

## Prosthetic rehabilitation of the anterior sector in a patient with previous periodontal disease

### Virtual Augmented Therapy of Coulrophobia in elementary school children

ROSADO-VILA, Graciella†, SÁNCHEZ-ÁLVAREZ, Lucía, OROZCO-RODRÍGUEZ, Rubén and ZAPATA-MAY, Rafael

*Universidad Autónoma de Campeche, Faculty of Odontology and Faculty of Nursing, San Francisco de Campeche, Mexico.*

ID 1<sup>st</sup> Author: Graciella, Rosado-Vila / ORC ID: 0000-0002-8688.

ID 1<sup>st</sup> Co-author: Lucía, Sánchez-Álvarez / ORC ID: 0000-0002-4606-0354

ID 2<sup>nd</sup> Co-author: Rubén, Orozco-Rodríguez / ORC ID: 0000-0002-5425-0107

ID 3<sup>rd</sup> Co-author: Rafael, Zapata-May / ORC ID: 0000-0000-0002-3750

DOI: 10.35429/JBEB.2022.16.6.1.4

Received January 10, 2022; Accepted June 30, 2022

#### Abstract

Fixed prosthetic treatment can bring a high level of satisfaction to both the patient and the dentist. It can transform a dentition in a bad state with an unattractive appearance and poor function into a healthy and comfortable occlusion capable of providing years of proper function while greatly improving esthetics. Dental aesthetics consists of a series of treatments aimed at each problem presented by non-harmonious mouths. At present, the aesthetic demand in dentistry is one of the most requested, occupying much priority in terms of dental consultation needs. Dental professionals meet the different demands of the patient such as color change, anatomy, space closure, etc. There are different treatment options with the possibility of choosing different materials that are available to all our patients from composite resin to the current best; porcelain. **CLINICAL CASE:** A 42-year-old female patient who attends dental consultation requires a change of crowns that she has in the upper central incisors, to improve her appearance with the use of an appropriate oral rehabilitation. When diagnosing the case, the presence of Diastemas in the upper centrals were observed, crown maladjustment, vestibularization of both centrals as a consequence of previous periodontal disease, now stabilized. In the treatment plan, it was decided to make 2 metal-porcelain crowns in both upper central incisors. **RESULTS:** The prognosis of the case is considered favorable, since the patient is controlled periodontally. The functional and aesthetic results were achieved adequately. **CONCLUSIONS:** Patients with controlled periodontal disease can be rehabilitated with fixed prostheses to improve the aesthetic appearance that is affected by this disease.

#### Resumen

El tratamiento protésico fijo puede aportar un alto grado de satisfacción tanto al paciente como al dentista. Puede transformar una dentición en mal estado, con un aspecto poco atractivo y una función deficiente, en una oclusión sana y cómoda, capaz de proporcionar años de función adecuada al tiempo que mejora notablemente la estética. La estética dental consiste en una serie de tratamientos dirigidos a cada uno de los problemas que presentan las bocas no armónicas. En la actualidad, la demanda estética en odontología es una de las más solicitadas, ocupando gran prioridad en cuanto a necesidades de consulta dental. Los profesionales dentales atienden las diferentes demandas del paciente como cambio de color, anatomía, cierre de espacios, etc. Existen diferentes opciones de tratamiento con la posibilidad de elegir diferentes materiales que están a disposición de todos nuestros pacientes desde la resina compuesta hasta lo mejor del momento; la porcelana. **CASO CLÍNICO:** Paciente femenina de 42 años que acude a consulta dental requiere un cambio de coronas que tiene en los incisivos centrales superiores, para mejorar su aspecto con el uso de una rehabilitación oral adecuada. Al diagnosticar el caso, se observó la presencia de Diastemas en los centrales superiores, desajuste de coronas, vestibularización de ambos centrales como consecuencia de enfermedad periodontal previa, actualmente estabilizada. En el plan de tratamiento se decidió realizar 2 coronas de metal-porcelana en ambos incisivos centrales superiores. **RESULTADOS:** El pronóstico del caso se considera favorable, ya que la paciente está controlada periodontalmente. Los resultados funcionales y estéticos se consiguieron adecuadamente. **CONCLUSIONES:** Los pacientes con enfermedad periodontal controlada pueden ser rehabilitados con prótesis fijas para mejorar el aspecto estético que se ve afectado por esta enfermedad.

Dental prosthesis, Oral health, Aesthetics

Prótesis dental, Salud oral, Estética

**Citación:** ROSADO-VILA, Graciella, SÁNCHEZ-ÁLVAREZ, Lucía, OROZCO-RODRÍGUEZ, Rubén and ZAPATA-MAY, Rafael. Prosthetic rehabilitation of the anterior sector in a patient with previous periodontal disease. Journal of Biomedical Engineering and Biotechnology. 2022. 6-16:1-4.

† Contributing researcher as first author.

## Introducción

One of the characteristics of beauty is that it is experienced through the senses, mainly sight and hearing. As such, beauty is a subjective experience, which can vary not only from one individual to another, but also between cultures and epochs. However, there is agreement that aspects such as harmony and proportion of form, symmetry of features and the absence of physical defects are characteristic of physical beauty in a person, not least because they denote good health. Youth, in this sense, is also often associated with the concept of beauty.

Nowadays, the aesthetic demand in dentistry occupies the first places in terms of consultation needs in the dental office. Therefore, as dental health service providers, we are obliged to offer treatment options that meet standards of quality, functionality, aesthetics, predictability, among other things, and that are within the reach of the different social levels. At present there are different options in terms of materials to offer our patients, there is no doubt that porcelain is a material for the rehabilitation of teeth that has advantages over others. The aesthetics depend basically on the periodontal health, shape, contour and colour of the prosthesis. To achieve these objectives, periodontal health must be preserved, and restorations must be made with correct shape, contour and colour, factors that are directly related to the amount of wear of the tooth structure. If the amount of wear is insufficient for a porcelain metal crown, the porcelain will be too thin to hide the metal framework, which may lead the technician to compensate for this deficiency by increasing the contour of the restoration. Nowadays, it is of utmost importance to use and make use of auxiliaries to make our treatments predictable and thus to convince us of their reliability. A pre-treatment that removes your deficient prosthesis and replaces them with suitable temporary crowns, restoring function, phonetics, aesthetics and masticatory function. Any type of prosthetic treatment of one or more elements requires the elaboration of provisional restorations, which can facilitate the fabrication of the definitive prosthesis and, consequently, lead to its success. The dental provisional must have the following characteristics in order to achieve success: Pulp protection. Periodontal protection. Cervical adaptation. Contour. Interproximal trunking.

## Presentation of the case

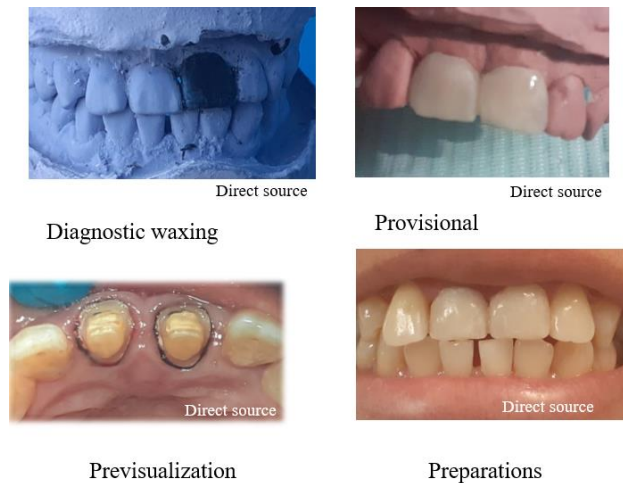
42 year old female patient who came for dental consultation because she wanted to have the crowns she had in the upper centrals changed, as she was unhappy with her appearance, on carrying out the diagnosis of the case the presence of diastema in the upper centrals, misalignment of the crowns, vestibularisation of both centrals as a consequence of previous periodontal disease already stabilised was observed. In the treatment plan it was decided to lower the crowns and make 2 porcelain metal crowns in both upper centrals.



**Figure 1** Initial photograph

## Clinical procedure

Study models, articulator mounting, photographs, prior anamnesis and filling out of clinical history, diagnostic wax-up was obtained with additive technique with wax, PK Thomas hand instruments were used. The crowns of teeth 11 and 12 were lowered, and no caries was observed when they were lowered despite the existing filtration. The teeth were re-prepared, forming a correct parallelism of the axial pairs, and the chamfered finishing line was made, indicated for metallic or metal-ceramic restorations. With the models mounted in the articulator, the diagnostic wax-up was carried out and the key was derived from the wax-up using silicone with condensation silicone. To make the dental provisionals, A3 colour methyl methacrylate was used, using the indirect technique for making provisionals. This technique consists of making the provisionals on the models before they are worn, and once they are worn, a relining is carried out to achieve the correct adaptation of the provisional. The temporaries were polished with a polishing kit for temporaries.

**Figure 2****Results**

The prognosis of the case is considered favourable, because both in aesthetics and function it is acceptable.

**Figure 3** Final photograph**Conclusions**

The articulator set-up, as well as the diagnostic wax-up are necessary tools for obtaining predictable treatments, it allows us to preview the treatment plan and to its aesthetic and functional analysis.

**References**

1. Pegoraro IF. "Prótesis Fija" Edit. Artes Médicas Latinoamérica, 1° edición, Sao Paulo 2001.
2. Mezzomo E. "Rehabilitación oral para el clínico" Edit. Amolca 2000 Rosentiel. Land. Fujimoto Prótesis fija contemporánea. Edit. Elsevier España 2009.
3. Herbert T. Shillingburg, Richard Jacobi, Susan E. Brackett Principios básicos en las preparaciones dentarias: para restauraciones de metal colado y de cerámica Quintessence, 2000 Rosentiel. Land. Fujimoto Prótesis fija contemporánea. Edit. Elsevier España 2009.
4. Herbert T. Shillingburg, Richard Jacobi, Susan E. Brackett Principios básicos en las preparaciones dentarias: para restauraciones de metal colado y de cerámica Quintessence, 2000 I. Jiménez-Castellanos E, López M. La prótesis dental en gerontología. En: Bullon P, Velasco E. Odontoestomatología geriátrica. La atención odontológica integral del paciente de edad avanzada. Ed. Smithkline Beecham. Madrid.1996, pág.353-362.
5. Noguera GA, Fleitas AT. Frecuencia de estomatitis subprotéica en pacientes portadores de dentaduras totales. Revista odontológica de los Andes.2006;1:20-2
6. Chimenos E. Candidiasis oral en el anciano. En: Bullon P, Velasco E. Odontoestomatología geriátrica. La atención odontológica integral del paciente de edad avanzada. Ed. Smithkline Beecham. Madrid.1996, pág. 229-240
7. Ayuso-Montero R, Torrent-Collado J, López-López J. Estomatitis protésica:puesta al día. RCOE 2004;9(6):657-662
8. Howard William (1982). Standards of pontic design. The Journal of Prosthetic Dentistry:47.493-495.
9. Crispin, Bruce (1979). Tissue response to posterior denture base - type pontics. The Journal of Prosthetic Dentistry: 42. 257-261.
10. Cavazos, Edmund (1968). Tissue response to fixed partial denture pontics. The Journal of Prosthetic Dentistry: 20. 143-153.
11. Porter Charles (1984) Anterior pontic design The Journal of Prosthetic Dentistry :51;774-184

12. Parkinson Clayton (1984) Pontic design of posterior fixed partial prostheses is it a microbial misadventure The Journal of Prosthetic Dentistry : 51; 51-54
13. Stein Sheldon (1966) Pontic-Residual Ridge relationship a research report The Journal of Prosthetic Dentistry 16;251-284
14. Clayton Joseph (1970) Roughness of pontic materials and dental plaque The Journal of Prosthetic Dentistry 23;407-411
15. Becker Curtis (1981) Current theories of crown contour, margin placement and pontic design The Journal of Prosthetic Dentistry 45 ;268-277.
16. Neldelman Charles (1970) The alveolar ridge in denture and non-denture wearers The Journal of Prosthetic Dentistry 23 ; 265-273.
17. Perel Morton (1971) Periodontal considerations of crown contours The Journal of Prosthetic Dentistry 26;627-630.
18. .Kydd, William (1982) The biologic and mechanical effects of stress on oral mucosa. The Journal of Prosthetic Dentistry 47: 317-329.
19. .Dylina Tim Contour (1999) determination for ovate pontics The Journal of Prosthetic Dentistry 82:136-142
20. Jiménez-Castellanos E, López M. La prótesis dental en gerontología. En: Bullon P, Velasco E. Odontología geriátrica. La atención odontológica integral del paciente de edad avanzada. Ed. Smithkline Beecham. Madrid.1996, pág.353-362.