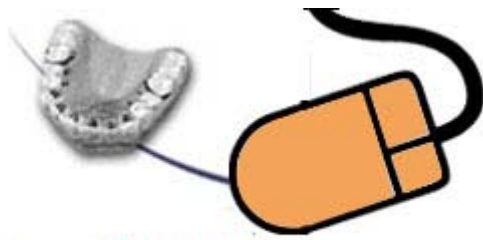


F



Lingualnews.com

Volume 4, Number 1
February 2006

EDITORS

Silvia Geron
Tel Aviv University Israel
Rafi Romano
Private practice, Tel Aviv

Original article
Mini-screws for skeletal anchorage (M.A.S.) in Lingual Orthodontic

Stefano Velo , Aldo Carano, Cristina Incorvati

Updates

Original: LO Solving Social Dilemma In Victims Of Tragedy Of Marriage In India Rajesh Gadekar

Original:Marketing Lingual orthodontics in an "Invisalign world" Rafi Romano D.M.d., M.Sc

Discussion: IBraces - are we loosing control? From Yahoo Lingualortho group, Fred Marconi

Discussion: Invisalign Vs. lingual Orthodontics From Yahoo Lingualortho Summerized by Rafi Romano D.M.d., M.Sc

Products & Materials
A simple appliance for improving patient comfort Silvia Geron D.M.D., M.Sc

Clinical problems and solutions
Original Tooth burshing technique for LO Galvao, M.C.S., DDS; Maltagliati, L.A., DDS, MsC, PhD

Case presentations
In office bracket positioning with the new Lingual Bracket Jig Silvia Geron D.M.D., M.Sc

Aesthetic Dentistry
Orthodontic tooth positioning for porcelain laminate veneer Ilan Gilboa D.M.D., Ofer Sarne D.M.D.,

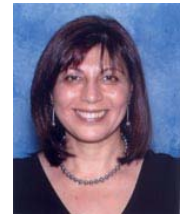
Lingual News

Practical information on adult and lingual orthodontics



A simple appliance for improving patient comfort in Lingual Orthodontics

Silvia Geron D.M.D., M.Sc



One of the main reasons for low acceptance of the Lingual techniques by patients and orthodontists is the discomfort to the patients at the beginning of treatment (1,2). All patients have some difficulties during the adaptation phase, which lasts about three weeks for 35% of them and more than three weeks for 36%. (3)

Many parameters were examined as possible predictors for the amount of discomfort, such as age, sex, malocclusion, overjet, overbite and psychological profile (4). None was able to predict which patients will be more sensitive than others to lingual appliances. (3,5)

The main problems the patients are confronted with are speech problem and tongue irritation. Tongue irritation is caused by the contact of the tongue with the lingual brackets and the tendency to run the tip of the tongue over the new brackets. Many times the patients see bracket impressions on both sides of the tongue when they wake up.

To improve patient comfort and overcome this problem the following diverse ways have been suggested (3):

1. Bonding only one arch at the time, the other arch should be bonded at least two months later.
2. Educating, preparing the patient for the difficulties, and reassuring him during the first weeks after bonding.
3. Using a protective periodontal pack (Barricaid) over the most irritating brackets.
4. Blocking the distal end of the wire with composite material
5. Avoiding bends and loops and using sliding mechanics for space closure.
6. Using a soft splint made of a 1.5mm-thick silicone material for night wear in open bite cases.



Fig 1: Elastic sleeves are routinely used over "naked" long wires (A). Separating modules are used routinely on the premolar and molar brackets after bonding G7 brackets (fig B)



Fig 2: Hooks, brackets or wires are totally covered with flowable composite in G7 (A) and STb (B) brackets

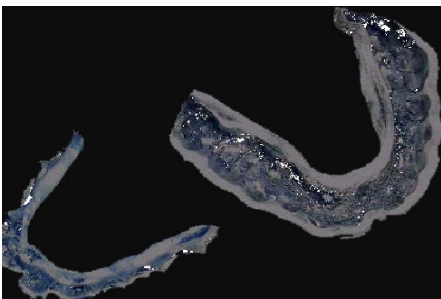


Fig3: The transfer tray is separated and the outer soft thermoformed layer is delivered to the patient for night wear or the first days after bonding

Many efforts have been made to improve patients' comfort and speech problems with the lingual appliances. New brackets were designed with flatter profile, smoother surfaces and smaller hooks (Stealth - American Orthodontics, Forestadent 3D and 2D, STb - Ormco) New bonding techniques suggested flattened custom pads (TOP, STb), and archwire insertion as ribbon arch (Forestadent) or lying flat on the lingual tooth surface (Incognito) (6-7)

Despite these improvements lingual brackets still induce discomfort and dysfunction to some patients, unpredictably; some patients with flat brackets bonded close to the tooth surface suffers more than others with the traditional Ormco Generation 7 brackets with the large hook, bonded with a thick custom pad.

The adaptation period in my practice is about 4-7 days for most patients, with no matter which brackets I use (Ormco G7, STb, Evolution Lt). Special efforts are made to reduce tongue irritations immediately after bonding, and since the speech problem usually follows the tongue irritation, it can be significantly reduced if tongue irritation is avoided.

Tongue irritation is avoided by using the following:

1. Elastic sleeves are routinely used over "naked" long wires (fig 1A)
2. Separating modules are used routinely on the premolar and molar brackets after bonding G7 brackets (fig 1B)
3. The patients are instructed to use sucking tablets usually used for throat irritations, and they come immediately for an emergency appointment needed.
4. If the patient comes for an emergency appointment, the irritating hooks, brackets or wires are totally covered with flowable composite (fig 2)
5. A soft omnivac plate is delivered to the patient for night wear, since the unconscious pressure of the tongue during sleep may increase tongue sensitivity.

The plate I use is the outer part of the bonding transfer tray (fig 3)). The bonding tray I use is composed of an inner layer made of resilient silicone material (Memosil 2, Kulzer) which covers only the brackets, and an outer thermoformed layer made of soft, 3mm thick soft mouth guard, which covers all the buccal tooth surfaces, as well as the lingual surfaces up to the area of tongue contact. After using the tray for bonding, the tray is separated and the outer soft thermoformed layer is delivered to the patient for night wear for the first days after bonding.

REFERENCES

1. Smith J, Gorman J, Kurz C, Dunn R. Keys to success in lingual therapy: Part II. *J Clin Orth* 1986;20:330-40.
2. Hohoff A, Wiechmann D, Fillion D, Stamm T, Lippold C, Ehmer U. Evaluation of the parameters underlying the decision by adult patients to opt for lingual therapy; an international comparison. *J Orofacial Orthop* 2003;64:135-44.
3. Fillion D. Improving patient comfort with lingual brackets. *J Clin Orthod* 1997;6:689-94.
4. Sinclair PM, Cannito MF, Goates LJ, Solomos LF, Alexander GM. Patient responses to lingual appliances. *J Clin Orth* 1986;10:396-404.
5. Miyawaki S, Yasuhara M, Koh Y. Discomfort caused by bonded lingual orthodontic appliances in adult patients as examined by a retrospective questionnaire. *Am J Orthod Dentofacial Orthop* 1999;114:83-8.
6. Hohoff A, Stamm T, Ehmer U. Comparison of the effect on oral discomfort of two positioning techniques with lingual brackets. *Angle Orthod* 2004;74:226-33.
7. Stamm T, Hohoff A, Ehmer U. A subjective comparison of two lingual bracket systems. *Eur J Orthod* 2005;27:420-6.
8. Scuzzo G., Takemoto K., The new revolutionary STB brackets, *LINGUALNEWS.com* Vol2 No 2 November 2004