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# Impact of initial correction of Class II division 1 malocclusion with a modified twin block appliance: what difference does it make to the child and parent?

**Précis:** Initial correction of Class II division 1 malocclusion with a modified twin block appliance has positive impacts on both child and parent.

## Abstract

**Aim:** To assess the impact of initial correction (Phase 1) of Class II division I malocclusion (II/1M) with a modified twin block (MTB) appliance on children and their parents compared to untreated children with II/1M and their parents.

**Methods:** Sixty participants with II/1M received MTB treatment and 47 participants with II/1M served as controls. At baseline (T1) and following MTB treatment or recall (T2), all assessed oral health-related quality of life (OHRQoL) and self-esteem, and rated perceived aesthetic component of orthodontic treatment need (AC-IOTN). At T1 and T2, a 3D facial soft tissue image was captured at rest. Similarly, at T1 and T2, a parent assessed perception of their child's OHRQoL and perception of their child's AC-IOTN. Appropriate statistical comparisons were made between and within groups.

**Results:** Phase 1 treatment with an MTB was completed by 42 participants; 35 controls were recalled. At T1, groups were similar in age and gender ( $p > 0.05$ ), and mean overjet was 1mm greater in the MTB group ( $p < 0.01$ ). At T2 in the MTB group, child-reported OHRQoL and self-perception of AC-IOTN, and parent perception of their child's OHRQoL and AC-IOTN improved, as did family quality of life (QoL) ( $p < 0.001$ ); self-esteem remained unchanged. At T1 and T2 for both groups, parents rated their child's OHRQoL as worse than the child. From T1 to T2, soft tissue changes in both groups and inter-group differences were modest ( $p < 0.05$ ).

**Conclusion:** Phase 1 treatment with an MTB positively impacted child OHRQoL, family QoL, and child and parent perception of AC-IOTN, but did not impact child self-esteem. Changes in 3D facial soft tissue were modest. Child and parent perceptions of OHRQoL and AC-IOTN were discordant.

**Keywords:** Class II division 1 malocclusion, modified twin block appliance, oral health-related quality of life, self-esteem, family quality of life.

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