



# POSTGRADUATE RESEARCH DAY 2017

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## (O12) Analysis of Tweed's facial triangle in mixed dentition children with Class III malocclusion treated by two different appliances

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**Introduction:** Reverse twin-block (RTB) and reverse pull face mask (RPFM) are two commonly used orthodontic appliances to treat Class III malocclusions in mixed dentition children. **Objectives:** To evaluate and compare the treatment effect of RTB and RPFM on facial aesthetics in children with Class III malocclusion of both early and late mixed dentition. **Methodology:** This retrospective cross-sectional study analysed 190 pre- and post-treatment lateral cephalograms of 95 mixed dentition children having Class III malocclusion; where 49 children were treated with RTB and 46 children were treated with RPFM. The samples were of both early (8-9 years) and late (10-11 years) mixed dentition stage. The impact on facial aesthetics was evaluated by Tweed's facial triangle using CASSOS software. In each cephalogram, 71 anatomic landmarks were traced and then measurements of Tweed's analysis were generated. For statistical analyses, paired and independent t-tests were performed. **Results:** In the RPFM group, Frankfort Mandibular Plane angle was significantly increased in both age groups. Whereas, the Incisor Mandibular Plane angle was significantly reduced in early mixed dentition group only. A significant reduction in the Incisor Mandibular Plane angle was also noticed in early mixed dentition group of RTB. Regarding different age groups, children in both early and late mixed dentition stage showed a similar response to the appliance therapy. **Conclusion:** Both appliances produced similar treatment effects on Tweed's facial triangle. However, samples treated with RPFM appliance revealed more balanced aesthetics, particularly in early mixed dentition stage.