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Complete denture impression materials and techniques practiced by private dental practitioners: A survey

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Abstract

A survey was done to check what methods and materials dentists generally use for making impressions in complete dentures. It was seen that dentists generally resort to easier methods and materials that are relatively easy to use and inexpensive.

Keywords: Denture impression materials, dental practitioners, a survey

Introduction

Impression making in complete denture Prosthodontics is one of the important and crucial step which determines the success of complete denture fabrication. A good impression which includes all the land marks of edentulous mouth helps in good retention, support and stability of the complete denture.

There are several factors that contribute in successful impression making such as technique used, type of the material, and patient situation. Different techniques for making complete denture impression are given in text books and literature, showing diversity of options. Selection of the proper technique depends on the clinical situation, materials availability, clinician knowledge and experience ^[1].

A survey was carried out to know which materials and techniques are used by private practitioners to make impressions for complete dentures and what techniques are being followed.

Materials and methods

A questionnaire was prepared and sent to 100 dental practitioners. Only 70 responded. The practitioners were in the age group of 30-70 years. The dental surgeons were from Srinagar district. The questionnaire had six questions.

1. Which impression tray do you use for making primary impressions?
 - a. Stock tray with rim lock
 - b. Stock tray without rim lock
2. Which impression material do you use to make primary impression?
 - a. Impression compound
 - b. Alginate
 - c. Any other (please specify)
3. What material do you use to construct custom tray?
 - a. Auto polymerizing resin
 - b. Shellac base plate
 - c. Any other (please specify)
4. What type of spacer do you use:
 - a. Full spacer
 - b. T-spacer
 - c. None

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5. What material do you use for border molding?
 - a. Low fusing impression compound
 - b. Heavy body elastomeric impression material
6. What material do you use for secondary impression?
 - a. Zinc oxide eugenol impression material
 - b. Light body elastomeric impression material
 - c. Medium body elastomeric impression material
7. Do you disinfect the impressions made?
 - a. Yes
 - b. No
8. What disinfection material do you use?
 - a. Alcohol
 - b. Bleach
 - c. Glutaraldehyde
 - d. Rinse with tap water

Results

It was observed that 73% of practitioners use stock tray without rim lock and rest 27% with rim lock.

Impression compound was most commonly used impression material amounting to 73% and rest used alginate. No other material was used.

Practitioners mostly got their custom tray for secondary impression made in auto polymerizing resin. Only 10% used shellac base plate for construction of custom tray.

Practitioners generally didn't use spacer on the custom tray. Only 23% used full spacer and 12% used T-Spacer.

Low fusing impression compound was used by 77% of the practitioners and 23% used elastomeric impression material.

Again zinc oxide eugenol impression paste was used by 77% of practitioners. 18% used light body elastomeric impression material and 5% used medium body elastomeric impression material for both border molding and secondary impression.

Only 15% disinfected the impressions. 85% only rinsed with water. And the rest 15% used glutaraldehyde for disinfection.

Discussion

Impression making is an integral part of getting a good prosthesis. The survey was assessed and it was seen that mostly easier techniques were used by practitioners.

It was seen that only 27% of the practitioners used rim lock trays and the same used alginate for making primary impressions. Most of the practitioners used impression compound for making the primary impression. The most recognized primary impression materials are alginate and impression compound [2, 3]. Rim lock trays provide added retention for the material.

After preparing the primary cast a custom tray is fabricated. It is imperative that the tray is rigid and dimensionally stable. Tray prepared from thermoplastic material can lead to inaccurate impressions [4]. Cold cure acrylic resin can be used to prepare custom trays [5]. Mostly practitioners used cold cure acrylic resin for making secondary tray.

Border molding is carried out with low fusing compound i.e. green stick [5] or putty/heavy body elastomer [6]. Practitioners in this survey mostly used green stick for the border molding.

Secondary or final impression is recorded with a wash material like ZOE paste or non-eugenol impression paste. Light body elastomer can also be used [5, 7, 8]. Alginate should not be used as it is a bulk impression material. The recommended thickness is about 3mm. In a wash, with thickness of about 1 mm dimensional changes may be high

and ability to record details is questionable. Most commonly used was ZOE paste by practitioners. In North American dental schools, polysulfide was used by 48 % and polyether by 4 % to record final impressions [9]. In a survey of practitioners in UK the findings were almost same [10]. In another study of US prosthodontists and dental schools it was noted that 36 % prosthodontists and 64 % schools used elastomers for making final impressions [11]. Disinfection was not generally used and most practitioners just rinsed with water.

Conclusion

This study was done to check trends flowed amongst dentists for making impressions in complete dentures and it was seen that dentists generally use easier methods and materials that are inexpensive and easier to use.

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