A Technique for Reestablishing CR Position and Vertical Dimension of Occlusion during the Conversion of an Interim Fixed Prosthesis

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ABSTRACT

Placing immediate complete dentures after extractions may present some challenges, and one of them could be related to altering the ideal CR position and vertical dimension of occlusion due to inadequate relining procedure. This type of prosthesis often need relining of the intaglio surface due to inadequate denture fabrication, inadequate fit, or to help the tissue heal with some tissue conditioner. Before performing the conversion of a removable prosthesis to interim fixed implant prosthesis, the dentures need to have an ideal CR position and vertical dimension of occlusion. This technique describes a method to restore an incorrect position of the interim prosthesis during the same conversion procedure. Following this technique, the prostheses will interdigitate following the ideal arrangement when they were fabricated.

Keywords: Dental restoration, Implant conversion, Prosthodontics, Temporary implant prosthesis.

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INTRODUCTION

Implant therapy has become a very predictable and acceptable treatment option for completely edentulous patients.¹⁻³ Temporary implant-supported complete dentures can be either loaded the day of the surgery when implants have good primary stability or after secondary osseointegration.⁴,⁵ Interim complete removable prostheses that are converted allow the patient and clinician to evaluate appearance, function and oral hygiene before the definitive fixed-detachable restoration is made.⁶ Successful insertion of immediate dentures depends on many factors such as lab processing, technique for surgical extraction of teeth, suturing techniques of tissues, and adequate planning with a surgical guide, and sometimes even taking in consideration of all these factors immediate complete dentures relining is needed and that may affect the desired occlusal relationship of the two prostheses.⁷ Patients need to have the set of complete dentures in ideal centric relation position before the conversion of the removable to fixed interim prostheses, if the CR record is not optimal, then the fabrication of a new set of dentures may be necessary. This may add cost and time to both the patient and the clinician. In addition, the treatment will be delayed. The aim of this clinical technique article is to show a technique to reposition of the interim complete denture to the ideal CR position and vertical dimension of occlusion during the conversion of the interim fixed prosthesis.

Technique

Initial situation of previously re-lined upper and lower complete dentures with an incorrect centric relation position (Figs 1A and B).

Mark with a black pen (Sharpie) the flanges and trim them out of the removable prosthesis to be converted into interim implant fixed and remove any re-line material of the intaglio surface using straight handpiece and denture laboratory burs (Brasseler USA: Soft Reline System) (Fig. 2).

Position both dentures in an ideal relationship and secured them with sticky wax (Sticky Wax Kerr) (Fig. 3).

Evaluate the vertical dimension of the rest position and determine the measurement of the vertical dimension of occlusion before conversion (Fig. 4).

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prostheses in the mouth in order to mark the position of the mandibular titanium copings (Fig. 6). Following the marks, drill and make space for the titanium copings to go through.

Trim titanium copings to adequate height to hold the determined vertical dimension of occlusion then make sure the patient can close the mandible to CR position freely with both dentures and titanium copings in position.

Inject acrylic resin (Patter Resin LS GC) around the cylinder and in the access hold, then seat the prostheses in mouth and let the material set (Fig. 7).

Finish procedure of picking up all the cylinders, remove the excess of material and polish (Figs 8A and B).
A Technique to Reestablish CR and VDO during Conversion

**Discussion**

Immediate complete dentures are commonly re-lined to improve their fit during tissue healing after teeth extractions. However, re-line materials in the intaglio surface may alter the original ideal occlusal relation of the dentures. Having an ideal vertical dimension of occlusion and centric relation occlusion is indispensable for a patient wearing dentures. Therefore, we need to make sure the dentures are in the correct position before performing the conversion of the removable prosthesis to interim implant fixed prosthesis. The described technique allows the clinician to correct any inaccurate position of the upper and lower complete dentures and perform the conversion at the same time. This technique restores the original occlusal relation between two prostheses and permits the conversion procedure to follow this initial desired relationship.

**Summary**

Following this technique, the inaccurate vertical dimension of occlusion and CR position from previously re-lined complete dentures can be reestablished during the conversion of a removable denture to be an interim fixed screw-retained implant prosthesis. This report describes a sequence to restore the original CR position and vertical dimension of occlusion and conversion of the mandibular prosthesis in the same clinical appointment. The advantage of the described technique is to reduce the number of visits to a single session.

**References**