

Use of Irreversible Hydrocolloid to Blockout Interproximal Spaces for an Easy Impression Taking

A. Monzavi^{1, 2}, G. Asadi³✉

¹ Associate Professor, Dental Research Center, Tehran University of Medical Sciences, Tehran, Iran

² Associate Professor, Department of Prosthodontics and Implant, School of Dentistry, Tehran University of Medical Sciences, Tehran, Iran

³ Assistant Professor, Department of Prosthodontics and Implant, School of Dentistry, Tehran University of Medical Sciences, Tehran, Iran

Abstract:

Making impression to obtain an accurate working cast needs to use accurate impression materials such as polyether. On the other hand, polyether cannot be used easily in places with undercut such as excessive interproximal spaces and under the pontics of fixed partial dentures as it may be locked in these free spaces. In this article, a method is presented to blockout interproximal spaces in order to minimize distortion and to facilitate impression removal from the mouth.

Key Words: Dental Impression Materials; Dental Impression Technique; Gingival Recession

Journal of Dentistry, Tehran University of Medical Sciences, Tehran, Iran (2009; Vol. 6, No.4)

✉ Corresponding author:
G. Asadi, Department of Prosthodontics and implant, School of Dentistry, Tehran University of Medical Sciences, Tehran, Iran.
asadigla@sina.tums.ac.ir

Received: 22 November 2008
Accepted: 8 April 2009

INTRODUCTION

Polyether is one of the best and accurate impression materials in dentistry [1]. Physical properties of polyether as a stiff elastomer material, however, make it difficult to use it for impression taking in sites with undercuts.

A common method of minimizing the effect of undercuts is filling these areas with wax [2] or an alternative material, such as Oraseal caulking material (Ultradent Products, Inc, Provo, Utah, USA) or Cavit temporary stopping material (ESPE, Germany) [3]. Waxes and other commonly selected materials for blockout can be placed intraorally, but they are easily displaced, and result in distortion, while their application is a time consuming method. Irreversible hydrocolloid is manipulable, flexible, inexpensive, and clean and can be removed from undercuts easily.

The present article describes a quick, easy,

economic, and neat method to blockout excessive undercuts and interproximal spaces using irreversible hydrocolloid before making impression with polyether impression material.

PROCEDURE

1. Mix the irreversible hydrocolloid (Alginate, Zhermack, Italy) and water in a small deep dish
2. Blockout embrasures by pushing the low viscosity irreversible hydrocolloid in interproximal spaces
3. Remove excess material and smooth it over the contour of the adjacent teeth by finger to fit the space as desire and allow it to be set (Fig 1)
4. Mix the polyether impression material (Impregum F, Premier Dental Products Co, Norristown, Pa, USA), inject it around the prepared teeth and/or impression coping(s) near



Fig 1. Buccal view of the interproximal spaces blockout with irreversible hydrocolloid.



Fig 2. Easily removed final impression.

the gingival tissues, and load the tray

5. Place the loaded tray in the mouth and allow the impression to be polymerized completely.

6. Remove the impression from the mouth easily and remove excess irreversible hydrocolloid material from interproximals (Fig 2).

DISCUSSION

Several examples of undercuts exist. The gingival embrasures, which are usually filled with gingival papilla, may get enlarged due to increased crown length after periodontal surgical treatment, increased gingival recession, supereruption, or improperly aligned and/or angulated teeth.

Long isolated teeth have marked gingival recession, and a narrow clinical neck. Free spaces under pontics are also places in which impression material may be locked in. Moreover, in patients with previous fixed prostheses, using polyether may lead to prostheses removal during impression making due to impression material locking in open interdental spaces of the prostheses.

Undercuts may cause some problems when polyether impression materials are used to make a well-qualified working cast especially in implant dentistry. This is because of substantial stiffness of this kind of material. Wax or cavitation (temporary filling material) are some materials of choice by which undercuts can be blocked-out to minimize distortion during im-

pression removal.

The method presented here facilitates the procedure, as it is a fast, economic, and easy way. It can be used in most of dental clinics as hydrocolloid material is a common, economic, and fast set material and helps the clinician to take a well-qualified impression without difficulty in tray removal. While the tray is removed, the impression material can be removed easily without distortion or lock in.

The described method is applicable in patients with dental undercuts or previous fixed prostheses with open embrasures or recessed gingiva with narrow clinical necks. This method can be used for either implant or fixed prosthodontics, when one side of an arch may require a single crown and/or an FPD, or the contralateral side may have substantial interproximal undercuts.

ACKNOWLEDGMENTS

The authors would like to acknowledge Implant department and Dental Research Center, Tehran University of Medical Sciences that provided the facilities for carrying out this work.

REFERENCES

- 1-Wee AG. Comparison of impression materials for direct multi-implant impressions. *J Prosthet Dent* 2000 Mar;83(3):323-31.
- 2-von Krammer R. Avoidance of cast breakage

during removal from the impression. Quintessence Int 1990 Mar;21(3):217-20.

3-Hummert TW, Kaiser DA. Blockout technique

for impressions of teeth with increased open gingival embrasures. J Prosthet Dent 1999 Jul;82(1):100-2.