



CFAO GRADUATE STUDENT POSTERBOARD ABSTRACTS

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Comparison of short-term skeletal, dental, and soft tissue changes in Class II malocclusions treated with the Twin Block appliance or the novel Invisalign Mandibular Advancement Feature compared with historical controls

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Purpose: The purpose of this retrospective cephalometric study is to compare the short-term skeletal, dental, and soft tissue effects of the Invisalign Mandibular Advancement Feature as compared to the Twin Block appliance, as well as an age and gender matched sample of historical controls.

Materials & Methods: 32 patients with Class II Angle dental malocclusion received treatment with the Invisalign Mandibular Advancement Feature, and 19 of the 32 subsequently finished treatment with Invisalign clear aligner therapy at 2 private practice clinics. 32 patients received treatment with the Twin Block appliance, and subsequently full fixed edgewise appliances, at one of the 2 previously mentioned private practices. The 32 historical controls were age and gender matched to the Invisalign sample and were accessed through the American Association of Orthodontics Foundation Legacy Collection, incorporating five of the longitudinal growth studies. Lateral cephalometric radiographs were acquired for each patient pre-treatment, immediately post-advancement, and post-treatment when available. All radiographs, including the control sample, were blinded, randomized, traced, and cephalometric analysis carried out prior to de-blinding. A quarter of the radiographs were re-traced for intra-operator error.

Results: The study is currently ongoing. All radiographs have been collected and traced. Statistical analysis will be carried out following unblinding of the x-rays. Dependent (paired) Sample T-tests for intra-group comparisons and Independent Sample T-tests for inter-group comparisons will be carried out with a significance value of $p < 0.05$. Timeline is to complete statistical analysis prior to the end of July, with interpretation of results to follow shortly thereafter.