

Lingual Orthodontics: The Changing Trends

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Abstract

Lingual braces are one of the “invisible” treatment methods for correction of malaligned teeth for the most part, they look like conventional dental braces that have been mounted on the backside (lingual, tongue side) of the teeth. This hides them from view, making them unnoticeable to others.

Keywords: Lingual; Malaligned Teeth; Braces

Introduction

Man has been striving for times and generations to improve his outlook, physical being, his appearance- what he calls the esthetic value. The face (in general) and teeth have also come to play a part in his presentation to the outside world. To enhance this desire, attention has been given to correct the malformations of teeth. Earlier very crude methods were used for this propose. But, now a day, new technologies have come across the globes which have completely changed the ways, traditional orthodontics has been practiced till date. Lingual orthodontics is not an unknown treatment modality in the present era which has given a new dimension to the operational areas of orthodontics, changing from the labial to the lingual giving rise to a new concept of the “Invisible Braces.”

Lingual braces are a treatment method where the appliance (brackets, wires and elastics) used to rearrange your teeth is mounted on their backside (tongue side). Due to this positioning, they’re sometimes called “inside” braces. In comparison, conventional “outside” braces are placed on the side of your teeth that shows. While the location of the appliance used is reversed, both conventional and lingual technique share many similarities in terms of the type of hardware and orthodontic principles involved. Lingual treatment has so many advantages over labial treatment for the patient in terms of damage to labial or buccal surfaces of the teeth, labial or buccal gingival hypertrophy or gingivitis, and better visualization of tooth alignment and facial contours [1].

History

In 1889, John Farrar published a “Lingual removable Arch.” The dental literature extolled the advantages of moving teeth with lingual appliances. These early lingual appliances were

removable and designed to expand the dental arches. In 1918, Dr John Mershon published a paper entitled “The removable lingual arch as an appliance for the treatment of malocclusion of the teeth.” In 1922, Mershon’s presentation on labial and lingual arches with finger springs was reported as being a highlight of the meeting. The idea of development of Current lingual treatment began at the same time (the mid 1970’s) in two different countries, when it became apparent that bonding of bracket was a viable procedure, and that esthetic plastic brackets were a compromise.

Dr. Craven Kurz began experimenting with lingually bonded brackets in 1973, achieving reasonably good results in simple cases. He became convinced that a lingual bonded edgewise system was feasible and would make a significant contribution to adult orthodontics. His main motivation was to find a way to provide treatment for patients in a less noticeable way. He created his own lingual appliances by modifying labial appliances, using hand modified labial brackets. He limited his treatment to the mandibular teeth for fear that the forces of occlusion would dislodge the brackets placed on the lingual surfaces of the maxillary anterior teeth. At the same time in Japan, Professor Kinya Fujita [2] conducted a research for the purpose of developing an orthodontic technique which would be both hygienic and esthetically pleasing. A primary motivation for his efforts was to be able to provide care in a way that helped to protect the lips and cheeks of patients participating in martial arts.

Advantages

The chief advantage of having lingual treatment lies in the fact that your braces are non visible. If someone carefully looks into your mouth they may catch a glimpse of your appliance (especially

if you're wearing them on your lower teeth). But otherwise they're not easily detected. If you feel that wearing conventional braces would simply be too embarrassing, this is one of the "invisible" orthodontic methods that you might consider.

Two really big advantages of using a lingual approach are that it allows the dentist more control over tooth movements [3]. And unlike when removable appliances are worn (or, more importantly, not worn), the issue of patient compliance is never a problem.

Disadvantages

As disadvantages for this technique:

The biggest issue is that lingual braces can be difficult to get used to and wear. And, in general, each periodic office appointment you have during your treatment process takes longer than it would with conventional braces. However, with continued advancements in the design of lingual systems these points have become less and less of an issue.

Problems or difficulties faced with the appliance

As a general rule, it's more difficult to get used to wearing lingual braces than with the conventional ones and time duration is too long. The common problems encountered are:

Difficulties with speech

Initially these brace make it difficult to speak. For most patients, speech difficulty is the most severe problem they encounter. Caniklioglu et al. [4] found that 23% of the subjects in their study had difficulties with speech after 3 months. A new lisp or whistling sound might be heard when one speaks as tongue needs to make contact with the backside of upper front teeth when it makes certain sounds. Since that's the same place where the braces have been placed, it will take a while for the tongue to find another location it can use that produces similar results. The remedy for this problem is practice, and lots of it. Read a book or magazine out loud. Or if alone, say all of your thoughts out loud. It might take just a few hours, or even several weeks.

Tongue soreness

Lingual braces are a curiosity to tongue as well, in the sense that it won't be able to stay away from them. And of course as it functions, it will want to occupy some of the exact same locations

that braces already do. As a result, and especially for the first few weeks of wearing new braces, the tongue may be sore, even persistently so. One may notice some redness, or even the formation of an outright sore.

Eating

Having lingual braces will make eating more difficult. Some foods will tend to get trapped in them. Others might even damage them. In general, it's best to avoid crunchy, hard, sticky and especially chewy foods. It is always advised to cut food into smaller pieces. Troublesome foods like apples, raw vegetables (carrots, celery, radishes), nuts, hard rolls or pizza crust, toffee, bubble gum should be avoided [5] Instead the easier foods like rice, pasta, fish, cooked vegetables, soft bread should be made a routine.

Cleaning your teeth

Wearing lingual braces makes it more difficult to brush and floss the teeth. Even so, one should still put the efforts to clean them after every meal and snack. Tooth-cleaning tips: Using a small-headed toothbrush will tend to make cleaning easier. The use of an electric toothbrush can be beneficial too. Other items that can be useful are pipe cleaners, interdental bushes and specialty dental flosses.

Conclusion

It has been shown that a lingual appliance can have the same capacity to align the teeth as a labial appliance. It has been proved to be a boon to Orthodontics specialty and adult patients who are more concerned for aesthetics. With some practice, precautions and adaptations; the difficulties can be overcome easily.

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