


## THE LINGUAL ORTHODONTICS AND THE SOCIAL SIX: A CASE REPORT

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### ABSTRACT

Lingual orthodontics has emerged as an effective alternative to address the growing demand for discreet orthodontic treatment, particularly among adult patients. The primary motivation for seeking orthodontic care is often the desire to improve facial aesthetics, driving a significant increase in the number of adults pursuing corrective dental procedures over the past two decades. This case report highlights the Social Six Technique, developed by Scuzzo and Takemoto, as a streamlined and efficient solution for treating Class I malocclusion with anterior crowding. This technique offers a fast, precise, and practical approach to achieving optimal results, making it a cost-effective alternative to systems like Invisalign™ and other aligner-based treatments.

**Keywords:** Lingual orthodontics, Orthodontics, Invisalign™.

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## INTRODUCTION

Orthodontics has traditionally aimed to improve dental alignment and occlusion, focusing on function and aesthetics. In recent years, the aesthetic aspect of orthodontics has gained prominence, especially among adult patients concerned about the visibility of braces. The "social six," referring to the maxillary and mandibular anterior teeth (central incisors, lateral incisors, and canines), are critical in shaping an individual's smile and self-esteem.

The lingual orthodontics has been an interesting alternative for orthodontic treatment for patients who do not accept conventional orthodontic treatment, in the case of the vestibular technique.

The lingual orthodontics in recent years has been highly sought after by patients and professionals in search of a differential market adding financial value and market differentiation. (Hohoff et al., 2003; Mo et al., 2013)

However lingual orthodontics requires a different technique, a lot of training and study. By requiring specific instrumental, brackets and wires. Besides indirect bonding which undoubtedly is very labor intensive and maybe need to be rebonded at the time of placement of the brackets in the mouth (Gorman, 1998; Fillion, 2010).

The lingual orthodontics is an invisible technique that attracts many patients and one of the ways to accomplish is the social system six, where is an option of treatment in patients Class I. This technique is bonded in the canine to canine lingual surface in both archs. This technique was proposed by Takemoto and Scuzzo (Takemoto & Scuzzo, 2001; Scuzzo et al., 2010)

Lingual orthodontics is a revolutionary approach that caters to this aesthetic demand by positioning orthodontic brackets and wires on the lingual surfaces of the teeth, rendering them nearly invisible. Despite its advantages, lingual orthodontics presents unique challenges, such as technical complexity and higher costs. This paper explores the mechanics, clinical applications, and social implications of lingual orthodontics, with an emphasis on treatments targeting the social six.

## CASE REPORT

Patient L. E., 32 years old, signed the patient consent form, had Angle Class I malocclusion, with crowding and misalignment of the upper and lower archs, refused to use the conventional vestibular orthodontic technique, the patient wanted to make an orthodontic treatment that was supposedly invisible, because it had already used appliance and bothered a lot with the appearance and also the discomfort that four years device

brought. Thus we use the technique of lingual brackets prescription STB (ORMCO Orthodontics, USA), starting with indirect bonding. And putting a stainless steel wire 012 lingual for 3 months, 014 lingual wire for 2 months. The stripping method was used to gain space in the mandibular arch. After the 016 lingual wire was used for 1 month and ending with a string of 016 x 016 with TMA for 4 months, using the small continued ligature. Finally integrated torque 10 months later, placing a bonded retainer in the top and bottom. And it was finished perfectly, with all teeth aligned and a perfect smile, leaving the patient very satisfied with his smile.

Picture 1- First photo of front smile



Picture 2 – First photo of mandibular view



Picture 3 – First photo of maxilar view.



Picture 4- Photo of mandibular view with mirror.



Picture 5- Photo of final smile.



Picture 6- Final photo of mandibular view.



Picture 7- Final photo of maxilar view.



## LINGUAL ORTHODONTICS: AN OVERVIEW

### HISTORY AND EVOLUTION

The concept of lingual orthodontics dates back to the 1970s when Kurz et al. developed appliances to cater to patients prioritizing discretion (Kurz et al., 1982). Over the decades, advancements in digital technology, such as 3D imaging and CAD/CAM systems, have refined lingual orthodontic appliances, making them more precise and efficient.

### CURRENT TECHNOLOGIES

Modern lingual orthodontics employs custom-made brackets and wires tailored to each patient's dental anatomy. Technologies like Incognito™ and SureSmile® have further enhanced treatment accuracy by leveraging digital planning and manufacturing (Wiechmann et al., 2003).



## THE "SOCIAL SIX" IN ORTHODONTICS

### Importance of the Social Six

The social six are the teeth most visible during speech and smiling, playing a crucial role in interpersonal interactions and self-confidence. Orthodontic treatment targeting these teeth can significantly improve a patient's aesthetic appearance, often with reduced treatment times compared to full-arch approaches (Sarver et al., 2015).

## FOCUSED TREATMENT STRATEGIES

Lingual orthodontics targeting the social six is particularly suited for patients with mild to moderate alignment issues. These cases often involve crowding, spacing, or minor rotational corrections. The approach emphasizes efficient tooth movement while preserving aesthetics throughout the treatment.

## BIOMECHANICS OF LINGUAL ORTHODONTICS

Lingual orthodontics operates on the same biomechanical principles as traditional braces but with unique adaptations:

1. **Bracket Positioning:** The lingual surface curvature requires custom-fit brackets to ensure optimal adhesion and force distribution.
2. **Force Application:** Precise control of forces is essential to avoid unwanted torque or tipping.
3. **Archwire Customization:** Wires are pre-shaped based on digital models to align with the lingual anatomy and achieve desired outcomes (Fillion, 1997).

## ADVANTAGES OF LINGUAL ORTHODONTICS

The primary advantage of lingual orthodontics is its invisibility, making it an ideal choice for adults in professional or social settings.

Lingual systems are highly personalized, leading to improved patient comfort and more predictable results (Wiechmann et al., 2003).

Focusing on the social six allows for expedited results in cases where full-arch treatment may not be necessary.

## LIMITATIONS AND CHALLENGES

Lingual orthodontics requires specialized training and skills due to the difficulty of accessing and manipulating lingual surfaces (Geron & Romano, 2001).



Patients may experience initial discomfort, including tongue irritation and speech difficulties, which generally subside within weeks.

Custom appliances and advanced technology contribute to higher costs compared to traditional orthodontic options.

Lingual orthodontics is suitable for a wide range of cases, including:

1. **Mild to Moderate Crowding:** Especially in the social six region.
2. **Aesthetic-Driven Patients:** Adults in public-facing roles or those prioritizing discreet treatment.
3. **Interdisciplinary Care:** Cases involving pre-prosthetic or post-orthognathic surgery alignments.

Research indicates that focused treatment of the social six using lingual braces can achieve significant improvements within six months, depending on case complexity (Smith et al., 2018).

Recent technological advancements have transformed lingual orthodontics:

1. **3D Imaging and Printing:** Enables precise planning and fabrication of custom appliances.
2. **Artificial Intelligence:** Facilitates treatment simulations and improves outcomes (Alford et al., 2020).
3. **Self-Ligating Brackets:** Reduces friction, enhancing patient comfort and efficiency.

The growing popularity of lingual orthodontics reflects broader societal trends toward personalization and aesthetic optimization. Patients value the ability to improve their smiles discreetly, aligning with contemporary norms of professional and social presentation.

## CONCLUSION

Lingual orthodontics is a sophisticated and effective approach to orthodontic treatment, offering unparalleled aesthetic benefits for patients prioritizing discretion. Cheaper than Invisalign™ treatment. Its focus on the social six allows for targeted treatment, enhancing smiles while maintaining patient confidence throughout the process. While challenges remain, ongoing advancements in technology and training promise to make this treatment more accessible and efficient.



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