Technique

Wax preparation guide for modifying the occlusal plane of malposed teeth

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Abstract

Abstract: Long term edentulism causes supraeruption and drifting of opposing natural dentition. Occlusal correction of the malposed teeth can be done by utilising a template or preparation guide. This technique utilizes a wax preparation guide inorder to transfer the planned amount of reduction from the cast to the mouth.

Keywords: Preparation guide, template, occlusal plane correction, odontoplasty

Procedure

1. Mount the maxillary and mandibular casts in centric relation with jaw relation record
2. Mark the malaligned cusps on the mandibular casts with a contrasting colored pencil (Fig.1 and 2).
3. Wax template is prepared using modelling wax reinforced with sticky wax extending till the gingival margin.
4. Cut the template to expose the marked tooth surface with a sharp scalpel. (Fig.3). This will create openings on the occlusal aspect of the template to indicate the position of the tooth structure before they are modified (Fig.4). When the template is seated in the mouth, the natural teeth will protrude through these openings (Fig.5).
5. Mark the margin of the openings with a permanent marker of choice (Fig.6). The markings indicate the exact amount of odontoplasty as planned on the articulator.

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6. Reduce the exposed occlusal surface of the teeth in flush with the margin of the openings on the template using a tapered diamond bur (Fig. 7). Polish and apply fluoride to the modified tooth surface.

7. Make irreversible hydrocolloid impression of the mandibular arch and make a cast.

8. The modified cast is now mounted with a new centric relation record in the articulator.

Discussion
Use of wax template as a preparation guide is clinically simple and convenient chairside procedure when planning for odontoplasty. Modelling wax reinforced with sticky wax gives the necessary body and strength to the template and prevents distortion. It can be made as individual units when multiple teeth in the arch need to be prepared. Other techniques require special equipment and material which are expensive. The technique described is simple and can be carried out in any clinic with reasonably good accuracy.

References