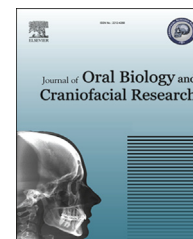


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Short Communication

A technique for using short term soft liners as complete dentures final impression material



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ABSTRACT

Tissue conditioners can be used to condition abused tissues, record functional impressions, make temporary relining for surgical splints and obturators, and for other clinical applications, mainly because of their specific viscoelasticity. Their function in complete denture fabrication is debatable but their use as a functional impression material has been proved. The present article describes a technique for using tissue conditioners as functional impression materials. Correct method of usage, manipulation, specific properties as impression materials and precautions in different situations for obtaining accurate impressions has been highlighted.

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1. Introduction

Tissue-conditioning materials are soft, resilient, temporary relining materials which, by reducing and evenly distributing stresses on the mucosa of the basal seat, have a rehabilitating effect on unhealthy tissue and allow reversible conditions to return to normal states of health.¹ In addition to tissue

conditioning, its use has been advocated in impression making procedure or as a final impression material. In the past, there was little agreement about the best method of using them as functional impression materials and their use in complete denture impressions was even controversial.^{2–5} The study on the physical properties of tissue conditioners revealed that these materials do have the essential properties

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of a satisfactory impression material if working casts are poured promptly.^{1,6,7}

The viscoelastic behaviour of a tissue conditioner is the key to its clinical success of being used for conditioning the traumatised, inflamed or irritated tissues. On the other hand, for taking impressions, it should exhibit good flow and minimal elastic recovery.⁸ For guaranteed accuracy of the impression, it should flow readily under functional stresses and exhibit adequate dimensional stability in terms of weight change, water sorption and solubility.⁷ Wilson and co-workers⁹ also concluded that a material used for functional impressions should be plastic while one used for tissue conditioning should be soft and resilient. Thus by altering certain characteristics of a tissue conditioner and varying manipulation, one can successfully use it as a final impression material for edentulous ridges.

Modified complete denture impression techniques using tissue conditioners of different consistencies for border moulding and final impression materials have been tried in the past to solve the drawbacks of traditional methods.^{10,11} Smutko described an impression technique for resorbed residual alveolar ridge using three applications of conditioning material of varying consistencies.¹⁰ Wang and Hong modified Smutko's technique to further thicken and conform the denture borders, improving the overall retention of the complete dentures.¹¹

2. Technique

2.1. For edentulous patients having complete dentures fabricated for the first time

1. Make the primary casts from the preliminary impressions in the conventional manner.
2. Over the primary casts, fabricate autopolymerising acrylic resin custom trays, 2 mm short all over the borders, except the peripheral seal area in the maxillary ridge. Remove the wax spacer from the custom trays (scrape the tissue surface of the custom trays for the impression material, if spacer is not applied).
3. Mix 1.5 parts of powder and 1 part of liquid (Recon, Coltène/Whaledent Inc. Cuyahoga Falls, USA) in a glass bottle for 5 s. Pour the mix on a mixing pad and spread it with a spatula for 10 s to remove air bubbles.¹²
4. Apply immediately to all tissue bearing surfaces of the maxillary custom tray in a thin, even layer.
5. While retracting the patient's lip, seat the tray in the mouth with a rather firm pressure. Mould the borders by digitally manipulating the cheek and lip tissues in one step.
6. Permit patient a few minutes (5 min) to test alignment and material to flow, then remove tray, rinse with cold water and determine remaining pressure points that require further relief. Add material where necessary and repeat step 5.
7. Make thin mix of tissue conditioner (1:1 powder/liquid ratio) and apply as a wash to last application. Secure impression by static compression technique. Remove after 5 min.
8. A completed final impression should be free of any pressure spots or bubbles in the tissue conditioner (Fig. 1). Pour the impression in stone immediately (while the material is in plastic stage) after removal from the mouth.
9. Take the impression of the mandibular residual ridge in a similar manner, except that the patient's tongue should be directed to mould the lingual borders (Fig. 2).

2.2. For patients having existing complete dentures

Patients requiring fabrication of new dentures, often have traumatised, irritated or inflamed mucosa beneath their old dentures. In such cases, tissue conditioners are of great help in not only restoring the tissue health but also, reproducing the tissue details for a good final impression.

1. Trim the existing dentures to obtain space for tissue conditioner (Fig. 3).
2. Mix 1.5 parts of powder and 1 part of liquid (Recon, Coltène/Whaledent Inc. Cuyahoga Falls, USA) in a glass bottle for 5 s. Pour the mix on a mixing pad and spread it with a spatula for 10 s to remove air bubbles.¹²
3. Apply immediately to all tissue bearing surfaces of the maxillary denture in a thin, even layer.
4. While retracting the patient's lip, seat the tray in the mouth with a rather firm pressure. Mould the borders by digitally manipulating the cheek and lip tissues in one step.
5. Permit patient a few minutes (5 min) to test alignment and material to flow, then remove tray, rinse with cold water and determine remaining pressure points that require further relief. Add material where necessary and repeat step 4.
6. Take the impression of the mandibular residual ridge in a similar manner, except that the patient's tongue should be directed to mould the lingual borders.
7. Tissue conditioners have a tendency to slump during setting so they should be adequately supported by the borders of the denture. Now dentures can be given to the patient. Dismiss the patient for 2 weeks with the proper home care instructions given for the material.
8. At the next appointment the patient should be evaluated for healthy mucosa and well rounded peripheral borders of the denture.



Fig. 1 – Maxillary liner impression in customised tray.

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