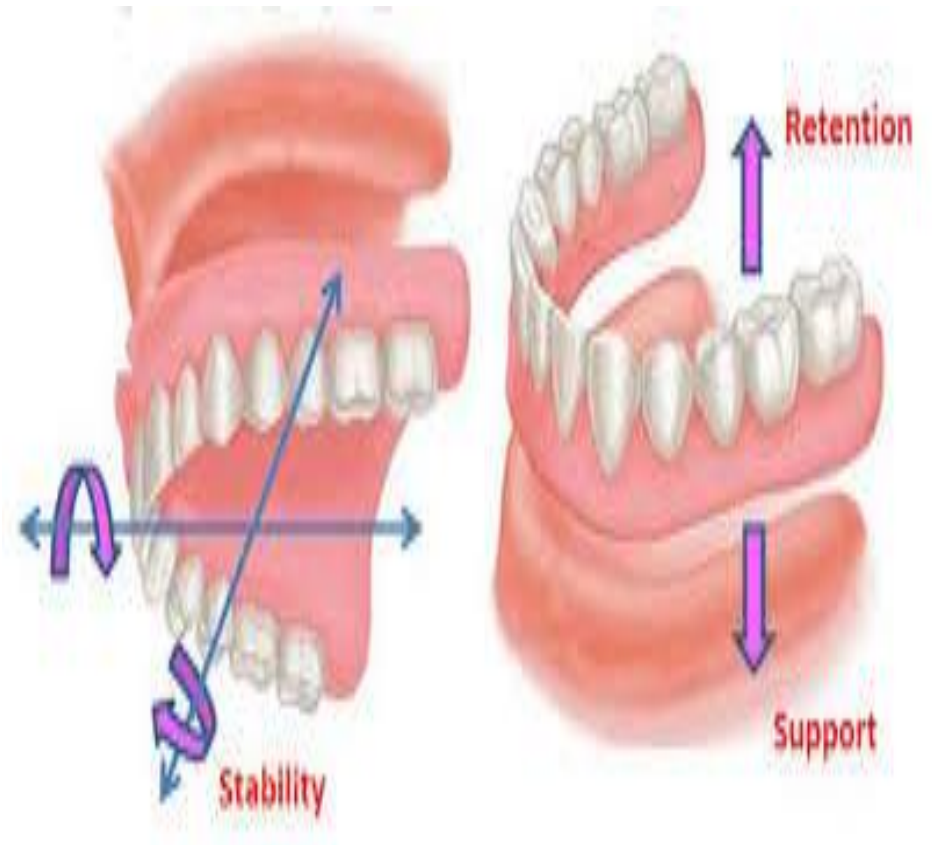


**Figure 3.** Trays after completion of border registration

## Objectives of impression making:

Complete denture impression procedures must provide five objectives:

- 1.Retention
- 2.Stability
- 3.Support for denture
- 4.Aesthetic
- 5.Preservation of the residual alveolar ridge and soft tissue



**Retention:-** The resistance in the movement of a denture away from its tissue foundation especially in a vertical direction.

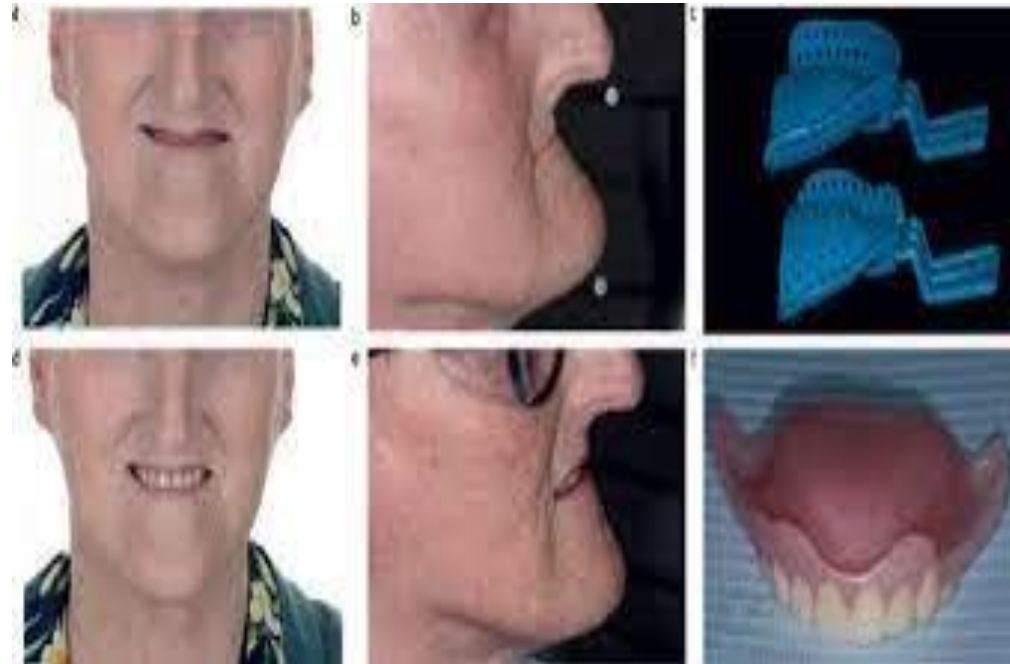
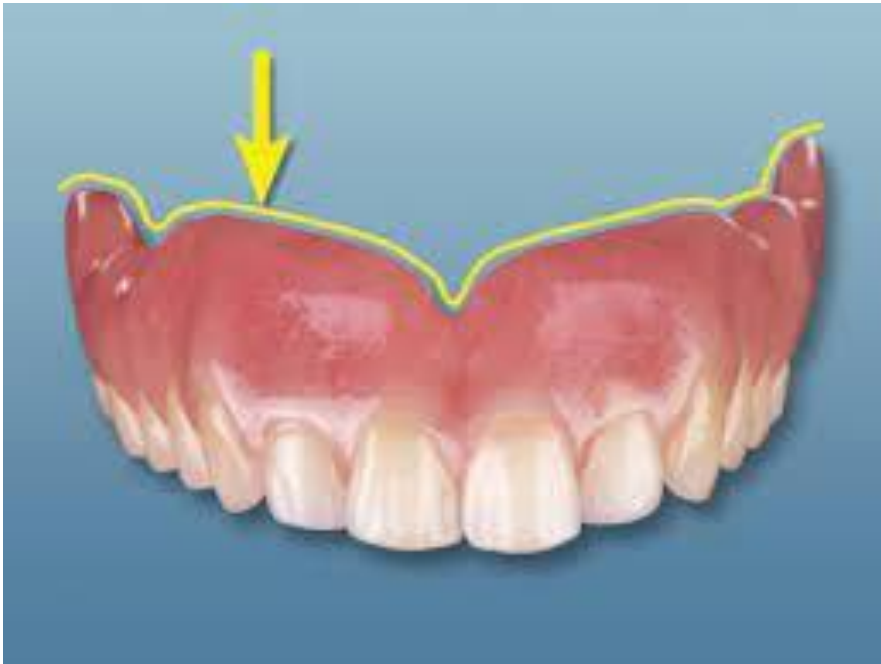
**Stability:-** Is the quality of prosthesis to be firm, steady or constant to resist displacement by functional horizontal or rotational movement.

**Support:** is the quality of prosthesis to resist displacement from the denture supporting foundation; therefore, the greater the amount of area covered the greater the support.

\*The best support for denture is **the compact bone covered with fibrous connective tissue.**

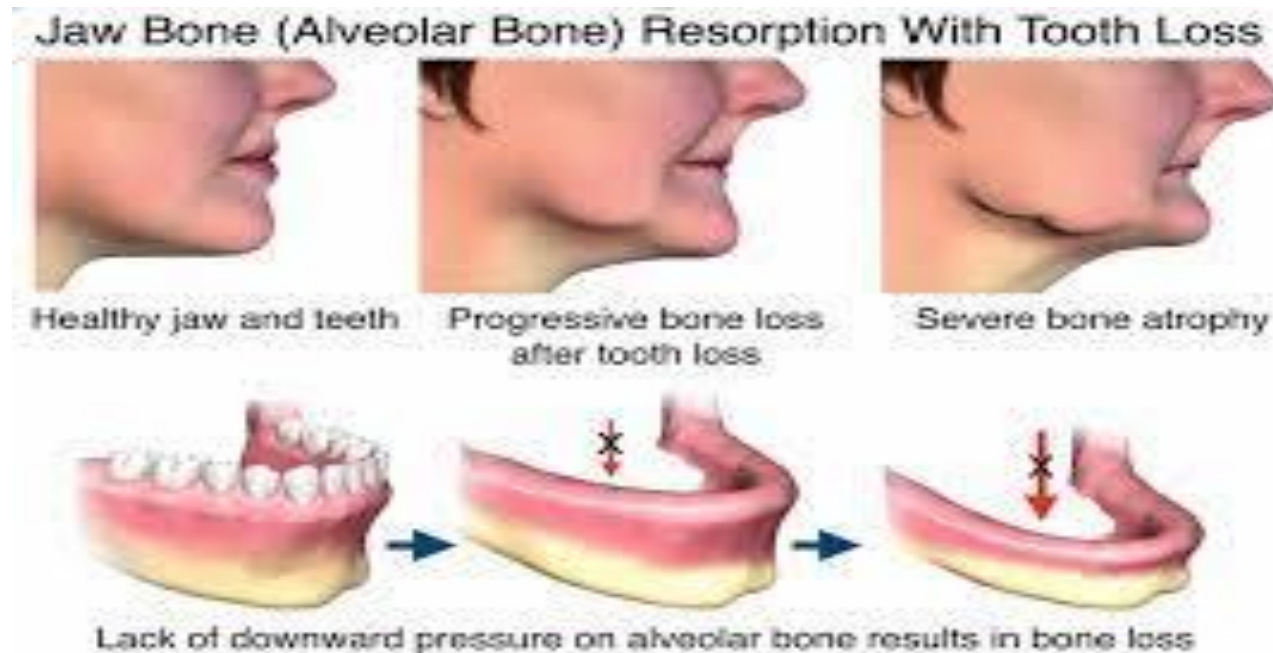
- \* **Retention** = Denture base + Soft tissue.
- \* **Stability** = Denture base + Bone.
- \* **Support** = Denture base + Bone + Soft tissue.

**Aesthetics:** Border thickness should be varied with the need of each patient in accordance with extend of residual ridge loss. The vestibular fornix should be filled, but not overfilled, to restore facial contour.



## Preservation of the residual alveolar ridge and soft tissue:

preservation of the remaining residual ridge is physiologically accepted that with the loss of the stimulation of the natural teeth, the alveolar ridge will atrophy or resorb. Prosthodontist should keep in mind the effect of impression material and technique on the denture base and the effect of the denture base on the continued health of both the soft and hard tissues of the jaws.



## **Requirement of ideal impression materials:**

1-dimensionally stable.

2-should reproduce fine details accurately.

3-should have enough strength , tear resistance during removal.

5-pleasant taste , odour and color.

6-could be sterilized and disinfected .

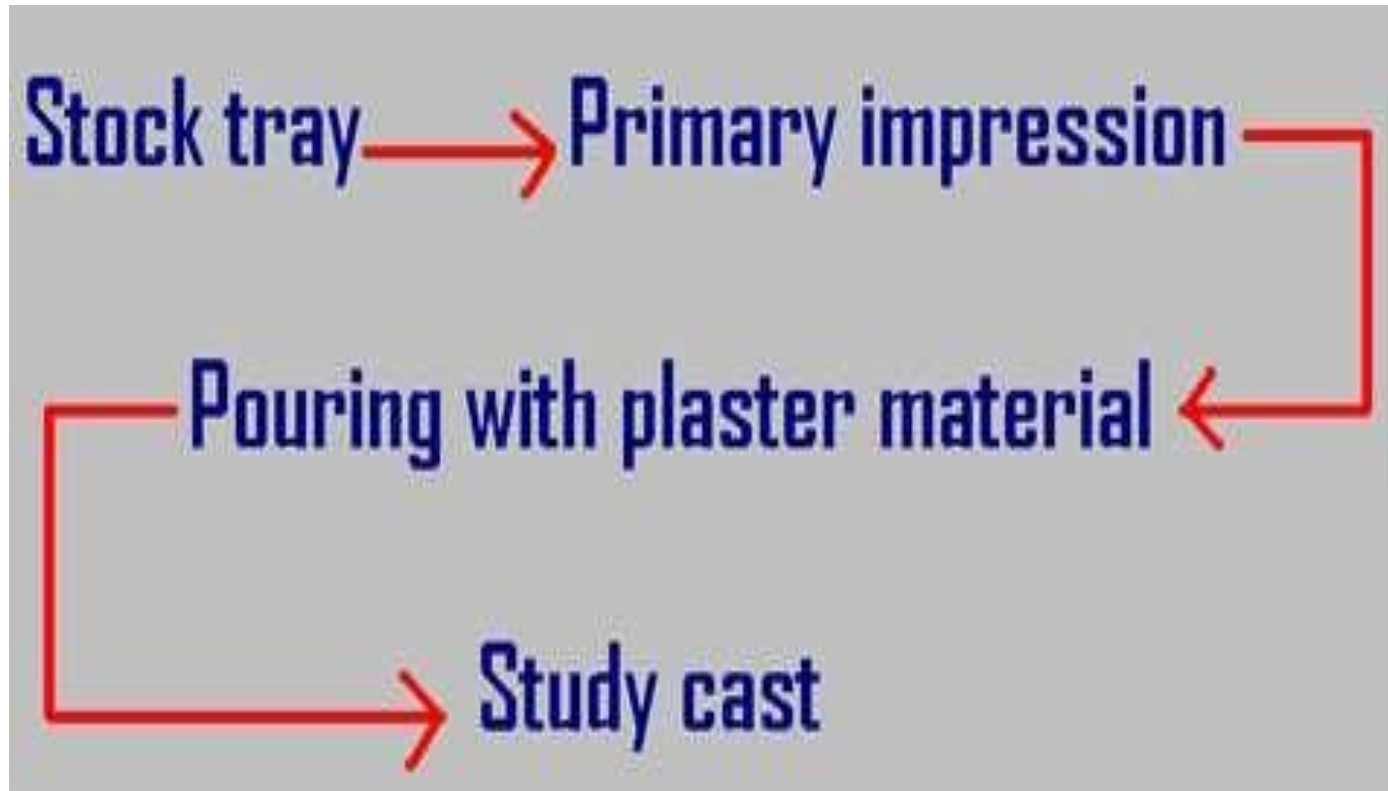
7-not toxic , irritant or expensive

8-good mixing, working time and setting time.

**Primary impression:** it is a negative registration made for the purpose of diagnosis, treatment planning, or the fabrication of a tray. It is the first impression made for the patient and from which the study cast was produced. This impression is obtained by a stock tray.



**Primary cast (study model or diagnostic cast):** a cast formed from a preliminary impression for use in diagnosis or the fabrication of special tray.



**Final or secondary impression:** It is a negative registration of the entire denture bearing, stabilizing area and border seal area of the mandible and maxilla for the purpose of fabricating a prosthesis.

**Master cast (definitive or final cast):** A replica of the tooth surfaces, residual ridge areas and or other parts of the dental arch and or facial structures used to fabricate a dental restoration or prosthesis.



## Elastomers impression material used for final impression



**Poly sulphide impression material**



**Poly ether impression material**



**Silicon impression material**

**Boxing:** Is the enclosure of an impression to produce the desired size and form of the base of the cast and to preserve desired details.

**Advantages of boxing:**

1. To facilitate pouring the impression with plaster or stone.
2. Produce the desired size and form of the base of the cast.
3. Provide adequate thickness of cast.



## Materials used for boxing impression:

**1. Beading wax:** A strip of wax is attached all the way around the outside of the impression approximately (2-3 mm) below the border and sealed to it with wax knife.



**2. Boxing wax:** A sheet of wax is used to make the vertical walls of the box and it is attached around the outside of the beading wax strip so that it does not alter the borders of the impression, the width of the boxing wax is about 10-15 mm above the impression.



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



Figure 3. Modeling wax layering over plaster pumice

