A Novel Bite-raising Procedure for Complete Dentures

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Abstract: Complete dentures with decreased vertical dimension should be bite-raised as treatment dentures before new complete denture treatment. The aim of this study is to present a new procedure to increase the occlusal vertical dimension of complete dentures. In this paper, a novel full-arch, bite-raising procedure for complete dentures with a silicone putty core is described to have better appearance. The procedure includes mixing a putty-type silicone-impression material and making an impression of the occlusal and polished surfaces with a stock tray; removing the dentures and abrading the surface of the artificial teeth; pouring the mixed autopolymerizing resin in the artificial tooth depression of the impression; repositioning the putty-type silicone-impression material core on the denture and applying pressure to it. This technique is simple at chair side. Laboratory procedures require an extra appointment. This technique can decrease the number of appointments. This simple procedure is effective for complete dentures with decreased occlusal vertical dimension. This technique is easy, fast, accurate, inexpensive and readily available to clinicians.

Key words: increased occlusal vertical dimension, clinical procedure, complete denture.

Materials and Methods

Using a clean tissue, polish the surface of the old denture. Mix the putty-type silicone-impression material (EXAFINE; GC Corp., Tokyo, Japan), and make an impression of the occlusal and polished surfaces using a stock tray (DENTULOUS IMPRESSION TRAY; Dentsply-Sankin Corp., Tokyo, Japan). Mark cross lines at the impression margin in the anterior and posterior portions with a sharp indelible felt-tip pen (Fig. 1). Remove the dentures and abrade the surface of the artificial teeth using airborne particulates or an abrasive point. Apply the autopolymerizing resin (UNIFAST; GC Corp., Tokyo, Japan) monomer (by adhesive) to the surface of the artificial teeth. Mix the autopolymerizing resin in a low powder/monomer ratio. Pour the mixed resin in the artificial tooth depression of the impression (Fig. 2). Reposition the putty-type silicone-impression material core on the...
dentures and apply pressure until the gap
between the anterior line and putty border is
at the planned height and the gap between the
posterior line and putty border is half of that
height (Fig. 3). Remove the denture when the
resin takes on a gum-like property. Seat the
dentures into the mouth and instruct the
patient to close their mouth with moderate
pressure. Remove the denture from the mouth
and remove the excess acrylic resin on the
polished surface with sharp instruments.
Examine and adjust the occlusion using
articulating paper. Polish the surface of the
denture in a conventional manner (Fig. 4).

Results

This technique uses a full-arch bite-raising
procedure for complete dentures. Not only
artificial molar teeth, but also artificial ante-
rior teeth were bite-raised.

Discussion

Complete dentures with decreased occlusal
vertical dimension should usually be subjected
to bite raising. There are two methods of bite
raising; namely, direct and indirect. The in-
direct method is very reliable but requires
laboratory work. This new method (direct
method) does not require such work.

Intraoral procedures (conventional direct
method) with an autopolymerizing resin are
difficult. Especially difficult is reconstructing
the occlusal surface of artificial molar teeth.
However, this method is simple and easy.
Furthermore, it is distinctive in that
autopolymerizing resin is added not only to
the artificial molar teeth, but also to the full-
arch at chair side.

The advantages of the method are reduc-
tions in laboratory procedure time and cost,
and the autopolymerizing resin is inexpensive.
Furthermore, there are some situations where
this method is preferable; especially in cases
where complete dentures are not kept at the
laboratory.
References