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Case Report

An innovative technique for beading of non-aqueous elastomer impression

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ABSTRACT:
This paper describes a simple, quick and innovative technique for beading of non-aqueous elastomeric impressions with putty consistency silicone which otherwise is difficult with wax as it does not adhere to silicone impression materials.
Key words: Beading, putty, elastomeric impressions, wax, plaster of Paris

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INTRODUCTION:
Complete denture fabrication is a very complex procedure and requires careful execution of each and every step for a successful outcome. Border molding of special tray is one of the most essential step to obtain proper peripheral seal by recording proper functional vestibular depth and width in final impression and same must be preserved in the master cast[1] , which is possible only by beading of the final impression. The preservation of this final impression record along with width and depth of sulcus is very important in the master cast to obtain the denture borders of similar dimensions.

Beading of the final impression before pouring; preserves the extensions as well as the thickness of the border. The various beading materials available are beading wax, plaster of Paris or a mixture of pumice and plaster, orthodontic wax or utility wax [2].Beading with wax is especially suitable for impressions made in zinc oxide Eugenol impression paste as beading wax adheres to this material readily. However, beading a non-aqueous elastomeric impression with wax is difficult because it is almost impossible to make wax stick to these impressions. Although, plaster of Paris and a mixture of pumice and plaster[3] can be used for beading and boxing of these final impressions; it is time consuming and difficult to work.

A simple, quick and innovative procedure for beading of non-aqueous elastomeric impression with putty consistency silicone has been described.

Technique:
1. Tray adhesive (caulk, Dentsply, Germany) was applied on the borders of the selected stock tray and special tray and allowed to dry for 8 – 10 minutes.
2. The primary impression was made by mixing equal proportions of base and catalyst of polyvinyl siloxane impression material (Aquasil, Dentsply, Germany) and border molding of the same impression was done with medium viscosity silicone, post the removal of 1-2mm of putty over the borders of the impression. For special tray, border molding was done with medium body silicone and secondary impression was made with light body.
3. The final impression was made with light body polyvinylsiloxane impression material (Figure 1 and 2).

4. The beading was done with mixed putty of addition silicone by stretching it into a rope, which was attached all around the periphery of the final impression approximately 2 – 4 mm below the border (figure 1 and 2). The putty bonded chemically to the light body, medium body and putty of addition silicone material, so there is no need to seal it, as required with wax. The width of beading of putty can be controlled by lightly pushing the putty against the impression material before it set. The final cast can be obtained by pouring the impression by inversion technique without boxing (figure 3).
5. For mandibular impression, the tongue spacer was made by compressing the putty between glass slab and wax tongue spacer (figure 4). The tongue spacer was adapted with the help of putty and the rest of the beading was done in the similar way as done for the maxillary impression (figure 5).

Figure 1. Beading of stock tray impression

Figure 2. Beading of special tray impression

DISCUSSION:

The beading of final impression is very important to preserve the width and depth of sulcus recorded in the impression to obtain proper peripheral seal. The beading of zinc oxide eugenol impression paste final impression can be easily done with beading wax which is available in specific shape (round or rectangular) and dimensions.

Figure 3. Master cast

Figure 4. Wax and putty tongue spacer

Figure 5. Mandibular impression with putty beading

But it is difficult to do the beading of final impression of medium or light body silicones with wax as it does not adhere well with elastomeric impressions. So putty consistency silicones can be used for beading of final impression of elastomers. One of the disadvantage of this technique is that it is difficult to control the thickness of the rope of the putty used for beading , as it has to be adapted before setting of the putty.

CONCLUSION:

The beading with putty consistency silicone is a simple, quick and innovative procedure for beading of elastomeric impression which is otherwise with wax is difficult.

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