



Clinical outcomes of lingual fully customized vs labial straight wire systems

Assessment based on American Board of Orthodontics criteria

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Abstract

Purpose To evaluate orthodontic treatment outcome in patients treated with a lingual appliance (Incognito™ Appliance System, 3M Unitek, Monrovia, CA, USA) versus patients treated with a labial appliance (Victory series™, 3M Unitek, Monrovia, CA, USA).

Methods A total of 72 patients were retrospectively analyzed. The complexity of each case was evaluated using the American Board of Orthodontics (ABO) Discrepancy Index (DI), and orthodontic clinical outcomes were evaluated using the ABO Objective Grading System (cast-radiograph evaluation: C-R Eval).

Results The mean total ABO C-R Eval score was 16 ± 9.1 in the labial appliance group and 12.7 ± 5.4 in lingual appliance group ($p=0.152$). The mean total ABO-DI scores were 16.3 ± 7.3 and 15.4 ± 6.6 in the labial and lingual appliance groups, respectively ($p=0.445$). A significant correlation was observed between the total DI and total C-R Eval scores.

Conclusions In this particular study and in the hands of two experienced orthodontists, no differences in the finishing quality of orthodontic treatments using the lingual technique or the buccal appliance technique were found. However, further prospective studies with larger sample sizes are necessary in order to generalize these results.

Keywords Discrepancy Index · Objective Grading System · Dental occlusion · Orthodontic treatment outcome · Fixed orthodontic appliances

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