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Fabricating of Partial Denture Crown

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Abstract

Introduction

A method to stabilize and maintain the accurate relationship of the clasp assembly with the prepared tooth during impression making using pattern resin attached to the occlusal rest has also been described .

This article describes a simple technique to enable replication of the rest seat of a tooth/crown on a new crown under an existing removable partial denture.

Procedure

1. Ascertain the retention, stability and function of the existing removable partial denture.
2. Prepare the abutment ensuring adequate space for the fixed restoration between the prepared surfaces and the occlusal or coagulum rest of the removable partial denture. (figure 1) This may require repeated reseating of the denture in the mouth during the preparation to check for clearance.

Abutment prepared ensuring adequate clearance between the metal rest and prepared palatal tooth surface

1. Once the preparation is complete, seat the denture intraorally and inject flow able light cure composite resin (Filtek Z350XT, Flow able Restorative, 3M ESPE, St.Paul, Minn, USA) into the space between the prepared axial surface of the abutment and the undersurface of the metal rest and light cure it for 40 seconds (QHL75 Curing Light, DENTSPLY, Addle stone, Surrey) . This enables precise registration of the rest seat into the composite resin. (figure 2)Flow able composite injected between the prepared axial surface and the undersurface of the metal rest.
2. Remove the denture and fabricate a putty index (3M ESPE Express XT Putty Soft, 3M ESPE, Germany) on the abutment tooth with the polymerized composite resin on it. (figure 3)

3. Once the index is made, remove the composite resin and make an impression of the prepared abutment using elastomeric impression material. The impression, along with the interocclusal record and the previously made putty index has to be sent to the laboratory for fabrication of the crown.
4. Cement a provisional crown on the abutment and return the partial denture to the patient.

The putty index is used as a guide during fabrication of the crown, thus giving the patient a crown with the original features replicated in it.(figure 4)

This allows the clinician to conveniently fit the new crown under the denture (figure)

Figure . Crown fits under existing removable partial denture

Discussion

A putty index is made to ensure that the laboratory technician can accurately replicate the existing rest seat in the new crown. This article only illustrates the replication of the rest seat since the abutment in this case had a rest seat and not an entire clasp assembly. If the abutment supports a clasp assembly, the putty index has to be made prior to preparation. Any damaged or missing areas can be rebuilt with composite resin prior to making the putty index.

Summary

This article describes a simple technique to precisely record the rest seat of a crown under an existing removable partial denture with flow able composite resin in order to replicate it in a new crown using an index made out of vinyl polysiloxane material.

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