Original Article

A novel technique using arti-spot coated on fleximeter strips to determine the clearance during tooth preparation in fixed partial denture

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Abstract

The amount of occlusal clearance during tooth preparation for fixed partial denture is more crucial and critical phase of fixed prosthodontics. Improper tooth reduction leads to compromise in structural durability and failure of the restoration. Over reduction affects the biological principles of tooth preparation. This article uses color coded fleximeter strips coated with arti-spot to determine the amount of clearance during tooth preparation in fixed partial denture.

Key Words: Arti-spot, clearance, flexi meter strips

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Received: 13th August 2014, **Accepted:** 24th March 2015

INTRODUCTION

Tooth preparation in fixed partial denture is more critical and crucial phase in fixed prosthodontics. Improper clearance will lead to fracture of the restoration and jeopardize the structural durability of the prosthesis.[1] Improper tooth reduction such as excessive occlusal clearance than the recommended amount will lead to failure in the retention and resistance property of the prosthesis and will cause irreversible pulpal damage and affects the biological principles of tooth preparation.[2] Varying methods and techniques were used to determine the occlusal reduction, this article describes the use of arti-spot coated on color coded fleximeter strips to determine the amount of occlusal clearance during tooth preparation.

Access this article online	
Quick Response Code:	Website: www.j-ips.org
	DOI: 10.4103/0972-4052.155027

TECHNIQUE

- Color coded fleximeter strips are placed on the occlusal surface of the prepared tooth. The color coded strips are available in 3 colors, pink, green, and blue (Bausch flexi strips - Germany) [Figure 1]
- The colors indicate the thickness of the strips. Pink (1 mm × 1 mm), green (1 mm × 1.5 mm), blue (1 mm × 2 mm)
- The surface of the strips is painted or coated with Arti-spot and placed on the occlusal surface of the prepared tooth [Figure 2]
- After evaporation of the arti-spot solvent, it leaves a thin film of color. Every contact of the opposing teeth on the dry color will partially remove the pigment, making the basic material shine through the interferences can be easily detected [Figure 3]
- Any interference or lack of clearance will be indicated on the paint on the flexi strips. Each color strips indicate the amount of clearance to be given, and the coated arti-spot indicate the interference area to be reduced to give proper tooth clearance [Figure 4].

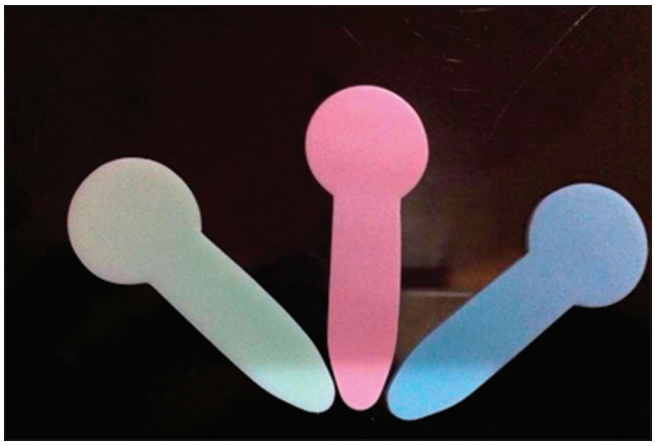

Figure 1: Color coded fleximeter strips

Figure 2: Strips coated with Arti-spot

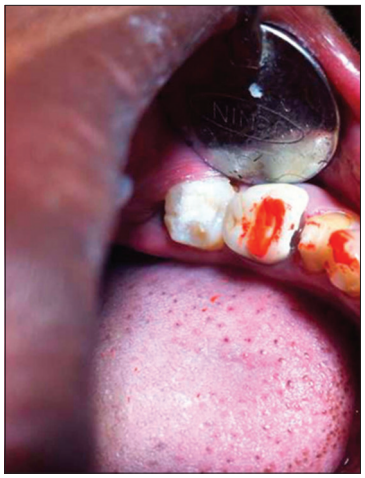

Figure 3: Arti-spot marks on prepared tooth

Figure 4: Arti-spot marking on opposing cusps

Figure 5: Arti-spot material

DISCUSSION

During tooth preparation for fixed partial denture occlusal clearance is more crucial to ensure long-term success of the restoration. Improper tooth reduction such as excessive occlusal clearance than the recommended amount will lead to failure in the retention and resistance property of the prosthesis and will cause irreversible pulpal damage and affects the biological principles of tooth preparation.[2] Varying methods were used such as the use of a piece of folded blotting-paper,[3] wax guide,[4] periodontal probes.[5] Fleximeter strips are also used to measure the amount of clearance by placing on the prepared tooth, but this will give only the clearance but does not show the area of interference and area of insufficient reduction. Arti-spot is a new easy use contact color for testing occlusal surfaces and for the inside of castings [Figure 5]. Arti-spot was formulated to identify contact interferences that prevent accurate seating of the dental restorations. Arti-spot film is resistant to saliva, and the thickness of the dry film is only 5–10 microns. In this technique, using an arti-spot spray coated on the flexi strips will give the amount of interference and the area of insufficient reduction. Hence, the area of interference can be easily removed, and adequate clearance will be there for the prepared tooth.

CONCLUSION

The amount of occlusal clearance during tooth preparation can be accurately determined using arti-spot coated with fleximeter strips. The fleximeter strips gives the amount of clearance and arti-sport gives the areas of interference to be reduced.

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How to cite this article: Prasadh SS. A novel technique using arti-spot coated on fleximeter strips to determine the clearance during tooth preparation in fixed partial denture. J Indian Prosthodont Soc 2015;15:14-6.

Source of Support: Nil, **Conflict of Interest:** None.