

Different uses of Myofunctional Orthodontics in Permanent Dentition

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Abstract:

The true success of an orthodontic treatment is achieved when long term stability is achieved after the appliance is removed. Stability is the ability to remain unchanged over time, the occlusion of the teeth being the most important factor in determining said stability. In the constant search to achieve the same, I have worked with Myofunctional Orthodontics, either alone or in combination with fixed appliances in patients with permanent dentition who present deficiencies in the lingual or respiratory position, managing to treat the underlying problem that has caused the malocclusion proposing comprehensive treatments, where the patient is evaluated from the perspective of a whole. Allowing them, in this way, to achieve a better quality of life by restoring not only aesthetics, and better occlusion, but also functions, for example, restoring nasal function, a consequence of the correct position of the tongue in the upper arch, which that allows a result that can be prolonged in time and obtain greater long-term stability.

Keywords: Myofunctional Orthodontic, Stability, Mouth Breathing, Permanent Dentition, Orthodontic whitout braces.

Introduction

When a malocclusion is recognized and diagnosed in which the dental alteration and its degree of deviation are evident, it is rarely thought how it originated, although it is evident that, together with the dental malposition, there is also an alteration of the tissue's soft tissues and fasciae of the individual, which should suggest the presence of altered oral functions.¹ The position of the teeth is determined by the "Hall of Tomes", on the one hand the language that exerts intense but intermittent force outward and, in the opposite side cheeks and lips whose strength is continuous but smoother.²

Under normal conditions, these opposing forces they are in balance and counteract each other. Therefore, once that the teeth have reached maturity in their development and eruption, no longer move.² That balance can be upset when it exists an increase in the force exerted by any of its components. For example, when there is a macroglossia, where the tongue is larger than normal, a force is exerted more intense of the tongue than of the lips, with which the incisors are tilted and protruded. Instead, when the pressure of the lips and jugal is greater than that of the tongue, there will be a vestibular pressure that will lingualize or will collapse the incisors.³

There are also habits capable of breaking that balance of forces and induce alterations in positions of the teeth and in the development in the jaws.^{2,3} The goal is how we can explain that certain habits produce major alterations, if not through the conjunction of the breakdown of muscular balance and imbalance produced by the functional alteration that mainly affects functional spaces, oral, nasal and pharyngeal and, therefore, to the soft tissues, your supporting bone and cartilage to finally have a translation in the tooth that acquires the position that allows its previously deformed supporting structure. The essential functions are respiratory, swallowing and masticatory, although it would also be basic for men as a means of communication, the phonatory, although its morpho functional role has a relative importance in the development of malocclusion.³

Therefore, it is very important to make a correct diagnosis to determine the presence of habits such as finger sucking, atypical swallowing, mouth the future and gain long-term stability.

Whats is Myofunctional Orthodontics?

Myofunctional Orthodontics is the discipline whose main objective is to improve muscle function and reduce soft tissue dysfunction (tongue, lips, cheeks and respiratory patterns), which allows a good skull-facial development, at the bone level and at the bone level muscle, accompanied by dental alignment, all through Myofunctional reeducation. ^{4, 5, 6, 7.}

Myofunctional Orthodontics suggests that the cause of malocclusion is muscle dysfunction. The results of Myofunctional orthodontics do not come from excessive forces on the teeth, but rather focus on correcting the function, adjusting the forces of the tongue and lips to develop the arch and jaws, thus improving dental alignment. ⁴

In 1989 Myofunctional Research Co. was founded, using CAD (Computer Aided Design) technology for the research development and manufacturing of the Trainer System and Myobrace®. This technology facilitated the production of a universal, intraoral and flexible appliance made of non-thermoplastic silicone or polyurethane that allowed it to retain its shape without undergoing changes during use. It was prefabricated with specific pre-designed measures and shapes, with therapeutic characteristics that influenced oral musculature and consequently intra- and extra-oral muscle function in patients where its use was indicated. ⁷

The objectives of the desired Myofunctional treatment for patients are the patient must breathe through the nose, the lips must be in contact at rest and the tongue must be in its correct position, no lip activity should be seen when the patient swallows, occlusion class I with neutral-occlusion, well-aligned teeth, and finally improve facial development allowing the patient to reach their highest genetic potential. ⁵

To achieve the objectives and results of Myofunctional treatment it is necessary for the patient to wear the device 1-2 hours during the day and overnight while sleeping, regularly and daily. ^{5, 7.}

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1. Combination with Conventional Orthodontics.

In daily practice I use Myofunctional Orthodontics, more precisely the Myobrace system, as a support for conventional Orthodontic in two ways, once the treatment is finished to replace the removable conventional splint or during braces treatment. In this way I make sure that at the end of the same I will obtain a correct lingual position, breathing and lip seal. Since if we do not treat the basic problem, that is, the habits that it had during its development, it will continue to constantly cause recurrences. In addition to promoting that muscular balance so that the teeth remain in the new position.



Figure 1. Patient female 13-year-old with open bite who wanted to avoid surgery. She was treated with conventional aesthetic fixed orthodontics for two years and use of intermaxillary elastics. Then, the removable Myofunctional Orthodontics once the braces have been removed, it is worn all night and one hour during the day.



Figure 2. Patient female 30 year old. Class II, First Division, superior medial interincisal diastema, mouth breathing. Treated with conventional fixed aesthetic orthodontics for a year and a half, without extractions, and myofunctional orthodontics simultaneously.



Figure 3. 22-year-old patient with open bite, mouth breathing. Treated with fixed upper and lower metallic self-ligating orthodontics, intermaxillary elastics and then with Myofunctional Orthodontics.

2. Patients who do not want to wear fixed orthodontics.

In the daily consultation, many times we find patients who do not want to use fixed orthodontics because they have had it previously without success, and since the basic problem has not been solved, the teeth have returned to the initial position or patients with class I Angle showing slight crowding. This type of case can be treated with a Myofunctional Orthodontic.

BEFORE

AFTER



Figure 4. Result obtained in 10 months in a 49-year-old patient, treated only with removable Myofunctional Orthodontics every night and one hour a day



Figure 5. Results obtained in 5 months in a 27-year-old patient.

Conclusion:

I believe that Myofunctional Orthodontics is a very valuable tool today in the office and knowing its advantages is very useful for Dentists. We can conclude that when a correct diagnosis is made and some deficiency in the functions is evidenced, it is of the utmost importance to address it so that it is restored and reflected, as a consequence, in the position of the teeth.⁵ So, the fundamental premise is to first find the cause of the malocclusion, treat it and as a consequence the position of the teeth in the arches will change. The forces of the tongue, lips, and surrounding facial muscles are sufficient to move the teeth into any position. Once the previously diagnosed and treated soft tissue dysfunction is corrected, there is: stable arch development, increased space for teeth in the jaws, anterior crowding is resolved with little mechanical effort and alignment is improved dental, obtaining much better results especially in terms of stability.⁵

Getting patients to breathe through the nose day and night, with the tongue correctly positioned at rest, is of utmost importance to achieve correction of the occlusion.⁵

Conflict of Interest

The authors declare no conflict of interest

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