

OP44 LONG-TERM EVALUATION OF THE PENDULUM APPLIANCE: WHAT HAPPENS 7 YEARS AFTER DEBONDING?

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**AIMS:** To describe dental and skeletal changes associated with the Pendulum and fixed appliance treatment over time.

**SUBJECTS AND METHOD:** Seventy six Class II patients (35 males, 41 females) treated with Pendulum and fixed appliances. Lateral cephalograms were obtained at the start of treatment (T1; 12 years 11 months); end of distalization (T2; 13 years 8 months); end of orthodontic fixed appliances (T3; 15 years 4 months); and long-term observation (T4; 7 years 2 months later; 22 years 5 months). A paired *t*-test was used to identify significant between-group differences between T2-T4 and T3-T4

**RESULTS:** Distal molar movement was obtained during the distalization-phase (T2) and about one-half of the distalizing effect was maintained at the end of maxillary growth (T4). Most of the relapse occurred during fixed appliance therapy (T3), whereas no significant change was detected in the post-retention period (T4). The molar relationship did not show any significant difference between T2 and T4. The vertical facial dimension increased both during T2 and T3, but returned to the initial values during T4. Overjet and overbite were corrected during T3 but showed a slight relapse in T4.

**CONCLUSION:** The Pendulum appliance induces significant dentoalveolar effects, which can be partially maintained during the long-term period. A Class I molar relationship does not change during completion of individual growth. The increase in vertical facial dimension represents a temporary effect.