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THE CORRECT USE OF SPATULAS FOR OCCLUSAL DESIGN WITH RESINS

Dental Science

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ABSTRACT

All companies that are dedicated to manufacturing dental instruments, your designs must be based on dental technology in a relevant way, develop new innovative products of excellent quality that contribute significantly to the improvement and advancement of this discipline, by having the cutting-edge technology worldwide. With the current designs of instruments such as spatulas for resin restoration techniques in molars, allows the professional to improve and speed up each operative step at the time of filling with resins in molars, as well as the patient feels more comfortable in his dental practice by experiencing the quality and professionalism with an effective attention by having shorter appointments and with excellent results. Jointly, manufacturers and dental professionals have always sought quality service by optimizing each restoration by using the instruments designed for each treatment.

KEYWORDS

Occlusal anatomy, Resins, Spatulas, Dental factory.

INTRODUCTION

The dental instruments that are used on a daily basis in all procedures during the restoration of dental organs are the basis for companies to permanently improve quality, designs through innovation that allow the professional to make their work perform it efficiently.

When the molars must be rehabilitated due to the deterioration caused by the carious lesions that have destroyed the ocular anatomy, this surface must be rehabilitated with the anatomy as similar as possible to the original of each molar. To achieve this objective, two concepts must be very clear; 1) Know very well the occlusal anatomy of the molar to be rehabilitated, and 2) You must have the appropriate instruments to perform each anatomical detail that allow as a whole to reconstruct each part of the occlusal anatomy, to rehabilitate it in an integral way said anatomy in the molars. In such a way, the occlusal face must be left rehabilitated so that it can perform its occlusion functions properly with its antagonist molar.

In clinical observations of daily practice, they have shown that occlusal alterations, such as occlusal interferences, inadequate restorations, tooth loss and dental malocclusions, cause temporomandibular disorders that the patient manifests as pain and changes in jaw function.[1] Regarding occlusal interferences, which on many occasions are produced by the professional at the time that an occlusal face is being rehabilitated due to not having the appropriate instruments to reproduce every anatomic detail, that interference will cause occlusal imbalances in the future.

All the commercial houses that are dedicated to the manufacture of instruments for dental use have departments in Design Engineering, which elaborate and develop new technologies, innovative designs of instruments in a meticulous way, and you know precisely the dental and jaw anatomy, as well as the operative steps in each treatment in all dental specialties. Instruments for obturate with resins have already developed them from different materials at their tips to optimize clinical work for the professional. Currently there are spatulas for resins of various materials such as: Satin Steel, Titanium Nitride and Aluminum, Non-stick Teflon, Instruments with Silicon tips and with shapes in their active parts that allow them to reach the different anatomical points of the molars with ease.

In the operative act of this project, he specifically focuses on using spatulas in a STRATEGIC OR ADEQUATE way to optimize the reconstruction of the occlusal anatomy of molars, when dental resin is used as obturate material.

MATERIALS AND METHODS.

The use of resin spatulas was demonstrated on the first mandibular molar. The spatulas were exposed step by step in the reconstruction so that as a whole the anatomy of the occlusal face of the first lower molar was formed in a class I cavity, for its correct occlusal function with its antagonist and to optimize swallowing.

The five basic spatulas that should not be lacking for filling with a resin in a molar are those shown in (Figure 1). They can be of different commercial brands, but the shapes of the active parts should not vary because each one has an important function in the incremental steps of the resins to conform the correct occlusal anatomy.

Condenser Lancet Cone Fissure Trimmer

Fig 1. Different designs of spatulas for resins

Estrada, B (2019)

For the incremental technique, first the Enamel and Dentin are conditioned with the adhesion system (Selective Etching Technique or Total Etching Technique), the one you choose according to the generation of adhesives you select. Once these fabrics have been conditioned, the technique is as follows:

1. The first layer of resin is applied to the entire pulp floor of the cavity with the instrument called **Condenser**. It is packed in a vertical direction so that the resin covers the entire pulp floor, (Figure 2) with this same condenser, with a small amount of resin packed against the walls of the cavity.
2. The shape of the cusp is given with the instrument called the **Lancet**, this instrument exists of various sizes for the various sizes of the cusps, until the shape of the cusp is finished. (Figure 2a).
   Estrada, B (2019)

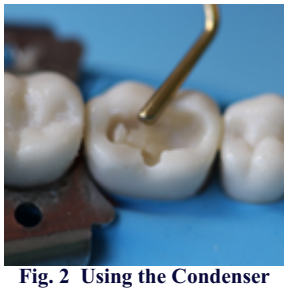

Fig. 2 Using the Condenser

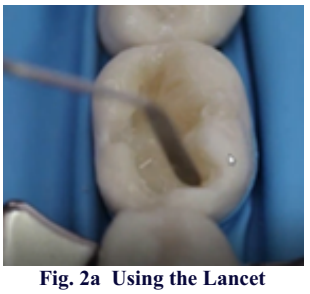

Fig. 2a Using the Lancet

Estrada, B (2019)

3. The instrument called **Cone**, the wide part rests on the superficial cavus edge and the tip goes on the central line of development, and this will give the correct height of the cusp, as shown in (Figure 3). Grooves and fissures are also made with the tip.
4. The instrument called **Fissure** is to perform the accessory grooves, and the deepening of the grooves, fissures, and the central line of development. as shown in (Figure 3a)

Fig 3 Using the Cone

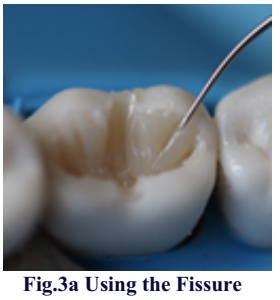

Fig.3a Using the Fissure

5. Finally, the excess **Trimmer** must be passed as shown in Figure 4, to remove excess resin and leave a precise finish on the Cavo surface edge.

This procedure is repeated for each cusp with the same order and with the same instruments until the cusps of the first lower molar are formed, returning all of the occlusal anatomy that includes the cusps, main grooves, accessory grooves and triangular fossa, as shown in the (Figure 4a).

Fig. 4 Using the Trimmer

Fig. 4a Finished occlusal surface

Estrada, B (2019)

In this way, by following the same procedure step by step in each cusp, the anatomy of the entire occlusal face is formed with five instruments used correctly.

RESULTS

The minimum use of the five spatulas in an adequate way for the formation of each cusp, allowed to obtain the following results:

1) Shape each cusp with the correct anatomy, thanks to the design of each spatula
2) As all the cusps are formed, the occlusal anatomy sketch is given.
3) The formation of the accessory grooves, the central line of development, as well as the triangular fossae, allow the integration and shaping of the entire occlusal surface.

In this way, the occlusal face will be rehabilitated to perform its function during mastication with the antagonist molar in a satisfactory manner.

CONCLUSIONS

The proper use of each spatula allows and speeds up the clinical procedure of obturate a molar with resin, allowing the reconstruction of the occlusal anatomy with all its characteristics as similar as possible to the natural one, thus ensuring that the molar is rehabilitated for perform its chewing function satisfactorily.

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